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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*

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	-	78.825	133.945	291.364	-	291.364	261.239	220.430	201.350	166.257	Continuing	Continuing
EN4: *Enabling Investments (ACD&P)*	-	0.000	0.000	8.781	-	8.781	9.172	9.179	9.392	9.440	Continuing	Continuing
MT4: *Mitigate (ACD&P)*	-	0.000	0.000	20.986	-	20.986	13.556	12.702	20.846	18.167	Continuing	Continuing
PT4: *Protect (ACD&P)*	-	0.000	0.000	203.689	-	203.689	183.220	139.375	113.754	105.176	Continuing	Continuing
UN4: *Understand (ACD&P)*	-	0.000	0.000	57.908	-	57.908	55.291	59.174	57.358	33.474	Continuing	Continuing
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
DE4: *Decontamination (ACD&P)*	-	4.919	18.385	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	23.304
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
IS4: *Information Systems (ACD&P)*	-	13.414	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	13.414
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
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
TM4: *Techbase Medical Defense (ACD&P)*	-	0.000	30.452	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	30.452
TT4: *Technology Transition (ACD&P)*	-	0.577	0.866	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	1.443

A. Mission Description and Budget Item Justification

This program element (PE) resources Advanced Component Development and Prototypes across the Enabling Investments, Mitigate, Protect, and Understand portfolios. Program efforts validate high-risk/high-payoff technologies and their respective concepts-of-operations for significant improvement to Warfighter capabilities in preparation for transition of mature technologies to advanced development programs requiring chemical and biological (CB) defense technologies. Chemical Biological Defense Program (CBDP) investments provide an integrated, layered capability to enable Combating Weapons of Mass Destruction (CWMD) missions ranging from combat operations to Department of Defense (DoD) support to domestic incident prevention and response. The Projects in this PE support component and subsystem maturity prior to integration in major, complex systems and may involve risk reduction initiatives and include technology demonstrations. This effort facilitates transitions

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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*

of Integrated Early Warning and Integrated Layered Defense products. 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:

- Enabling Investments (EN4): Development of efforts to evaluate integrated technologies or prototype systems in a high fidelity and realistic operating environment, including system specific efforts that help expedite technology transition from the laboratory to operational use. Increase efforts to improve integration of collective protection into Service major combat platforms.

- Mitigate (MT4): Sustain efforts in antiviral therapeutics. Develop capabilities to incorporate the use of in silico, "organs on a chip" and Machine Learning/Artificial Intelligence technologies for drug discovery and development up to phase II trials. Increase efforts regarding platform technologies. Development of repurposing pharmaceuticals that enable a rapid response capability to combat emerging threats.

- Protect (PT4): Continued efforts to unencumber the Warfighter by delivering improved personal protection capabilities that incorporate inherent survivability into Service equipment and platforms and which offer protection against the diverse threat agents that near-peer adversaries are developing. Develop capability for next generation individual protective equipment.

- Understand (UN4): Maintain effort in distinguishing between bacterial, viral, and toxin diagnostics. Update detector libraries for relevant detection and identification systems. Continue efforts to integrate detection capabilities into Service combat platforms. Develop detection and diagnostic technologies with compatibility to receive and transmit sensor data on Service networks. Identify Service concepts for Integrated Early Warning (IEW) and maintain cyber compliance of fielded Chemical Biological Radiological and Nuclear (CBRN) information systems.

- Contamination Avoidance (CA4), Decontamination (DE4), Individual Protection (IP4), Information Systems (IS4), Medical Biological Defense (MB4), Techbase Medical Defense (TM4) and Technology Transition (TT4) are no longer active FY23 Projects due to budget restructure.

- Test and Evaluation (TE4) Project concluded in FY21.

The projects in this PE support the advanced component technology development phase of the DoD acquisition system and are therefore correctly placed in Budget Activity 4.

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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*

B. Program Change Summary ($ in Millions)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Previous President's Budget	76.167	129.445	0.000	-	0.000
Current President's Budget	78.825	133.945	291.364	-	291.364
Total Adjustments	2.658	4.500	291.364	-	291.364
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	0.000	4.500			
• Congressional Directed Transfers	0.000	-			
• Reprogrammings	5.234	-			
• SBIR/STTR Transfer	-2.576	-			
• Other Adjustments	0.000	-	291.364	-	291.364

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2021	FY 2022
Project: TM4: *Techbase Medical Defense (ACD&P)*		
Congressional Add: *1) Development of medical countermeasures against novel entities (DOMANE)*	-	4.500
Congressional Add Subtotals for Project: TM4	-	4.500
Congressional Add Totals for all Projects	-	4.500

Change Summary Explanation

Funding: FY 2021 (+$5.234 Million): Below threshold reprogramming increase for implementation of common CBRN integrated systems architecture within the CBRN Integrated Early Warning (CBRN IEW) program.
FY 2021 (-$2.576 Million): Transfer of funding to support Small Business Innovative Research/Small Business Technology Transfer efforts.

FY 2022 (+$4.500 Million): Congressional Add for development of medical countermeasures against novel entities (DOMANE).

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 (+$150.600 Million), Departmental inflation rate adjustments (+$14.779 Million), for the Compact Vapor Chemical Agent Detector (CVCAD) to continue and complete advanced development on prototype systems and the Plague Monoclonal Antibodies (PLG MAB) program to continue in the discovery of Plague mAbs and manufacturing development (+$7.098 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 / 4	R-1 Program Element (Number/Name) PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	Project (Number/Name) EN4 / *Enabling Investments (ACD&P)*	

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
EN4: *Enabling Investments (ACD&P)*	-	0.000	0.000	8.781	-	8.781	9.172	9.179	9.392	9.440	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Enabling Investments Advanced Component Development and Prototypes (ACD&P) Project maintains the Department of Defense (DoD) advanced development manufacturing facility to rapidly develop, manufacture, and approve medical countermeasures. Enabling efforts in this area support dedicated infrastructure capabilities, demonstrations, and overarching development support functions as portfolio enablers responding to emerging threats. Priority access to the facility provides an on demand manufacturing capability not only for the DoD but for the entire United States Government enterprise.

Efforts included in this Project are:

(1) Chem Bio Incident Preparedness and Response - Advanced Development and Manufacturing (CBIPR-ADM)

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.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: 1) Chem Bio Incident Preparedness and Response - Advanced Development and Manufacturing (CBIPR-ADM)	-	-	8.781
Description: Establish proven enabling manufacturing technologies at the Department of Defense (DoD) ADM Capability Building.			
FY 2023 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** EN4 / *Enabling Investments (ACD&P)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Continue tech transfer and enhancement of manufacturing technologies to support manufacture medical countermeasures (MCM) development against biological threats. Manufacturing technologies can come from any government sources (including JSTO-CBD, the Walter Reed Army Institute of Research (WRAIR), the Biomedical Advanced Research and Development Authority (BARDA), etc. when mature enough for BA4 funding) and other external sources and targets of opportunity from industry. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred from another Project due to budget restructure. FY22 funding ($8.290 Million) remains in MB4.			
Accomplishments/Planned Programs Subtotals	-	-	8.781

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
• EN5: *Enabling Investments (SDD)*	0.000	0.000	13.392	-	13.392	13.984	14.037	14.341	13.728	Continuing	Continuing

Remarks

D. Acquisition Strategy

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 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** EN4 / *Enabling Investments (ACD&P)*

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 - Enabling Manufacturing Technologies	C/CPFF	Ology : Alachua, FL	0.000	0.000		0.000		8.781	Dec 2022	0.000		8.781	Continuing	Continuing	0.000
		Subtotal	0.000	0.000		0.000		8.781		0.000		8.781	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		8.781		0.000		8.781	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 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** EN4 / *Enabling Investments (ACD&P)*

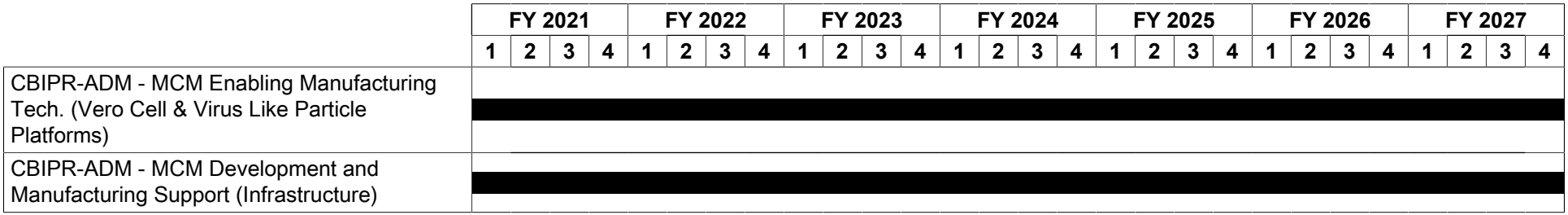

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** EN4 / *Enabling Investments (ACD&P)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
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 / 4	R-1 Program Element (Number/Name) PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	Project (Number/Name) MT4 / *Mitigate (ACD&P)*	

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
MT4: *Mitigate (ACD&P)*	-	0.000	0.000	20.986	-	20.986	13.556	12.702	20.846	18.167	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Mitigate Advanced Component Development and Prototypes (ACD&P) Project provides the Joint Force the ability to conduct decontamination and medical actions that enable the quick restoration of combat power; maintain/recover essential functions that are free from the effects of Chemical Biological Radiological and Nuclear (CBRN) hazards; and facilitate the return to pre-incident operational capability as soon as possible.

Efforts included in this Project are:

(1) Service Equipment Decontamination System (SEDS),
(2) Tactical Contamination Mitigation System (TCMS),
(3) Biological Warfare Defense Prototype (BIOPROTO),
(4) Chemical Warfare Defense Therapeutics (CHEMTX), and
(5) Discovery of Medical Countermeasures Against New and Emerging Threats (DOMANE)

The SEDS, which was a FY21 new start program, will develop reliable and modular hardware intended to decontaminate military equipment including personal effects, and weapons to pre-contamination conditions, which sustains Joint Force military advantages and 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. In FY23, Developmental Test (DT) will continue for sub-systems and the integrated system as a whole to verify the SEDS system for safety, suitability, and effectiveness. In FY23, the Program will integrate system components into full prototype system(s), complete Special Operations Forces (SOF) Developmental Testing (DT) and Joint Service Early Developmental Testing (EDT), conduct Preliminary Design Review (PDR) for Other Services, and Technology Readiness Assessment (TRA), update Milestone documentation and conduct MS B Decision Reviews.

TCMS is a FY22 new start program and is one of two respond components (along with the Wide Area Decontamination System) of the Interdependent Contamination Mitigation concept and intends to address gaps related to the decontamination of sensitive equipment, personal equipment, individual & crew served weapons, and it will reduce the time and logistics associated with decontamination. TCMS will limit the spread and mitigate the effects of Chemical, Biological, and Radiological (CBR) contamination to allow warfighters to continue their mission for an extended period of time in a high threat, CBR contaminated environment. The Program's intent is to mitigate the risk to personnel and limit the potential spread of CBR contamination by minimizing contact and transfer hazards. TCMS will greatly enhance or eliminate the need for subsequent decontamination to mitigate contamination on military equipment by allowing the Warfighter to see areas of contamination, target contamination for treatment early, with minimal expenditure of time and material. Following application of TCMS, combined with weathering, Mission Oriented Protective Posture (MOPP) levels may be reduced without further decontamination, depending on the surface or material being decontaminated and the agent. In FY23 the TCMS

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** MT4 / *Mitigate (ACD&P)*

program will complete Milestone A and procure prototypes of systems that meet the draft Capabilities Development Document requirements. The program will conduct a Systems Readiness Review (SRR), Test Readiness Review (TRR), begin prototype testing.

BIOPROTO supports early-phase clinical development and supporting non-clinical safety, tolerability and toxicity data for candidate vaccines and therapeutic drugs prior to transition to System Development & Demonstration. This work provides safe and effective medical defense against validated biological threat agents and emerging infectious disease biothreats including bacteria, toxins, and viruses. This work also involves the evaluation of Food and Drug Administration (FDA) approved therapeutics for operational use, as well as generation of novel drug products and formulations, to enhance level of protection and/or operational utility for the Warfighter. This effort reduces programmatic risk of failure in the advanced development phase.

CHEMTX will focus on therapeutic and prophylactic strategies to effectively minimize injuries and/or death resulting from exposure to Pharmaceutical Based Agents (PBA), including opioids. This will allow the Warfighter to maintain operational capacity in a chemically contested battlefield scenario. This effort involves the evaluation of FDA approved therapeutics for operational use, as well as generation of novel drug products and formulations to enhance level of protection and/or operational utility for the Warfighter. Efforts in this area are designed to develop drug candidates that will ultimately be submitted for FDA licensure or to identify previously licensed products for new uses in the treatment and pretreatment against chemical warfare injury.

DOMANE supports prototype development of emerging technology platforms and technologies to identify medical countermeasures (MCMs), MCM targets, and disease pathogenesis and toxicity using the combination of Artificial Intelligence/Machine Learning, organs-on-a-chip, high-throughput screening as well as novel imaging platforms. Additionally, MT4 supports early-phase clinical development of prophylaxis treatments and therapeutic drugs through the use of adaptive clinical trials to provide safe and effective medical defense against validated biological threat agents and emerging infectious disease biothreats including bacteria, toxins, and viruses. This effort reduces programmatic risk of failure in the advanced development phase by developing validated prototypes and generating clinical and supporting non-clinical safety, tolerability and toxicity data for candidate prophylaxis treatments and therapeutic drugs prior to transition to System Development & Demonstration.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: 1) Service Equipment Decontamination System (SEDS)	-	-	10.015
Description: Milestone (MS) B support and Prototype Development ***FY 2023 Plans:*** Integrate system components into full prototype system(s). Complete Special Operations Forces (SOF) Developmental Testing (DT) and Joint Service Early Developmental Testing (EDT). Conduct Preliminary Design Review (PDR) for Other Services, and Technology Readiness Assessment (TRA). Update MS documentation and conduct MS B Decision Reviews. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred from another Project due to budget restructure. FY22 funding ($8.988 Million) remains in DE4.			
Title: 2) Tactical Contamination Mitigation System (TCMS)	-	-	4.743

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** MT4 / *Mitigate (ACD&P)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Description: Milestone (MS) A support and Prototype Development ***FY 2023 Plans:*** Complete Milestone A and award a prototyping Other Transaction Authority (OTA) contract. Conduct a Systems Readiness Review (SRR) and Test Readiness Review (TRR) of the prototypes to be tested. Begin prototype testing and update prototypes. Conduct a Business Case Analysis (BCA) for the program sustainment strategy. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred from another Project due to budget restructure. FY22 funding ($3.433 Million) remains in DE4. Increase to complete Milestone A, conduct SRR and TRR, and procure and test prototypes in support of the Draft Capability Development Document (CDD).			
Title: 3) PBA Medical Countermeasures ***Description:*** Focuses on therapeutic and prophylactic strategies to effectively minimize injuries and/or death resulting from exposure to Pharmaceutical Based Agents (PBA). The goal is to allow the Warfighter to maintain operational capacity in a chemically contested battlefield scenario. The MT4 efforts focus on developing and achieving Food and Drug Administration (FDA) approval for a 10 ml, 10 mg/ml multi-dose vial of naloxone to counter ultra-potent opioids. As the Threat Agent Science informs needs and requirements, PBA efforts will continue with the evaluation FDA approved therapeutics for operational use, as well as generation of novel drug products and formulations to enhance level of protection and/or operational utility for the Warfighter. Efforts in this area are designed to develop drug candidates that will ultimately be submitted for FDA licensure or to identify previously licensed products for new uses in the treatment and pretreatment against PBA injury. ***FY 2023 Plans:*** - Continue medical countermeasures clinical studies to treat respiratory depression and intoxication caused by synthetic opioids. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred from another Project due to budget restructure. FY22 funding ($2.000 Million) remains in TM4.	-	-	2.076
Title: 4) Biological Warfare Defense Prototype ***Description:*** Funds biomedical research focused on the nonclinical and early clinical development of therapeutic countermeasures against known and emerging viral, bacterial, and toxin biological warfare (BW) threats for which FDA-approved therapeutics are limited or lacking. BW defense therapeutics mitigate and reverse the effects of known and emerging viral, bacterial, and toxin biological warfare threats in symptomatic warfighters diagnosed with BW disease. They are the last line of defense against BW threats and are critical to returning symptomatic warfighters to service. Biomedical research is focused on nonclinical development (e.g., animal model, and formulation/manufacturing studies) and early clinical evaluation of broad-	-	-	3.114

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** MT4 / *Mitigate (ACD&P)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
spectrum therapeutic candidates that target viruses, bacteria or toxins directly, enhance the host response (e.g., by modulating the immune system) and/or relieve BW disease symptoms. Therapeutic candidates that are shown to be both safe and efficacious against BW threats will advance for further non-clinical and/or clinical evaluation under RDT&E budget activity 5, and can be accelerated for use against emerging infectious diseases during an outbreak. Clinical and nonclinical evaluation of novel small molecules (chemically synthesized), novel biologic molecules (isolated from natural sources), drug and drug/vaccine combinations (aka layered defense), and repurposing of drugs approved by the US Food and Drug Administration or in clinical development for other indications, are included in this research. Refinement of appropriate animal models in which to evaluate therapeutic candidates is also included. Projects leverage interagency and commercial sector investments to accelerate development and reduce costs. ***FY 2023 Plans:*** - Continue nonclinical and regulatory activities to transition broad spectrum antibacterial candidate to BARDA. - Initiate clinical and/or nonclinical studies for broad-spectrum antibacterial/antiviral or toxin therapeutic candidate. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred from another Project due to budget restructure. FY22 funding ($7.476 Million) remains in TM4. Decrease due to change in program/project technical parameters.			
Title: 5) DOMANE - Discovery of Medical Countermeasures Against New and Emerging Threats - Prototype Development ***Description:*** Prototype Development and Early-Phase Clinical Development ***FY 2023 Plans:*** - Supports the advanced development of medical countermeasures to include prophylaxes, pretreatments, antidotes and therapeutic drugs against identified and emerging biological warfare threat agents. - Demonstration of human safety and tolerability prior to entry of candidate prophylaxes and therapeutics into advanced development using adaptive clinical trials. - Continued development of prototypes for high-resolution forecasting of pathogenesis or toxicity that occurs during host interaction of a biological threat with its host. - Continued development of adaptive clinical trial platforms for drug re-purposing efforts. - Development of prototypes for precision predictions of medical countermeasures that interfere with key pathogenesis or toxicity events and restore homeostasis coupled with artificial intelligence/machine learning (AI/ML). - Initiate development of prototype for accurate prediction of targets on the biological threat and within the host that result in the necessary engagements to produces pathogenesis or toxicity using AI/ML. ***FY 2022 to FY 2023 Increase/Decrease Statement:***	-	-	1.038

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** MT4 / *Mitigate (ACD&P)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Funding transferred from another Project due to budget restructure. FY22 funding remains in TM4.			
Accomplishments/Planned Programs Subtotals	-	-	20.986

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
• MT3: *Mitigate (ATD)*	0.000	0.000	84.476	-	84.476	87.722	86.475	83.109	84.066	Continuing	Continuing
• DE4: *Decontamination (ACD&P)*	4.919	18.385	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	23.304
• PT4: *Protect (ACD&P)*	0.000	0.000	203.689	-	203.689	183.220	139.375	113.754	105.176	Continuing	Continuing
• TM4: *Techbase Medical Defense (ACD&P)*	0.000	30.452	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	30.452
• MT5: *Mitigate (SDD)*	0.000	0.000	74.225	-	74.225	61.861	68.280	39.819	22.062	Continuing	Continuing
• PHM007: *SERVICE EQUIPMENT DECONTAMINATION SYSTEM (SEDS)*	0.000	0.000	0.000	-	0.000	5.451	6.483	8.483	10.931	Continuing	Continuing
• PHM042: *TACTICAL CONTAMINATION MITIGATION SYSTEM (TCMS)*	0.000	0.000	0.000	-	0.000	0.000	0.000	1.250	5.072	Continuing	Continuing

Remarks

D. Acquisition Strategy

SERVICE EQUIPMENT DECONTAMINATION SYSTEM (SEDS)

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.

TACTICAL CONTAMINATION MITIGATION SYSTEM (TCMS)

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** MT4 / *Mitigate (ACD&P)*

The TCMS program will develop the equipment, processes and procedures for contamination mitigation related to post-incident operations in a Chemical Biological Radiological and Nuclear (CBRN) contaminated environment. The acquisition strategy includes market research through both Requests for Information (RFIs) and a call for White Papers through an Other Transaction Authority (OTA) contracting approach. Data collected will inform a Milestone A decision in FY23. The OTA vehicle will also be used to request prototypes, which will undergo technology demonstrations and Early Field testing, followed by an analysis to determine the most suitable candidate. Results of Prototyping will inform Milestone B and Request for Proposals (RFPs) followed by developmental and operational testing and Milestone C/Full Rate Production Approval.

BIOLOGICAL WARFARE DEFENSE PROTOTYPE (BIOPROTO)

Supports early-phase clinical development and supporting non-clinical safety, tolerability and toxicity data for candidate vaccines and therapeutic drugs prior to transition to System Development & Demonstration. This work provides safe and effective medical defense against validated biological threat agents and emerging infectious disease biothreats including bacteria, toxins, and viruses. This work also involves the evaluation of Food and Drug Administration (FDA)-approved therapeutics for operational use, as well as generation of novel drug products and formulations, to enhance level of protection and/or operational utility for the Warfighter. This effort reduces programmatic risk of failure in the advanced development phase.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** MT4 / *Mitigate (ACD&P)*

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
SEDS - HW S - SEDS Product Development	SS/FFP	TBD : N/A	0.000	0.000		0.000		4.366	Nov 2022	0.000		4.366	Continuing	Continuing	0.000
TCMS - HW S - Product Development	C/FFP	TBD : N/A	0.000	0.000		0.000		1.508	Nov 2022	0.000		1.508	Continuing	Continuing	0.000
		Subtotal	0.000	0.000		0.000		5.874		0.000		5.874	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
SEDS - ES SB - SEDS Logistics, Engineering and IPT Support	MIPR	Various : Various	0.000	0.000		0.000		2.098	Nov 2022	0.000		2.098	Continuing	Continuing	0.000
TCMS - ES SB - Logistics, Engineering and IPT Support	MIPR	Various : Various	0.000	0.000		0.000		2.030	Nov 2022	0.000		2.030	Continuing	Continuing	0.000
BIOPROTO - TD/D S - Biological Warfare Defense Prototype	MIPR	Army Contracting Command : Picatinny, NJ	0.000	0.000		0.000		3.114	Oct 2022	0.000		3.114	Continuing	Continuing	0.000
DOMANE - TD/D S - DOMANE - Discovery of Medical Countermeasures Against New and Emerging Threats - Prototype Development	MIPR	Army Contracting Command : Picatinny, NJ	0.000	0.000		0.000		1.038	Oct 2022	0.000		1.038	Continuing	Continuing	0.000
		Subtotal	0.000	0.000		0.000		8.280		0.000		8.280	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 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** MT4 / *Mitigate (ACD&P)*

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
SEDS - OTHT S - SEDS T&E IPR Test Planning	MIPR	Various : Various	0.000	0.000		0.000		2.780	Nov 2022	0.000		2.780	Continuing	Continuing	0.000
TCMS - OTHT S - Prototype T&E IPR Test Planning	MIPR	Various : Various	0.000	0.000		0.000		0.700	Jan 2023	0.000		0.700	Continuing	Continuing	0.000
CHEMTX - DTE C - PBA Medical Countermeasures	MIPR	Army Contracting Command : Picatinny, NJ	0.000	0.000		0.000		2.076	Oct 2022	0.000		2.076	Continuing	Continuing	0.000
		Subtotal	0.000	0.000		0.000		5.556		0.000		5.556	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
SEDS - PM/MS S - Program Management Support	MIPR	Various : Various	0.000	0.000		0.000		0.771	Nov 2022	0.000		0.771	Continuing	Continuing	0.000
TCMS - PM/MS S - Program Management Support	C/FFP	TBD : N/A	0.000	0.000		0.000		0.505	Nov 2022	0.000		0.505	Continuing	Continuing	0.000
		Subtotal	0.000	0.000		0.000		1.276		0.000		1.276	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		20.986		0.000		20.986	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 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** MT4 / *Mitigate (ACD&P)*

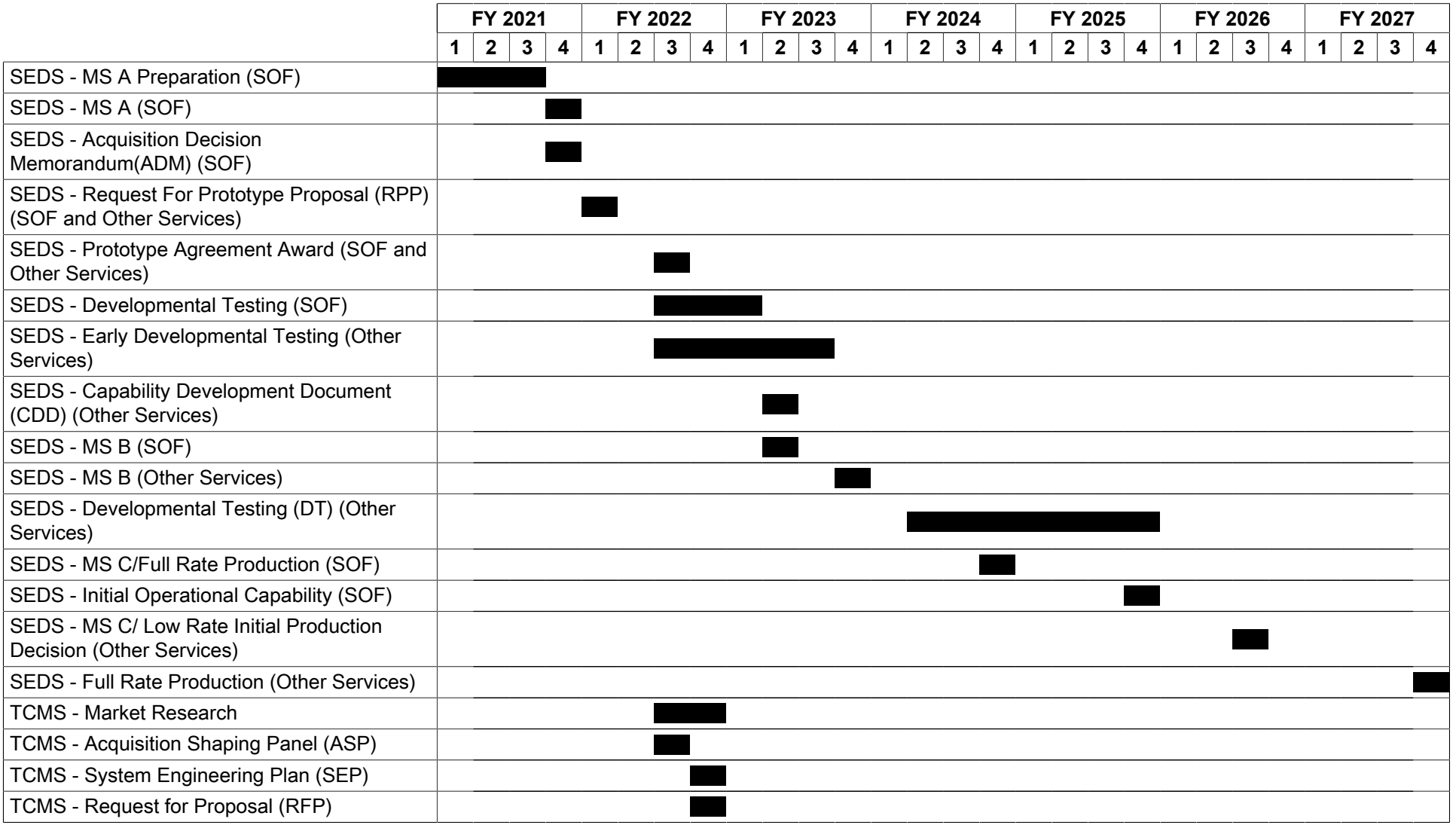

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** MT4 / *Mitigate (ACD&P)*

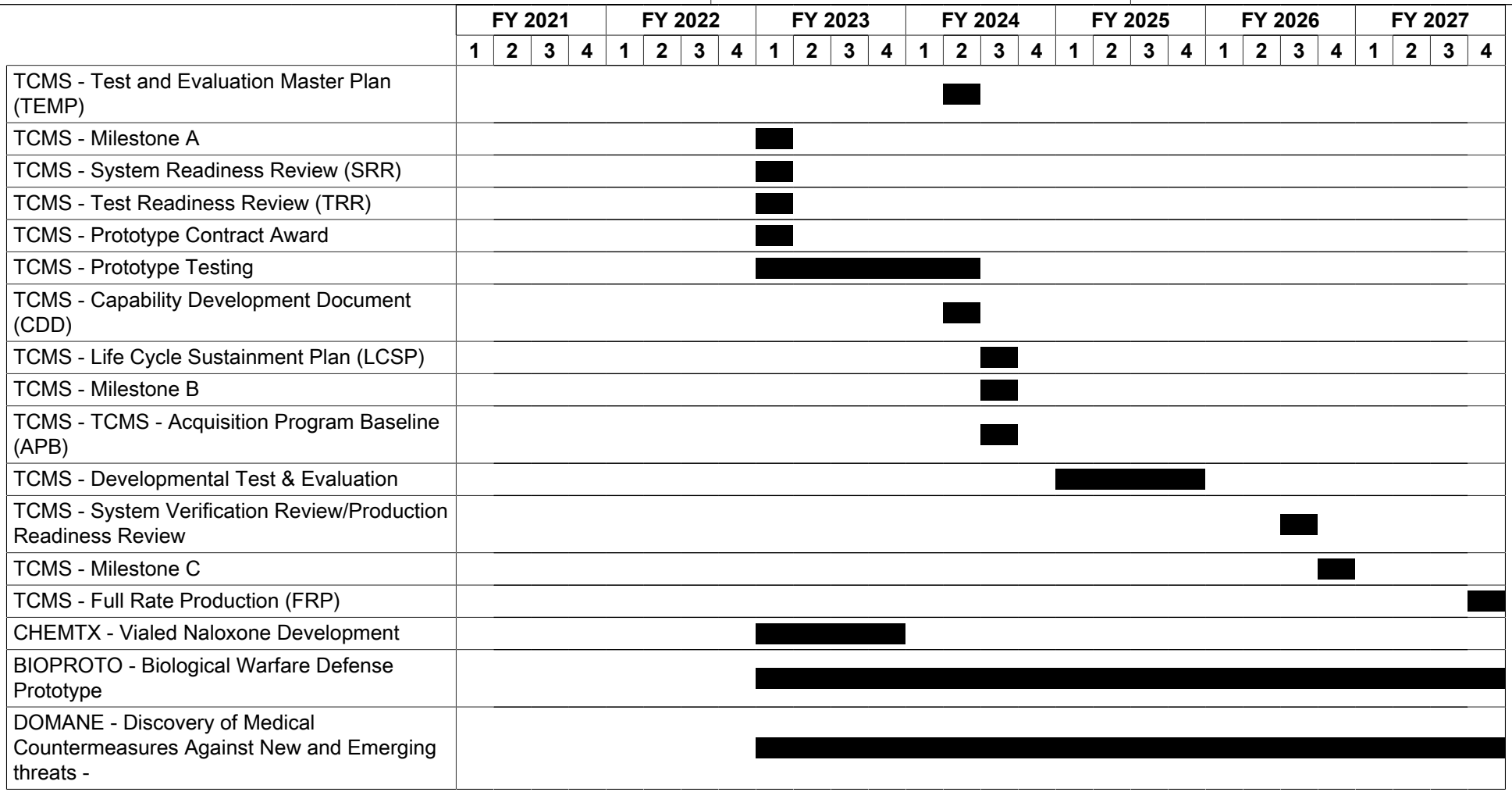

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** MT4 / *Mitigate (ACD&P)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
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
SEDS - Full Rate Production (Other Services)	4	2027	4	2027
TCMS - Market Research	3	2022	4	2022
TCMS - Acquisition Shaping Panel (ASP)	3	2022	3	2022
TCMS - System Engineering Plan (SEP)	4	2022	4	2022
TCMS - Request for Proposal (RFP)	4	2022	4	2022
TCMS - Test and Evaluation Master Plan (TEMP)	2	2024	2	2024
TCMS - Milestone A	1	2023	1	2023
TCMS - System Readiness Review (SRR)	1	2023	1	2023

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** MT4 / *Mitigate (ACD&P)*

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
TCMS - Test Readiness Review (TRR)	1	2023	1	2023
TCMS - Prototype Contract Award	1	2023	1	2023
TCMS - Prototype Testing	1	2023	2	2024
TCMS - Capability Development Document (CDD)	2	2024	2	2024
TCMS - Life Cycle Sustainment Plan (LCSP)	3	2024	3	2024
TCMS - Milestone B	3	2024	3	2024
TCMS - TCMS - Acquisition Program Baseline (APB)	3	2024	3	2024
TCMS - Developmental Test & Evaluation	1	2025	4	2025
TCMS - System Verification Review/Production Readiness Review	3	2026	3	2026
TCMS - Milestone C	4	2026	4	2026
TCMS - Full Rate Production (FRP)	4	2027	4	2027
CHEMTX - Vialed Naloxone Development	1	2023	4	2023
BIOPROTO - Biological Warfare Defense Prototype	1	2023	4	2027
DOMANE - Discovery of Medical Countermeasures Against New and Emerging threats -	1	2023	4	2027

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program			Date: April 2022
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	Project (Number/Name) PT4 / *Protect (ACD&P)*	

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
PT4: *Protect (ACD&P)*	-	0.000	0.000	203.689	-	203.689	183.220	139.375	113.754	105.176	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Protect Advanced Component Development and Prototypes (ACD&P) Project provides the ability to shield the Joint Force the force from harm caused by Chemical Biological Radiological and Nuclear (CBRN) hazards by preventing or reducing individual and collective exposures, applying prophylaxis to prevent or mitigate negative physiological effects, and protecting critical equipment.

Efforts included in this Project are:

(1) Medical Countermeasure Platform Technologies (MCMPT),
(2) Plague Monoclonal Antibodies (PLG MAB),
(3) Biological Warfare Defense Prototype (BIOPROTO),
(4) Generative Unconstrained Intelligent Drug Engineering-Enhanced Biodefense (GUIDE-ENBD),
(5) Monoclonal Antibodies Therapeutics-Enhanced Biodefense (MAB TX-ENBD), and
(6) Vaccine Acceleration by Modular Progression-Enhanced Biodefense (VAMP-ENBD)

The MCMPT program intends to streamline and accelerate medical countermeasure delivery to the Warfighter by reducing developmental risk using well known platform technologies. MCMPT is establishing enabling technologies and prepositioning platform systems within the Department of Defense (DoD)'s Advanced Development Manufacturing (ADM) network using standardized discovery, design, manufacturing, and testing processes to reduce the medical countermeasure (MCM) development risks. MCMPT will deliver an enduring capability from which future candidates can be manufactured. In FY23 the MCMPT program continues development of a rapid response capability.

The PLG MAB program that was transitioned from MCMPT Advanced Development and Manufacturing of Antibody Technology (ADAMANT), will provide an anti-plague bacteria monoclonal antibody (MAB) cocktail that protects the warfighter against exposure to plague. It will provide prophylaxis for Warfighter exposure to aerosolized plague and is intended for intramuscular route of administration. This capability is complementary to plague therapeutics and will provide a continuum of protection against plague bacteria. PLG MAB leverages the advanced platform technology developed within the DoD's Advanced Development Manufacturing (ADM) facility that was initiated by the MCMPT. In FY23 PLG MAB continues monoclonal antibody discovery and half-life extensions to produce product to support a Phase 1 clinical study.

BIOPROTO supports early-phase clinical development and supporting non-clinical safety, tolerability and toxicity data for candidate vaccines and therapeutic drugs prior to transition to System Development & Demonstration. This work provides safe and effective medical defense against validated biological threat agents and emerging infectious disease biothreats including bacteria, toxins, and viruses. This work also involves the evaluation of Food and Drug Administration (FDA)-approved

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** PT4 / *Protect (ACD&P)*

therapeutics for operational use, as well as generation of novel drug products and formulations, to enhance level of protection and/or operational utility for the Warfighter. This effort reduces programmatic risk of failure in the advanced development phase.

GUIDE-ENBD is an advanced, integrated computational system intended to decrease product development risk throughout the drug development life cycle, accelerate candidate development, and enable preemptive preparedness and rapid response. GUIDE impacts the discovery and design of biologics products (e.g., monoclonal antibodies and vaccines) as well as small molecule drugs by simultaneously optimizing the critical quality attributes of safety, efficacy, manufacturability and pharmacokinetics/pharmacodynamics. GUIDE will incorporate computational approaches to manufacturing controls and preclinical/clinical testing. GUIDE is a collaboration between the interagency, academia and industry partners and is closely linked to the Accelerated Antibodies and RNA vaccine (VAMP) programs. FY23 funding is required to develop a fully integrated computational approach to accelerating medical countermeasure development.

MAB TX-ENBD will develop prophylactic and therapeutic monoclonal antibody (mAb) MCM against a broad range of biological threats. Funded in FY22 as COVID TX MAB, this is a continuation which will target the discovery, identification and small scale manufacture of mAbs with sufficient material to support non-clinical and clinical testing. Sufficient doses will be produced and maintained for potential use in emergency response situations. In FY23, MAB TX-ENBD will target the discovery, identification, and small scale manufacture of at least two (2) monoclonal antibody prototypes.

VAMP-ENBD will leverage lessons learned from the COVID-19 pandemic response to improve future emergency response and create interim vaccine capabilities. In FY23, VAMP will work with the interagency, industry, and academia to design and construct vaccine prototypes on vaccine platforms and evaluate them in the appropriate non-clinical and clinical studies. In FY22 this effort was funded under Project MB4 COVID VAC.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: 1) Medical Countermeasure Platform Technologies (MCMPT) ***Description:*** Rapid Response ***FY 2023 Plans:*** Continue polyclonals rapid response capability. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred from another Project due to budget restructure. FY22 funding within MCMPT remains in MB4. Biologics on Demand Rapid Response effort completes in FY22.	-	-	6.223
Title: 2) Medical Countermeasure Platform Technologies (MCMPT) ***Description:*** Nucleic Acid ***FY 2023 Plans:*** Initiate P3/Nucleic Acid Launched Antibodies Platform. ***FY 2022 to FY 2023 Increase/Decrease Statement:***	-	-	5.774

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** PT4 / *Protect (ACD&P)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Funding transferred from another Project due to budget restructure. P3/Nucleic Acid is a new effort within MCMPT starting in FY23.			
Title: 3) Plague Monoclonal Antibodies (PLG MAB) ***Description:*** Non-clinical ***FY 2023 Plans:*** Continue in the discovery of Plague mAbs. These efforts initiate Half-Life Extension to extend half-life candidate mAbs to meet service requirements. To include initiating Assay Development to provide validated assay support to manufacturing and Phase 1 study, and Conduct Primate Proof of Concept Study to demonstrate efficacy in Non-human primates using aerosol challenge. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred from another Project due to budget restructure. Program transferred from Medical Countermeasure Platform Technologies (MCMPT) Advanced Development and Manufacturing of antibody Technology (ADAMANT), in Project MB4, to PLG MAB in FY23.	-	-	32.132
Title: 4) Plague Monoclonal Antibodies (PLG MAB) ***Description:*** Manufacturing Development ***FY 2023 Plans:*** Initiate Small Model and At Scale Manufacturing development for Phase 1 Study. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred from another Project due to budget restructure. FY22 funding remains in MB4.	-	-	7.446
Title: 5) Biological Warfare Defense Prototype (BIOPROTO) ***Description:*** Funds biomedical research focused on the nonclinical and early clinical development of therapeutic countermeasures against known and emerging viral, bacterial, and toxin biological warfare (BW) threats for which Food and Drug Administration (FDA)-approved therapeutics are limited or lacking. BW defense therapeutics mitigate and reverse the effects of known and emerging viral, bacterial, and toxin biological warfare threats in symptomatic warfighters diagnosed with BW disease. They are the last line of defense against BW threats and are critical to returning symptomatic warfighters to service. Biomedical research is focused on preclinical evaluation (e.g., in large animal models) of broad-spectrum therapeutic candidates that target viruses, bacteria or toxins directly, enhance the host response (e.g., by modulating the immune system) and/or relieve BW disease symptoms. Broad-spectrum therapeutic candidates that are shown to be both safe and efficacious against BW threats will advance for further clinical evaluation under RDT&E budget activity 5, and can be accelerated for use against emerging infectious diseases during	-	-	3.114

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** PT4 / *Protect (ACD&P)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
an outbreak. Clinical and nonclinical evaluation of novel small molecules (chemically synthesized), novel biologic molecules (isolated from natural sources), drug and drug/vaccine combinations (aka layered defense), and repurposing of drugs approved by the US Food and Drug Administration or in clinical development for other indications, are included in this research. Refinement of appropriate animal models in which to evaluate therapeutic candidates is also included. Projects leverage interagency and commercial sector investments to accelerate development and reduce costs. ***FY 2023 Plans:*** - Complete human melioidosis clinical trial and continue Non-Human Primate (NHP) studies to establish efficacy of broad spectrum antibacterial candidate. Ready candidate for transition to Biomedical Advanced Research and Development Authority (BARDA). - Complete testing of broad spectrum antiviral in endemic Lassa fever disease and prepare to transition to advanced developer. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred from another Project due to budget restructure. FY22 funding ($7.476 Million) remains in TM4. Decrease due to change in program/project technical parameters.			
Title: 6) GUIDE - Enhanced Biodefense (ENBD) ***Description:*** This effort will focus on Generative Unconstrained Intelligent Drug Engineering. Developing and implementing a fully integrated computational approach to accelerating medical countermeasure development. ***FY 2023 Plans:*** Develop and implement a fully integrated computational approach to accelerating medical countermeasure development by improving computational predictions of antibody-antigen interactions and affinity (strength of interaction), incorporating the ability to address manufacturing-related properties to include a panel of manufacturing tools, expanding the safety models to ensure selected candidates do not have known issues such as anti-drug antibodies and screening for polyreactive antibodies, and starting vaccine design modeling and technologies ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Additional investment in enhanced biodefense and pandemic preparedness.	-	-	55.000
Title: 7) MAB TX - Enhanced Biodefense (ENBD) ***Description:*** This effort will focus on Accelerated Antibody Development and Production. Target the discovery, identification and small scale manufacture of mAbs for 2 additional prototypes, with sufficient material to support non-clinical and clinical testing. ***FY 2023 Plans:***	-	-	59.000

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** PT4 / *Protect (ACD&P)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Initiate Nonclinical IND enabling testing for the first 2 prototypes. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Additional investment in enhanced biodefense and pandemic preparedness.			
Title: 8) VAMP - Enhanced Biodefense (ENBD) ***Description:*** This effort will focus on Vaccine Acceleration by Modular Progression (VAMP, e.g. mRNA) ***FY 2023 Plans:*** Continue vaccine development to produce vaccine(s) against priority threats. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Additional investment in enhanced biodefense and pandemic preparedness. In FY22 this effort was funded under Project MB4, COVID VAC.	-	-	35.000
Accomplishments/Planned Programs Subtotals	-	-	203.689

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
• PT2: *Protect (Applied Research)*	0.000	0.000	58.758	-	58.758	59.338	59.855	61.517	63.612	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
• MT4: *Mitigate (ACD&P)*	0.000	0.000	20.986	-	20.986	13.556	12.702	20.846	18.167	Continuing	Continuing
• 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
• PT5: *Protect (SDD)*	0.000	0.000	96.860	-	96.860	98.427	78.868	48.793	35.494	Continuing	Continuing

Remarks

D. Acquisition Strategy

MCM PLATFORM TECHNOLOGIES (MCMPT)

The goal of the MCMPT is to rapidly counter a broad-spectrum of threat agents using standardized discovery, design, manufacturing, and testing processes to reduce the MCM development risks. Efforts will focus on establishing advanced platform technologies within the Department of Defense (DoD)'s Advanced Development Manufacturing (ADM) network and evaluating that capability through nonclinical and clinical testing. A subset of these technologies will be adapted to deliver a rapid

response capability to novel and emerging threats. Once established, future programs will be able to leverage these platforms for the development of future medical countermeasures. It is anticipated that these efforts will leverage the Other Transactions Authority (OTA) through the medical OTA consortium.

PLAGUE MONOCLONAL ANTIBODIES (PLG MAB)

The Plague Monoclonal Antibodies (PLG MAB) program was initiated by the Medical Countermeasure Platform Technologies (MCMPT). The goal of the PLG MAB advanced development effort is to counter exposure to Yersinia pestis. 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 regulatory approach of the program is to pursue development of products for U.S. Food and Drug Administration (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 Biologics License Application (BLA) submission during the Product & Development (P&D) phase. The performer will continue large scale manufacturing during the Engineering and Manufacturing Development (EMD) phase, along with conducting clinical trials and non-clinical testing.

BIOLOGICAL WARFARE DEFENSE PROTOTYPE (BIOPROTO)

Supports early-phase clinical development and supporting non-clinical safety, tolerability and toxicity data for candidate vaccines and therapeutic drugs prior to transition to System Development & Demonstration. This work provides safe and effective medical defense against validated biological threat agents and emerging infectious disease biothreats including bacteria, toxins, and viruses. This work also involves the evaluation of Food and Drug Administration (FDA)-approved therapeutics for operational use, as well as generation of novel drug products and formulations, to enhance level of protection and/or operational utility for the Warfighter. This effort reduces programmatic risk of failure in the advanced development phase.

GENERATIVE UNCONSTRAINED INTELLIGENT DRUG ENGINEERING-ENHANCED BIODEFENSE (GUIDE-ENBD)

The preemptive approach to broadly address threat space that is enabled by the GUIDE computational toolset is tailored specifically to Warfighter threats. It is clear that launching a countermeasure development campaign based on diagnosis of sick soldiers, or on sensor detection presents a worst-case scenario in terms of the ability of that MCM to be operationally relevant. GUIDE will enable medical countermeasures (MCM) candidates to be developed across threat space to eliminate early development time. In the case of high priority threats, these candidates can be advanced preemptively. Once mature, GUIDE offers a revolutionary approach to addressing unanticipated endemic and engineered threats through rapid retargeting and optimization. GUIDE is a collaboration between the Joint Program Executive Office for Chemical, Biological, Radiological and Nuclear Defense (CBRND) (JPEO-CBRND), Defense Advanced Research Projects Agency (DARPA), and the Department of Energy (DOE).

MONOCLONAL ANTIBODIES THERAPEUTICS-ENHANCED BIODEFENSE (MAB TX-ENBD)

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** PT4 / *Protect (ACD&P)*

MAB TX -ENBD will, by 2028, address multiple high-priority threats by developing antibody solutions and advancing them through phase 1 clinical trials. Additionally, all necessary studies will be completed to enable advanced development, as desired. MAB TX-ENBD will provide a stockpile of 5-10K doses that will remain on a stability program as a potential rapid response capability for deployment. Furthermore, a manufacturing process will be developed that can be rapidly implemented for a larger response if needed. The intention is to work each candidate to the appropriate regulatory level (e.g., through Phase 1) within a codified timeframe (e.g., 2 years) from initiation. These efforts will leverage the Other Transactions Authority (OTA) through the medical OTA consortium.

VACCINE ACCELERATION BY MODULAR PROGRESSION-ENHANCED BIODEFENSE (VAMP-ENBD)

Vaccine Acceleration by Modular Progression (VAMP) program will leverage the Medical Chemical, Biological, Radiological, and Nuclear (CBRN) Defense Consortium (MCDC) Other Transaction Authority (OTA) prototype development or the Broad Agency Announcement to advance vaccine development against CBRN threats. Vaccine prototypes will be advanced through design, manufacturing, clinical and non-clinical studies to demonstrate safety and efficacy.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** PT4 / *Protect (ACD&P)*

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
MCMPT - HW S - P3/ Nucleic Acid	C/CPFF	TBD : N/A	0.000	0.000		0.000		5.247	Dec 2022	0.000		5.247	Continuing	Continuing	0.000
MCMPT - HW S - Rapid Response	C/CPFF	Ology : Alachua, FL	0.000	0.000		0.000		5.638	Dec 2022	0.000		5.638	Continuing	Continuing	0.000
PLG MAB - HW S - Non-Clinical Efforts	Various	Various : Various	0.000	0.000		0.000		26.351	Dec 2022	0.000		26.351	Continuing	Continuing	0.000
PLG MAB - HW S - Manufacturing Development	Various	Various : Various	0.000	0.000		0.000		6.115	Mar 2023	0.000		6.115	Continuing	Continuing	0.000
PLG MAB - HW S - Product Management	Various	Various : Various	0.000	0.000		0.000		4.004	Dec 2022	0.000		4.004	Continuing	Continuing	0.000
GUIDE-ENBD - Development	Various	Various : Various	0.000	0.000		0.000		50.050	Dec 2022	0.000		50.050	Continuing	Continuing	0.000
MAB TX-ENBD - Development	Various	Various : Various	0.000	0.000		0.000		53.690	Dec 2022	0.000		53.690	Continuing	Continuing	0.000
VAMP-ENBD - Vaccine - Development	Various	Various : Various	0.000	0.000		0.000		29.925	Dec 2022	0.000		29.925	Continuing	Continuing	0.000
		Subtotal	0.000	0.000		0.000		181.020		0.000		181.020	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
BIOPROTO - TD/D S - Biological Warfare Defense Prototype	MIPR	Army Contracting Command : Picatinny, NJ	0.000	0.000		0.000		3.114	Oct 2022	0.000		3.114	Continuing	Continuing	0.000
		Subtotal	0.000	0.000		0.000		3.114		0.000		3.114	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 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** PT4 / *Protect (ACD&P)*

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
MCMPT - PM JPL /JPEO HQ Support	Various	JPL CBRN EB : Frederick, MD	0.000	0.000		0.000		1.112	Dec 2022	0.000		1.112	Continuing	Continuing	0.000
PLG MAB - PM/MS S - Program Managment	Various	Various : Various	0.000	0.000		0.000		3.108	Dec 2022	0.000		3.108	Continuing	Continuing	0.000
GUIDE-ENBD - Program Management	Various	Various : Various	0.000	0.000		0.000		4.950	Dec 2022	0.000		4.950	Continuing	Continuing	0.000
MAB TX-ENBD - Program Management	Various	Various : Various	0.000	0.000		0.000		5.310	Dec 2022	0.000		5.310	Continuing	Continuing	0.000
VAMP-ENBD - PM - Program Management	Various	Various : Various	0.000	0.000		0.000		5.075	Dec 2022	0.000		5.075	Continuing	Continuing	0.000
		Subtotal	0.000	0.000		0.000		19.555		0.000		19.555	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		203.689		0.000		203.689	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 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** PT4 / *Protect (ACD&P)*

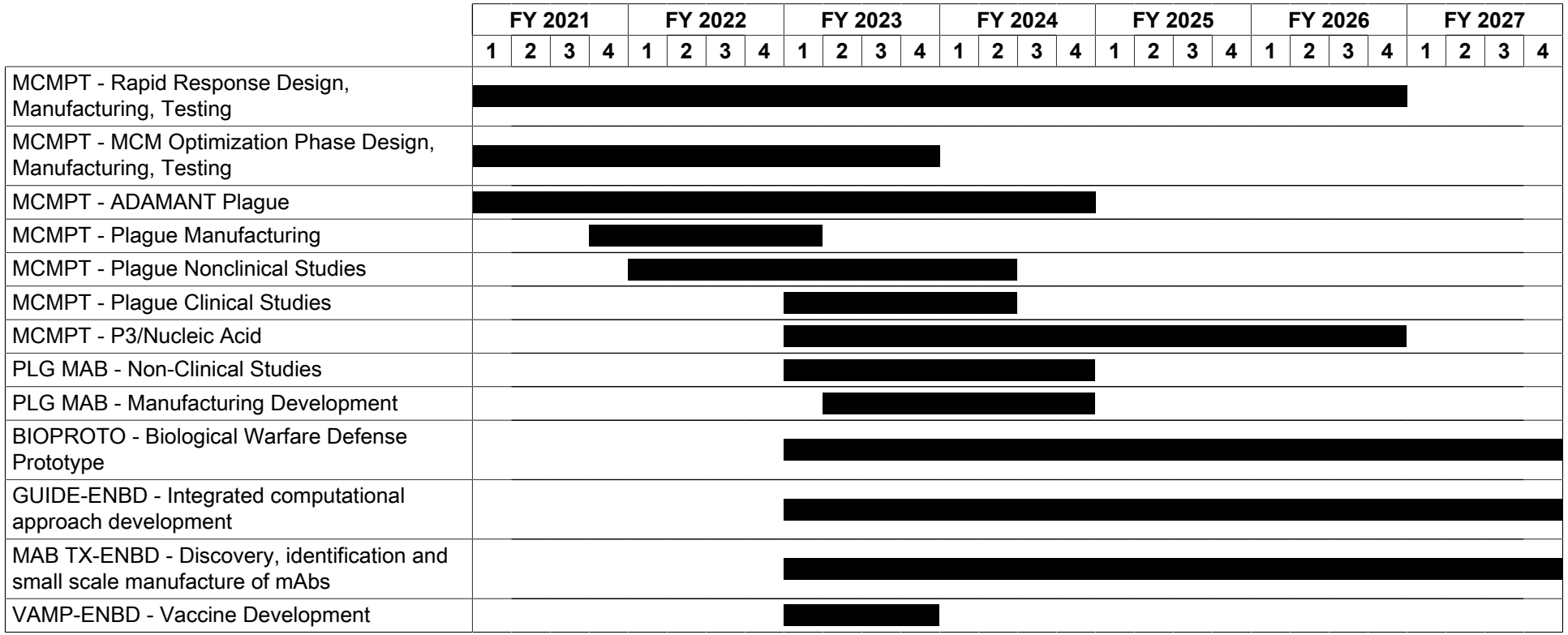

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** PT4 / *Protect (ACD&P)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
MCMPT - Rapid Response Design, Manufacturing, Testing	1	2021	4	2026
MCMPT - MCM Optimization Phase Design, Manufacturing, Testing	1	2021	4	2023
MCMPT - ADAMANT Plague	1	2021	4	2024
MCMPT - Plague Manufacturing	4	2021	1	2023
MCMPT - Plague Nonclinical Studies	1	2022	2	2024
MCMPT - Plague Clinical Studies	1	2023	2	2024
MCMPT - P3/Nucleic Acid	1	2023	4	2026
PLG MAB - Non-Clinical Studies	1	2023	4	2024
PLG MAB - Manufacturing Development	2	2023	4	2024
BIOPROTO - Biological Warfare Defense Prototype	1	2023	4	2027
GUIDE-ENBD - Integrated computational approach development	1	2023	4	2027
MAB TX-ENBD - Discovery, identification and small scale manufacture of mAbs	1	2023	4	2027
VAMP-ENBD - Vaccine Development	1	2023	4	2023

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program			Date: April 2022
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	Project (Number/Name) UN4 / *Understand (ACD&P)*	

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
UN4: *Understand (ACD&P)*	-	0.000	0.000	57.908	-	57.908	55.291	59.174	57.358	33.474	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Understand Advanced Component Development and Prototypes (ACD&P) 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 Chemical Biological Radiological and Nuclear (CBRN) hazards in air, water, or on land, and on personnel, equipment or facilities. Efforts also develop a clear understanding of the current and predicted CBRN situation; collect, query, and assimilate information from sensors in real time to inform decisions and provide impacts of CBRN hazards.

Efforts included in this Project are:

(1) Advanced Emerging Threat Defense (AET DEFENSE),
(2) CBRN Support to Command and Control (CSC2),
(3) Compact Vapor Chemical Agent Detector (CVCAD),
(4) Proximate Chemical Agent Detector (PCAD),
(5) Biological Defense Improvement Program (BDIP), and
(6) Surveillance and Pathogen Characterization-Enhanced Biodefense (SPCHAR-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 activities continue to focus on demonstrating and evaluating technologies to assess performance against emerging threats, particularly biological threats.

CSC2 is predicated on rapidly deploying CBRN situational awareness and understanding capabilities to the Joint Force through Capability Development Packages (CDPs). CSC2 will pull technology from Science & Technology (S&T) partners as well as integrate mature technologies into a baseline framework that enables risk based decision making. IEW Campaign Plan Lines of Effort are the driving bodies for service requirements and rapid capability development and deployment. Applicable technologies within the CBDP will be experimented, integrated, networked, and deployed through software acquisition pathway. In FY23 CSC2 will continue the integration of the CBRN sensor portfolio through a common sensor management system and conduct automated warning and reporting/analysis to support operations, planning & execution. The prototype from FY22 efforts will be refined for service specific Common Operating Environment (COE) and Computing Environment (CE) interfaces for a delivery of a minimally viable product in FY23 meeting CDP-1 requirements. Investments will accelerate the advanced development of next generation warning, reporting and hazard prediction capabilities. Initial investments will be made in artificial intelligence and machine learning applications

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** UN4 / *Understand (ACD&P)*

and processes. Digital engineering and model-based systems engineering will be used to develop a common architecture in order to reduce risk and accelerate development and deployment of the CSC2 capability.

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 FY22 CVCAD Science & Technology (S&T) prototypes will transition into the program of record and continue in Technology Maturation and Risk Reduction (TMRR) phase and conduct development testing and early user feedback events to inform design changes. In FY23 the four competing prototypes will undergo down selects based on performance to prepare for Milestone B/Middle Tier Acquisition (MTA).

PCAD will transition from Science & Technology (S&T) to a program of record in FY23 and will be a handheld standoff, liquid and solid trace chemical agent detector to detect a wide range of chemical threats. The technology will provide detection and location of chemical agents on various surfaces and under a variety of environmental conditions.

The BDIP will enhance the set of biodefense capabilities to significantly improve its ability to rapidly understand, prevent, prepare for, respond to, and recover from a vast array of future biological threats. BDIP will support the Department of Defense (DoD) CBDP mission through enhanced capabilities to understand, and protect against threats. BDIP will address joint and service gaps and priorities related to biodefense, and will develop and execute a biodefense strategy. It considers the BW threat and vulnerabilities to give biodefense the agility and speed necessary to provide relevant, effective, affordable, and sustainable capabilities that can be ubiquitously deployed on the battlefield against current, emerging and future biological threat. The DoD with academia, industry and other interagency departments will partner to gain opportunities to accelerate technology, adopt surge capacity and advance consumable and alternative solution across the entire Biodefense portfolio. FY23 funding will conduct market research to support the refinement and the building of technologically mature prototypes.

SPCHAR-ENBD will enhance the flow of surveillance data and samples through a network of laboratories, expand deployed analytical capabilities to expedite pathogen characterization, and integrate contact tracing capabilities to 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. This enhancement delivers early detection and characterization, which informs protection capabilities needed for biodefense and pandemic preparedness.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: 1) Biological Defense Improvement Program (BDIP)	-	-	2.398
Description: Product Development, Program Management, Test and Evaluation and Support.			
FY 2023 Plans: Initiate market research and conduct a requirements table top exercise in order to release the Request for Information (RPI) and request for white papers for prototyping plan#1 and Other Transactional Agreements (OTA) Award.			
FY 2022 to FY 2023 Increase/Decrease Statement:			

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** UN4 / *Understand (ACD&P)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Increase due to accelerated development effort.			
Title: 2) Compact Vapor Chemical Agent Detector (CVCAD) ***Description:*** Prototype Advanced Development, Testing & Program Management ***FY 2023 Plans:*** Continue and complete advanced development on prototype systems, conduct down select on competing technologies, prepare for initiation of engineering development. 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). Activities will include milestone documentation, developmental testing and program office management and administration processes to include 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 ($6.137 Million) remains in CA4. Program/ project transitions to Engineering and Manufacturing Development or Middle Tier Acquisition in 4QFY23.	-	-	16.852
Title: 3) CBRN Support to Command and Control (CSC2) ***Description:*** Product Development, Integration and Sensor Management ***FY 2023 Plans:*** Continue integration of Chemical Biological Radiological and Nuclear (CBRN) sensor portfolio through a common sensor management system to include data visualization, analysis and movement of data from CBRN sensors to and through service network. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred from another Project due to budget restructure. FY22 funding ($14.381 Million) remains in CA4.	-	-	12.380
Title: 4) CBRN Support to Command and Control (CSC2) ***Description:*** Automated Warning, Reporting , Analysis and decision support tools. Service Common Operating Environment (COE) and CoE Convergence. ***FY 2023 Plans:*** Advanced development of next generation warning and reporting capabilities to support operations, planning & execution. Integration of Non CBRN Data source into decision support tools. Initial convergence of CBRN information onto Service COEs/	-	-	18.168

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** UN4 / *Understand (ACD&P)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
CE and associated Cyber security requirements. Initial investments in artificial intelligence and machine learning applications and processes, and digital engineering and model-based systems engineering. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred from another Project due to budget restructure. FY22 funding ($4.400 Million) remains in CA4.			
Title: 5) CBRN Support to Command and Control (CSC2) ***Description:*** Program Management and 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 ($2.321 Million) remains in CA4.	-	-	2.800
Title: 6) Proximate Chemical Agent Detector (PCAD) ***Description:*** Technology Evaluation and Program Management. ***FY 2023 Plans:*** Evaluate prototype development under Science & Technology (S&T) activities, interagency collaboration with Defense Threat Reduction Agency (DTRA), and conduct developmental testing and program management activities. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Program/project transitioned to Advanced Development.	-	-	0.918
Title: 7) SPCHAR - Enhanced Biodefense (ENBD) ***Description:*** This effort will focus on Pathogenicity Studies. ***FY 2023 Plans:*** Initiate studies to investigate CBRN threat pathogenesis and/or pathogenicity models. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Additional investment in enhanced biodefense and pandemic preparedness.	-	-	1.600
Title: 8) Advanced Emerging Threat (AET) Defense	-	-	2.792

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** UN4 / *Understand (ACD&P)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Description: Program Management, Product Development, Support and Testing to demonstrate and evaluate technologies to assess performance against advanced and emerging threats. ***FY 2023 Plans:*** Continue efforts to address emerging biological threats and Pharmaceutical Based Agents (PBAs). Update spectral libraries and hazard data management tools to incorporate emerging threat information. Produce additional data to better assess detection and decontamination capabilities against new requirements and inform rapid fielding decisions. Conduct table top exercises to support Joint Service and interagency tactics, techniques, and procedures (TTP) development and gaps analysis for materiel solutions. Monitor market surveys and assessments of technologies for rapid fielding by Chemical Biological Defense Program to mitigate emerging threat gaps as threats are identified. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred from another Project due to budget restructure. FY22 funding ($5.684 Million) remains in CA4. Decrease due to change in program/project technical parameters. Test activities have decreased compared to previous years as community is working to better define additional emerging threats prior to extensive testing.			
Accomplishments/Planned Programs Subtotals	-	-	57.908

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
• CA5: *Contamination Avoidance (SDD)*	129.914	82.295	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	212.209
• UN5: *Understand (SDD)*	0.000	0.000	127.671	-	127.671	101.933	98.742	98.122	72.699	Continuing	Continuing
• UN7: *Understand (Op Sys Dev)*	0.000	0.000	42.856	-	42.856	35.884	42.602	42.603	44.196	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
• SA0050: *CBRN SUPPORT TO C2 (CSC2)*	0.000	1.750	11.803	-	11.803	1.857	1.912	1.970	2.000	Continuing	Continuing
• SA0053: *BDIP*	0.000	0.000	0.000	-	0.000	0.000	0.000	0.000	10.200	Continuing	Continuing

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** UN4 / *Understand (ACD&P)*

D. Acquisition Strategy

BIO DEFENSE IMPROVEMENT PROGRAM (BDIP)

BDIP will provide and integrate prototypes in cyclic prototyping plan cycles based on Service requirements. The prototyping plans will use a streamlined hybrid acquisition process in order to keep pace with industry and the rapid advancement of technologies. The BDIP strategy is to utilize the rapid prototyping process in Middle Tier Acquisition (MTA) enabled by the Other Transactional Agreements (OTA) contract vehicle. These prototypes will be demonstrated, evaluated and tested by the Services as well as laboratories and academia. Successful prototypes will be evaluated for transition to the platforms and Services for the next steps in acquisition, production and eventual fielding across the services. Funding provides market research to support the refinement and the building of technologically mature prototypes.

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.

CBRN SUPPORT TO C2 (CSC2)

CSC2 focuses on technology maturation, demonstration, integration and transitioning early warning capability sets to fielded Chemical Biological Defense Program (CBDP) programs of record to combat emerging and potentially urgent threats within Joint All Domain Operations. Contracting strategy includes the use of Other Transaction Authority Research & Development and prototyping. Annual development cycles and capability drops are requested and validated by all Department of Defense (DoD) Services in the OASD (NCB/CB) IEW Campaign Plan as well as approved capability development packages designated through the Joint Requirements Office and prioritized based on National Defense Strategy and National Military Strategy goals. Current strategy also collaborates with multi-agency partners to obtain synergy and interoperability across the areas of sensor data analytics, integrated early warning, and protect to warn/protect to treat capabilities. Efforts within CSC2 are driven by Service Chemical Biological Radiological and Nuclear (CBRN) capability gaps that are identified on an annual basis and evaluated by CBDP stakeholders; possible solutions and applicable technologies within the CBDP will be experimented, integrated, networked, and deployed through the software acquisition pathway.

PROXIMATE CHEMICAL AGENT DETECTOR (PCAD)

PCAD will leverage the existing S&T CWMD OTA contract in FY23 to procure prototypes for Technology Maturation Risk Reduction (TMRR) phase. This streamlined approach will use one contracting mechanism to transition technology from S&T to acquisition and allow follow-on acquisitions up through Low Rate Initial Production.

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

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** UN4 / *Understand (ACD&P)*

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.

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
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	Project (Number/Name) UN4 / *Understand (ACD&P)*	

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
BDIP - HW C - Surveillance and Pathogen Characterization (Wearables)	MIPR	Various : Various	0.000	0.000		0.000		0.621	Oct 2022	0.000		0.621	Continuing	Continuing	0.000
BDIP - HW C - Surveillance and Pathogen Characterization (Genomic Sequencing)	MIPR	Aberdeen Test Center (ATC) : Aberdeen Proving Ground, MD	0.000	0.000		0.000		1.551	Oct 2022	0.000		1.551	Continuing	Continuing	0.000
CVCAD - HW S - Advanced Prototype Development	C/FFP	Advanced Technologies International : Summerville, SC	0.000	0.000		0.000		11.100	May 2023	0.000		11.100	Continuing	Continuing	0.000
CSC2 - SW S- Contractor Product Development Team Labor	MIPR	JPEO Chem : Bio, Rad, and Nuc Defense (JPEO-CBRND)	0.000	0.000		0.000		0.491	Oct 2022	0.000		0.491	Continuing	Continuing	0.000
CSC2 - SW S - Operational Capability	C/CPAF	TBD : N/A	0.000	0.000		0.000		19.816	Oct 2022	0.000		19.816	Continuing	Continuing	0.000
CSC2 - SW S - Government Product Development Team Labor	MIPR	Various : Various	0.000	0.000		0.000		1.963	Oct 2022	0.000		1.963	Continuing	Continuing	0.000
CSC2 - SW S - Service CoE and CE Convergence	MIPR	JPEO Chem : Bio, Rad, and Nuc Defense (JPEO-CBRND)	0.000	0.000		0.000		4.540	Oct 2022	0.000		4.540	Continuing	Continuing	0.000
SPCHAR-ENBD - Pathogenicity Studies	Various	Various : Various	0.000	0.000		0.000		1.600	Dec 2023	0.000		1.600	Continuing	Continuing	0.000
AET DEFENSE - SW C - Spectral library enhancements	MIPR	Various : Various	0.000	0.000		0.000		0.900	Dec 2022	0.000		0.900	Continuing	Continuing	0.000
AET DEFENSE - SW C - Hazard awareness tool updates	MIPR	Various : Various	0.000	0.000		0.000		0.500	Dec 2022	0.000		0.500	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 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** UN4 / *Understand (ACD&P)*

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 C - Emerging threat detection/ decontamination/protection capability prototyping	Various	Various : Various	0.000	0.000		0.000		0.444	Dec 2022	0.000		0.444	Continuing	Continuing	0.000
		Subtotal	0.000	0.000		0.000		43.526		0.000		43.526	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
CVCAD - ES S - OGA Support	MIPR	Various : Various	0.000	0.000		0.000		1.952	Nov 2022	0.000		1.952	Continuing	Continuing	0.000
CSC2 - ES C - Contractor Support	C/CPAF	TBD : N/A	0.000	0.000		0.000		0.885	Oct 2022	0.000		0.885	Continuing	Continuing	0.000
CSC2 - ES C - Support	MIPR	TBD : N/A	0.000	0.000		0.000		0.775	Feb 2023	0.000		0.775	Continuing	Continuing	0.000
PCAD - ES S - OGA Support	MIPR	Various : Various	0.000	0.000		0.000		0.485	Nov 2022	0.000		0.485	Continuing	Continuing	0.000
		Subtotal	0.000	0.000		0.000		4.097		0.000		4.097	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
CVCAD - DTE S - Vapor Testing	MIPR	MRIGlobal : Kansas City, MO	0.000	0.000		0.000		0.400	Feb 2023	0.000		0.400	Continuing	Continuing	0.000
CVCAD - DTE S - MIL STD/Surety Testing	MIPR	Various : Various	0.000	0.000		0.000		1.900	Feb 2023	0.000		1.900	Continuing	Continuing	0.000
CSC2 - DTE C - Technical/ Operational Demo	MIPR	TBD : N/A	0.000	0.000		0.000		2.548	Feb 2023	0.000		2.548	Continuing	Continuing	0.000
PCAD - DTE S - Technology Readiness Evaluation	MIPR	U.S. Army Combat Capabilities Development	0.000	0.000		0.000		0.348	Mar 2023	0.000		0.348	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 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** UN4 / *Understand (ACD&P)*

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
		Command (DEVCOM) Chemical Biological Center (CBC) : Aberdeen Proving Ground, MD													
AET DEFENSE - DTE S - Technology Assessments	MIPR	U.S. Army Combat Capabilities Development Command (DEVCOM) Chemical Biological Center (CBC) : Aberdeen Proving Ground, MD	0.000	0.000		0.000		0.517	Dec 2022	0.000		0.517	Continuing	Continuing	0.000
		Subtotal	0.000	0.000		0.000		5.713		0.000		5.713	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
BDIP - PM/MS S - Program Management Support	MIPR	Various : Various	0.000	0.000		0.000		0.226	Oct 2022	0.000		0.226	Continuing	Continuing	0.000
CVCAD - PM/MS S - Program Management Support	MIPR	Various : Various	0.000	0.000		0.000		1.500	Nov 2022	0.000		1.500	Continuing	Continuing	0.000
CSC2 - PM/MS C - Program Management Support	MIPR	Various : Various	0.000	0.000		0.000		2.330	Oct 2022	0.000		2.330	Continuing	Continuing	0.000
PCAD - PM/MS S - Program Management	MIPR	Various : Various	0.000	0.000		0.000		0.085	Oct 2022	0.000		0.085	Continuing	Continuing	0.000
AET DEFENSE - PM/MS S - IPT Support/Program Management	MIPR	U.S. Army Combat Capabilities Development Command	0.000	0.000		0.000		0.431	Dec 2022	0.000		0.431	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 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** UN4 / *Understand (ACD&P)*

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
		(DEVCOM) Chemical Biological Center (CBC) : Aberdeen Proving Ground, MD													
		Subtotal	0.000	0.000		0.000		4.572		0.000		4.572	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		57.908		0.000		57.908	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 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** UN4 / *Understand (ACD&P)*

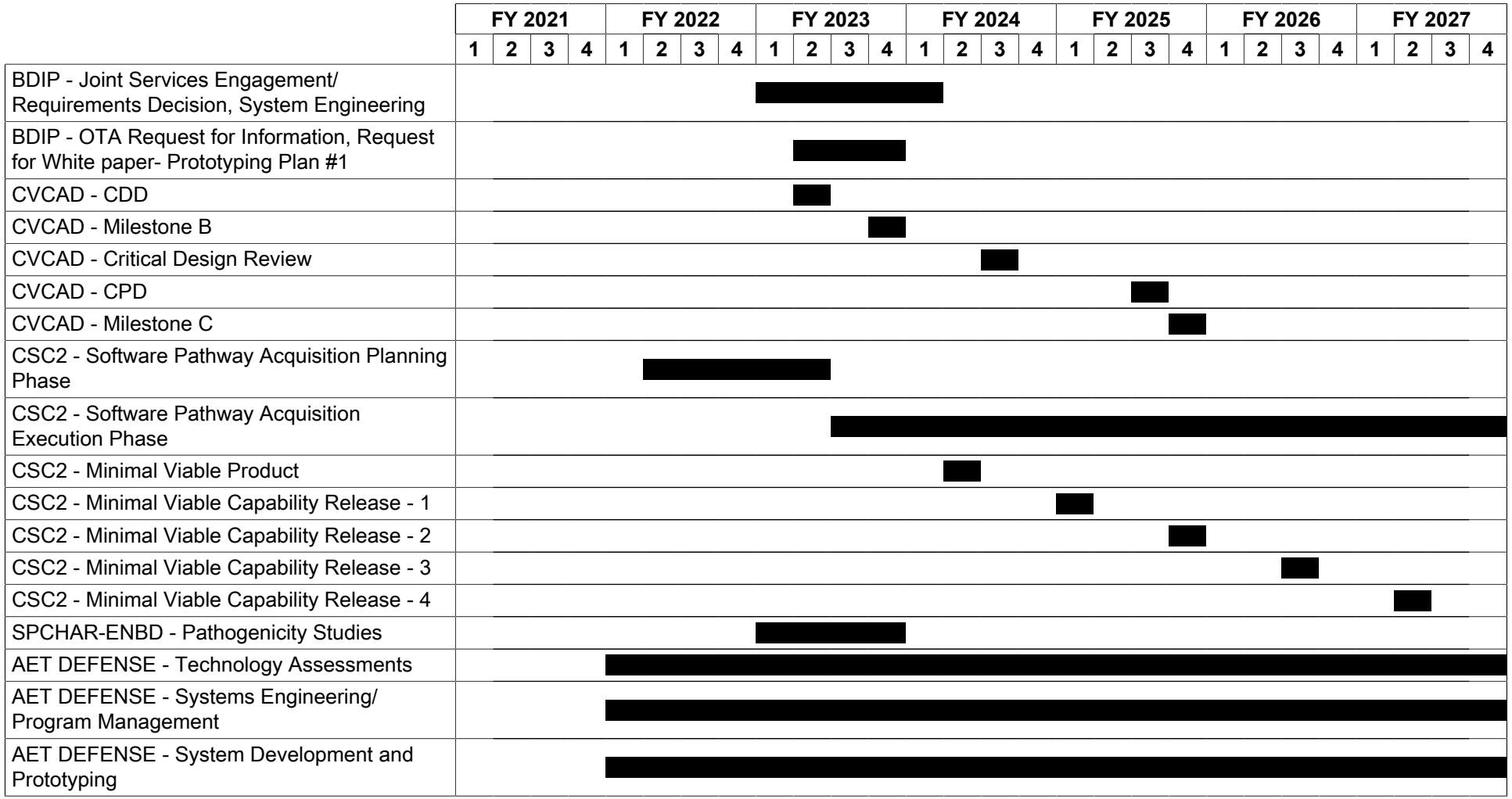

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** UN4 / *Understand (ACD&P)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
BDIP - Joint Services Engagement/Requirements Decision, System Engineering	1	2023	1	2024
BDIP - OTA Request for Information, Request for White paper- Prototyping Plan #1	2	2023	4	2023
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
CSC2 - Software Pathway Acquisition Planning Phase	2	2022	2	2023
CSC2 - Software Pathway Acquisition Execution Phase	3	2023	4	2027
CSC2 - Minimal Viable Product	2	2024	2	2024
CSC2 - Minimal Viable Capability Release - 1	1	2025	1	2025
CSC2 - Minimal Viable Capability Release - 2	4	2025	4	2025
CSC2 - Minimal Viable Capability Release - 3	3	2026	3	2026
CSC2 - Minimal Viable Capability Release - 4	2	2027	2	2027
SPCHAR-ENBD - Pathogenicity Studies	1	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 / 4	R-1 Program Element (Number/Name) PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	Project (Number/Name) CA4 / *Contamination Avoidance (ACD&P)*	

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
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
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Contamination Avoidance Advanced Component Development and Prototypes (ACD&P) Project supports reconnaissance, detection, identification, and hazard prediction equipment, hardware, and software. In FY2023, the Chemical Biological Defense Program (CBDP) RDT&E Projects have been restructured to align to the CBDP portfolio. CA4 efforts in FY2022 progress to the Understand (UN4) portfolio. This restructuring is intended to provide standardization and alignment across CBDP research, development and acquisition efforts.

Efforts included in this Project are:

(1) Compact Vapor Chemical Agent Detector (CVCAD) **Progresses to UN4 in FY2023**,
(2) CBRN Support to Command and Control (CSC2) **Progresses to UN4 in FY2023**,
(3) Chemical Biological Radiological and Nuclear (CBRN) Sensor Integration on Robotics Platforms (CSIRP),
(4) Non-Traditional Agent Defense (NTA DEFENSE), and
(5) Advanced Emerging Threat Defense (AET DEFENSE) **Progresses to UN4 in FY2023**

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).

CSC2 is predicated on rapidly deploying CBRN situational awareness and understanding capabilities to the Joint Force through Capability Development Packages (CDPs). CSC2 will pull technology from Science & Technology (S&T) partners as well as integrate mature technologies into a baseline framework that enables risk based decision making. Integrated Early Warning (IEW) Campaign Plan Lines of Effort are the driving bodies for service requirements and rapid capability development and deployment. Applicable technologies within the CBDP will be experimented, integrated, networked, and deployed through rapid acquisition methods. In FY23 CSC2 will continue the efforts of integration of the CBRN sensor portfolio through a common sensor management system and conduct automated warning and reporting/ analysis to support operations, planning & execution. The prototype from FY22 efforts will be refined for service specific Common Operating Environment (COE) and Computing Environment (CE) interfaces for a delivery of a minimally viable product in FY23 meeting CDP-1 requirements.

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** CA4 / *Contamination Avoidance (ACD&P)*

CSIRP is a prototyping and fielding effort that will focus on repackaging and integrating modular sensor solutions to enhance Unmanned Air Systems (UAS) and Unmanned Ground Systems (UGS) Programs of Record (PORs) 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 for increased risk reduction opportunities 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.

The Advanced Emerging Threat (AET) DEFENSE program, formerly known as the Non-Traditional Agent (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 transitioned 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 activities continue to focus on demonstrating and evaluating technologies to assess performance against emerging threats, particularly biological threats.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: 1) Compact Vapor Chemical Agent Detector (CVCAD)	0.962	6.137	-
Description: Prototype Advanced Development, Testing & Program Management ***FY 2022 Plans:*** Initiate award Phase II contracts on the Combating Weapons of Mass Destruction Other Transaction Authority and conduct Technology Maturation and Risk Reduction (TMRR) activities. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred to a new Project due to budget restructure. FY23 funding ($16.852 Million) transferred to UN4.			
Title: 2) CBRN Support to Command and Control (CSC2)	-	14.381	-
Description: Product Development, Integration and Sensor Management ***FY 2022 Plans:*** Initiate and conduct integration of Chemical Biological Radiological and Nuclear (CBRN) sensor portfolio through a common sensor management system to include data visualization, analysis and movement of data from CBRN sensors to and through a network. ***FY 2022 to FY 2023 Increase/Decrease Statement:***			

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** CA4 / *Contamination Avoidance (ACD&P)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Funding transferred to a new Project due to budget restructure. FY23 funding ($12.380 Million) transferred to UN4.			
Title: 3) CBRN Support to Command and Control (CSC2) ***Description:*** Automated Warning, Reporting , Analysis and decision support tools. Service Common Operating Environment (COE) and CoE Convergence. ***FY 2022 Plans:*** Initiate and conduct automated warning and reporting/analysis to support operations, planning & execution. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred to a new Project due to budget restructure. FY23 funding ($18.168 Million) transferred to UN4.	-	4.400	-
Title: 4) CBRN Support to Command and Control (CSC2) ***Description:*** Program Management and Support ***FY 2022 Plans:*** Initiate 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 ($2.800 Million) transferred to UN4.	-	2.321	-
Title: 5) CBRN Sensor Integration on Robotic Platforms (CSIRP) ***Description:*** Product Development, Program Management, Support, Testing and Evaluation.	3.921	-	-
Title: 6) Non-Traditional Agent (NTA) Defense ***Description:*** Program Management, Product Development, Support and Testing to demonstrate and evaluate technologies to assess performance against NTAs.	4.484	-	-
Title: 7) Advanced Emerging Threat (AET) Defense ***Description:*** Program Management, Product Development, Support and Testing to demonstrate and evaluate technologies to assess performance against advanced and emerging threats. ***FY 2022 Plans:*** Continue efforts from NTA Defense to leverage expanded requirements to broaden data set for emerging biological threats and Pharmaceutical Based Agents (PBA). Continue updates to spectral libraries and hazard data management tools to incorporate	-	5.684	-

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** CA4 / *Contamination Avoidance (ACD&P)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
emerging threat information. 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, techniques, and procedures (TTP) development and gaps analysis for materiel solutions. Initiate market surveys and assessments of new technologies for rapid fielding by Chemical Biological Defense Program to mitigate emerging threat gaps as threats are identified.			
FY 2022 to FY 2023 Increase/Decrease Statement: Funding transferred to a new Project due to budget restructure. FY23 funding ($2.792 Million) transferred to UN4.			
Accomplishments/Planned Programs Subtotals	9.367	32.923	-

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
• 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
• UN5: *Understand (SDD)*	0.000	0.000	127.671	-	127.671	101.933	98.742	98.122	72.699	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
• SA0050: *CBRN SUPPORT TO C2 (CSC2)*	0.000	1.750	11.803	-	11.803	1.857	1.912	1.970	2.000	Continuing	Continuing

Remarks

D. Acquisition Strategy

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.

CBRN SUPPORT TO C2 (CSC2)

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** CA4 / *Contamination Avoidance (ACD&P)*

CSC2 focuses on technology maturation, demonstration, integration and transitioning early warning capability sets to fielded Chemical Biological Defense Program (CBDP) programs of record to combat emerging and potentially urgent threats within Joint All Domain Operations. Contracting strategy includes the use of Other Transaction Authority Research & Development and prototyping. Annual development cycles and capability drops are requested and validated by all Department of Defense (DoD) Services in the OASD (NCB/CB) IEW Campaign Plan as well as approved capability development packages designated through the Joint Requirements Office and prioritized based on National Defense Strategy and National Military Strategy goals. Current strategy also collaborates with multi-agency partners to obtain synergy and interoperability across the areas of sensor data analytics, integrated early warning, and protect to warn/protect to treat capabilities. Efforts within CSC2 are driven by Service Chemical Biological Radiological and Nuclear (CBRN) capability gaps that are identified on an annual basis and evaluated by CBDP stakeholders; possible solutions and applicable technologies within the CBDP will be experimented, integrated, networked, and deployed through the software acquisition pathway.

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.

NON TRADITIONAL AGENT DEFENSE (NTA DEFENSE)

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
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** CA4 / *Contamination Avoidance (ACD&P)*

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
CVCAD - HW S - Advanced Prototype Development	C/FFP	Advanced Technologies International : Summerville, SC	0.000	0.000		4.538	Oct 2021	0.000		0.000		0.000	0.000	4.538	0.000
CVCAD - HW S - Government Team Labor	Various	Various : Various	0.000	0.581	Nov 2020	0.000		0.000		0.000		0.000	0.000	0.581	0.000
CSC2 - HW C - Contractor Product Development Team Labor	MIPR	JPEO Chem : Bio, Rad, and Nuc Defense (JPEO-CBRND)	0.000	0.000		0.500	Feb 2022	0.000		0.000		0.000	0.000	0.500	0.000
CSC2 - HW C - CSC2 Operational Capability	C/CPAF	Various : Various	0.000	0.000		12.281	Feb 2022	0.000		0.000		0.000	0.000	12.281	0.000
CSC2 - HW - C Government Product Development Team Labor	MIPR	Various : Various	0.000	0.000		2.500	Oct 2021	0.000		0.000		0.000	0.000	2.500	0.000
CSIRP - HW C - RN Sensor Design	C/FFP	Radiation Monitoring Devices : Inc, Boston, MA	0.000	0.380	Nov 2020	0.000		0.000		0.000		0.000	0.000	0.380	0.000
CSIRP - HW C Chem Sensor Design	Various	Various : Various	0.000	0.150	Nov 2020	0.000		0.000		0.000		0.000	0.000	0.150	0.000
CSIRP - HW C OTA - Chemical Sensor Prototype and Integration	C/FFP	Intelligent Optical Systems (IOS) : Torrance, CA	0.687	0.320	Nov 2020	0.000		0.000		0.000		0.000	0.000	1.007	0.000
CSIRP - HW C Contractor Product Development Team Labor	C/FFP	Various : Various	0.550	0.438	Feb 2021	0.000		0.000		0.000		0.000	0.000	0.988	0.000
CSIRP - HW C - Government Product Development Team Labor	MIPR	Various : Various	2.726	0.291	Dec 2020	0.000		0.000		0.000		0.000	0.000	3.017	0.000
CSIRP - SW C Sensor Integration	C/CPFF	Charles Stark Draper Laboratories : Inc., Cambridge, MA	1.915	1.270	Nov 2020	0.000		0.000		0.000		0.000	0.000	3.185	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** CA4 / *Contamination Avoidance (ACD&P)*

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	1.086	0.425	Nov 2020	0.000		0.000		0.000		0.000	0.000	1.511	0.000
NTA DEFENSE - HW S - Threat Understanding and Characterization	MIPR	Various : Various	2.608	0.449	Jan 2021	0.000		0.000		0.000		0.000	0.000	3.057	0.000
NTA DEFENSE - HW S - Government SE & Technical Management Team	MIPR	U.S. Army Combat Capabilities Development Command (DEVCOM) Chemical Biological Center (CBC) : Aberdeen Proving Ground, MD	2.015	1.461	Dec 2020	0.000		0.000		0.000		0.000	0.000	3.476	0.000
AET DEFENSE - HW C - Emerging threat detection/ decontamination/protection capability prototyping	Various	Various : Various	0.000	0.000		0.936	Dec 2021	0.000		0.000		0.000	0.000	0.936	0.000
AET DEFENSE - SW C - Spectral library enhancements	MIPR	Various : Various	0.000	0.000		2.021	Nov 2021	0.000		0.000		0.000	0.000	2.021	0.000
AET DEFENSE - SW C - Hazard awareness tool updates	MIPR	Various : Various	0.000	0.000		1.076	Dec 2021	0.000		0.000		0.000	0.000	1.076	0.000
		Subtotal	11.587	5.765		23.852		0.000		0.000		0.000	0.000	41.204	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
CVCAD - OGA Support & Analysis (IPT)	Various	Various : Various	0.000	0.301	Apr 2021	0.000		0.000		0.000		0.000	0.000	0.301	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** CA4 / *Contamination Avoidance (ACD&P)*

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
CVCAD - ES S - Human System Integration (HSI) Support	MIPR	U.S. Army Combat Capabilities Development Command (DEVCOM) Chemical Biological Center (CBC) : Aberdeen Proving Ground, MD	0.000	0.000		0.114	Oct 2021	0.000		0.000		0.000	0.000	0.114	0.000
CVCAD - ES S - Readiness, Availability, and Maintainability (RAM) Analysis	MIPR	U.S. Army Combat Capabilities Development Command (DEVCOM) Chemical Biological Center (CBC) : Aberdeen Proving Ground, MD	0.000	0.000		0.155	Nov 2021	0.000		0.000		0.000	0.000	0.155	0.000
CSC2 - ES C - Contractor Support	C/CPAF	TBD : N/A	0.000	0.000		0.800	May 2022	0.000		0.000		0.000	0.000	0.800	0.000
CSC2 - ES C - Support	MIPR	TBD : N/A	0.000	0.000		0.700	May 2022	0.000		0.000		0.000	0.000	0.700	0.000
CSIRP - HW/SW Sensor Interface Design and Concept Development	Various	Various : Various	0.545	0.200	Nov 2021	0.000		0.000		0.000		0.000	0.000	0.745	0.000
		Subtotal	0.545	0.501		1.769		0.000		0.000		0.000	0.000	2.815	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
CVCAD - DTE S - MIL-STD Testing	MIPR	Aberdeen Test Center (ATC) : Aberdeen Proving Ground, MD	0.000	0.000		0.500	Jun 2022	0.000		0.000		0.000	0.000	0.500	0.000
CVCAD - DTE S - Chemical Surety Testing	MIPR	U.S. Army Combat Capabilities	0.000	0.000		0.200	Aug 2022	0.000		0.000		0.000	0.000	0.200	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** CA4 / *Contamination Avoidance (ACD&P)*

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
		Development Command (DEVCOM) Chemical Biological Center (CBC) : Aberdeen Proving Ground, MD													
CSC2 - DTE C - Technical/ Operational Demo	MIPR	JPEO Chem : Bio, Rad, and Nuc Defense (JPEO-CBRND)	0.000	0.000		2.000	Jun 2022	0.000		0.000		0.000	0.000	2.000	0.000
NTA DEFENSE - DTE S - Technology Assessments	MIPR	U.S. Army Combat Capabilities Development Command (DEVCOM) Chemical Biological Center (CBC) : Aberdeen Proving Ground, MD	0.945	0.610	Dec 2020	0.000		0.000		0.000		0.000	0.000	1.555	0.000
NTA DEFENSE - DTE S - Systems Prototyping and Development	MIPR	Various : Various	1.956	1.116	Nov 2020	0.000		0.000		0.000		0.000	0.000	3.072	0.000
AET DEFENSE - DTE S - Technology Assessments	MIPR	U.S. Army Combat Capabilities Development Command (DEVCOM) Chemical Biological Center (CBC) : Aberdeen Proving Ground, MD	0.000	0.000		1.156	Dec 2021	0.000		0.000		0.000	0.000	1.156	0.000
		Subtotal	2.901	1.726		3.856		0.000		0.000		0.000	0.000	8.483	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** CA4 / *Contamination Avoidance (ACD&P)*

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 S - Program Management Support	MIPR	Various : Various	0.000	0.080	Feb 2021	0.630	Nov 2021	0.000		0.000		0.000	0.000	0.710	0.000
CSC2 - PM/MS C - Program Management Support	MIPR	Various : Various	0.000	0.000		2.321	Oct 2021	0.000		0.000		0.000	0.000	2.321	0.000
CSIRP - PM/MS C Program Management Support	MIPR	Various : Various	0.604	0.447	Dec 2020	0.000		0.000		0.000		0.000	0.000	1.051	0.000
NTA DEFENSE - PM/MS S - IPT Support/Program Management	MIPR	JPEO Chem : Bio, Rad, and Nuc Defense (JPEO-CBRND)	2.423	0.848	Jan 2021	0.000		0.000		0.000		0.000	0.000	3.271	0.000
AET DEFENSE - PM/MS S - IPT Support/Program Management	MIPR	U.S. Army Combat Capabilities Development Command (DEVCOM) Chemical Biological Center (CBC) : Aberdeen Proving Ground, MD	0.000	0.000		0.495	Dec 2021	0.000		0.000		0.000	0.000	0.495	0.000
		Subtotal	3.027	1.375		3.446		0.000		0.000		0.000	0.000	7.848	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	18.060	9.367		32.923		0.000		0.000		0.000	0.000	60.350	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** CA4 / *Contamination Avoidance (ACD&P)*

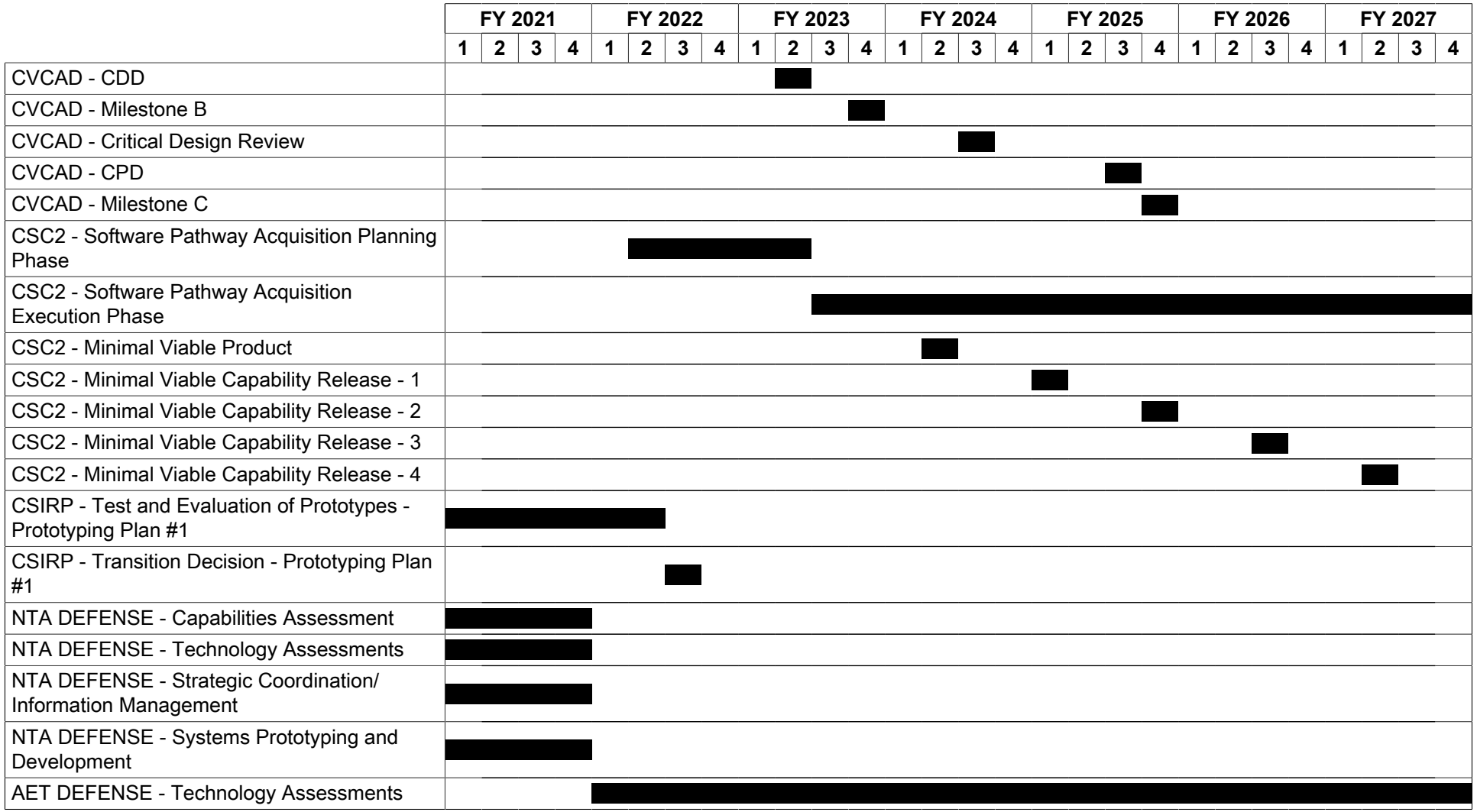

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** CA4 / *Contamination Avoidance (ACD&P)*

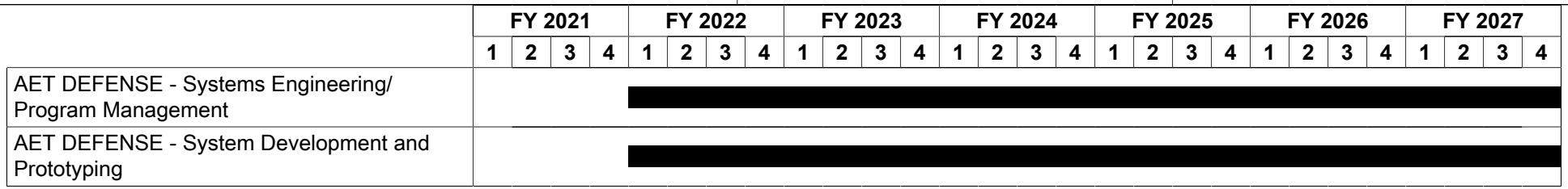

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** CA4 / *Contamination Avoidance (ACD&P)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
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
CSC2 - Software Pathway Acquisition Planning Phase	2	2022	2	2023
CSC2 - Software Pathway Acquisition Execution Phase	3	2023	4	2027
CSC2 - Minimal Viable Product	2	2024	2	2024
CSC2 - Minimal Viable Capability Release - 1	1	2025	1	2025
CSC2 - Minimal Viable Capability Release - 2	4	2025	4	2025
CSC2 - Minimal Viable Capability Release - 3	3	2026	3	2026
CSC2 - Minimal Viable Capability Release - 4	2	2027	2	2027
CSIRP - Test and Evaluation of Prototypes - Prototyping Plan #1	1	2021	2	2022
CSIRP - Transition Decision - Prototyping Plan #1	3	2022	3	2022
NTA DEFENSE - Capabilities Assessment	1	2021	4	2021
NTA DEFENSE - Technology Assessments	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 / 4	R-1 Program Element (Number/Name) PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	Project (Number/Name) DE4 / *Decontamination (ACD&P)*	

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
DE4: *Decontamination (ACD&P)*	-	4.919	18.385	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	23.304
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project supports the development of Contamination Mitigation (ConMit) systems that reduce operational impact and logistics burden, reduce sustainment costs, increase safety, and minimize environmental effects associated with decontamination and contamination mitigation operations. These efforts align with Chemical, Biological, Radiological, and Nuclear the National Defense Strategy by prioritizing preparedness for war and sustaining Joint Force military advantage and resilient force posture. In FY2023, the Chemical Biological Defense Program (CBDP) RDT&E Projects have been restructured to align to the CBDP portfolio. DE4 efforts in FY2022 progress to the Mitigate (MT4) portfolio. This restructuring is intended to provide standardization and alignment across CBDP research, development and acquisition efforts.

Efforts included in this Project are:

(1) Chemical, Biological, Radiological, and Nuclear (CBRN) Covers, Coatings and Protective Overlays (C3PO),
(2) Mass Personnel Decontamination (MPD),
(3) Service Equipment Decontamination System (SEDS) **Progresses to MT4 in FY2023**,
(4) Tactical Contamination Mitigation System (TCMS) **Progresses to MT4 in FY2023**, and
(5) Wide Area Decontamination System (WADS)

The C3PO program, which was a new start in FY21, uses a Family of Systems approach to provide contamination mitigation capability to critical equipment and assets prior to a CBRN attack. This mitigates the effects and amount of CBRN contamination exposure allowing the Joint Force to be better prepared for war, maintain a resilient force posture, and remain lethal. These capabilities include CBRN protective covers, coatings, paints, and other preventative measures. In FY23 and beyond, the CBDP reduced the program for higher priorities. All programmatic documentation will be archived and the Joint Requirements Office will archive the Draft Capability Development Document.

The MPD program will provide Warfighters with the capability to reduce the hazards associated with mass casualty decontamination efforts for protected and unprotected personnel, causalities and contaminated human remains potentially exposed to CBRN hazards. The program will develop an array of rugged and reliable best-of-breed hardware in a manageably sized, easy to erect, modular system that can be quickly tailored to different Mass Casualty events in order to support decontamination of ambulatory and non-ambulatory patients, and allow for the processing of contaminated human remains. This reduces and limits the spread of contamination among potentially contaminated population groups through a standardized, modular system scalable to increase capability, aligning with the National Defense Strategy by prioritizing preparedness for war in order to remain lethal. In FY22 and beyond, the CBDP reduced the program for higher priorities. All programmatic documentation will be archived and the Joint Requirements Office will enter the Draft Capability Development Document in the Knowledge Management/ Decision Support tool for Archiving.

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** DE4 / *Decontamination (ACD&P)*

The SEDS program, which was a new start in FY21, 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 than negligible severity effects.

TCMS is a FY22 new start program and is one of two respond components (along with the Wide Area Decontamination System) of the Interdependent Contamination Mitigation concept and intends to address gaps related to the decontamination of sensitive equipment, personal equipment, individual & crew served weapons, and it will reduce the time and logistics associated with decontamination. TCMS will limit the spread and mitigate the effects of Chemical, Biological, and Radiological (CBR) contamination to allow warfighters to continue their mission for an extended period of time in a high threat, CBR contaminated environment. The program will provide a forward deployed contamination mitigation capability that allows expeditious execution of decontamination that results in MOPP reduction/removal. TCMS will greatly enhance or eliminate the need for subsequent decontamination to mitigate contamination on military equipment by allowing the Warfighter to see areas of contamination, target contamination for treatment early, with minimal expenditure of time and material. In FY23 the TCMS program will complete Milestone A and procure prototypes of systems that meet the draft Capabilities Development Document requirements. The program will conduct a Systems Readiness Review (SRR), Test Readiness Review (TRR), begin prototype testing.

The WADS is a FY22 new start program that will provide contamination mitigation capabilities against chemical and biological warfare agents on various types of terrain and exterior of fixed site facilities. The WADS will be employed to conduct Airport of Debarkation, Seaport of Debarkation, Terrain, Fix Site and Anti-access/Anti-denial decontamination operations. The WADS will be a replacement for the M12. The M12A1, Power Driven Decontamination Apparatus (PDDA) system is an Army lead program that consists of a pump unit, a 500 gallon tank unit, and a 600 gallon per hour liquid fuel water heater with a spray bar mounted to the system for terrain decontamination. The WADS will use the principles of the PDDA to further enhance terrain decontamination capabilities. In FY23 and beyond, the CBDP reduced the program for higher priorities. All programmatic documentation will be archived and the Joint Requirements Office will enter the Draft Capability Development Document in the Knowledge Management/Decision Support tool for Archiving.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: 1) Covers, Coatings, and Protective Overlays (C3PO)	1.643	3.572	-
Description: Prototype Development			
FY 2022 Plans: Continue and complete using agile program management to obtain laboratory and user testing through iterative (test-fix-test) prototyping to improve system performance.			
FY 2022 to FY 2023 Increase/Decrease Statement:			

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** DE4 / *Decontamination (ACD&P)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Program/project terminated in FY 2023.			
Title: 2) Mass Personnel Decontamination (MPD) ***Description:*** Milestone (MS) A Support and Preliminary Systems Component Testing	1.500	-	-
Title: 3) Service Equipment Decontamination System (SEDS) ***Description:*** Milestone (MS) B support and Prototype Development ***FY 2022 Plans:*** Initiate Special Operations Forces (SOF) combined Developmental Test/Operational Test (DT/OT) and conduct Early Developmental Testing (EDT) for remaining Services, prepare for Preliminary Design Review (PDR). ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred to a new Project due to budget restructure. FY23 funding ($9.649M) transferred to MT4.	1.776	8.988	-
Title: 4) Tactical Contamination Mitigation System (TCMS) ***Description:*** Milestone (MS) A support and Prototype Development ***FY 2022 Plans:*** Initiate market research and conduct a requirements table top exercise in order to release the Request for Prototype Proposal (RPP) and award a prototyping Other Transaction Authority (OTA) contract. Draft program documentation for a Milestone A decision. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred to a new Project due to budget restructure. FY23 funding ($4.743 Million) transferred to MT4.	-	3.433	-
Title: 5) Wide Area Decontamination System (WADS) ***Description:*** Prototype Development and Evaluation ***FY 2022 Plans:*** Develop and demonstrate a demonstrator platform and prototype capability for autonomous contamination mitigation technologies. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Program/project terminated in FY 2023.	-	2.392	-
Accomplishments/Planned Programs Subtotals	4.919	18.385	-

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** DE4 / *Decontamination (ACD&P)*

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
• MT5: *Mitigate (SDD)*	0.000	0.000	74.225	-	74.225	61.861	68.280	39.819	22.062	Continuing	Continuing
• PHM007: *SERVICE EQUIPMENT DECONTAMINATION SYSTEM (SEDS)*	0.000	0.000	0.000	-	0.000	5.451	6.483	8.483	10.931	Continuing	Continuing
• PHM042: *TACTICAL CONTAMINATION MITIGATION SYSTEM (TCMS)*	0.000	0.000	0.000	-	0.000	0.000	0.000	1.250	5.072	Continuing	Continuing

Remarks

D. Acquisition Strategy

CBRN COVERS COATINGS AND PROTECTIVE OVERLAYS (C3PO)

The C3PO acquisition approach involves testing fielded material against live chemical warfare agents and biological warfare agents. The C3PO program will evaluate Government and Commercial Off the Shelf options to reduce development costs. The program will test Government and Commercial Off the Shelf options against live chemical warfare agents and biological warfare agents, conduct regular user evaluations to identify human system integration issues, and will conduct testing to ensure the system meets military standards. The C3PO program funding ends in FY22 and all program contract, test, and acquisition documentation will be archived and the Joint Requirements Office will archive the Draft Capability Development Document.

MASS PERSONNEL DECON (MPD)

The MPD program will develop the equipment, processes and procedures for Department of Defense (DoD) -affiliated personnel contaminated by chemical, biological, and radiological agents to achieve ambulatory and non-ambulatory throughput requirements as dictated by the needs of the Services, while considering various mission scenarios. The acquisition strategy includes several key product developmental efforts and the program achieved Milestone A in February 2020. Also included are efforts for the reduction of current MPD System costs by assessing existing Mass Casualty Decontamination (MCD) equipment and processes as well as new technology through the use of Requests For Information (RFI's), Market Research Analyses and Technology Demonstrations. Data collected from prior equipment demonstrations and fielding of commercial MCD systems in support of two validated Operational Needs Statements, will inform the program as well. In FY22 and beyond, the Chemical Biological Defense Program (CBDP) reduced the program for higher priorities. All programmatic documentation will be archived and the Joint Requirements Office will enter the Draft Capability Development Document in the Knowledge Management/Decision Support tool for Archiving.

SERVICE EQUIPMENT DECONTAMINATION SYSTEM (SEDS)

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** DE4 / *Decontamination (ACD&P)*

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.

TACTICAL CONTAMINATION MITIGATION SYSTEM (TCMS)

The TCMS program will develop the equipment, processes and procedures for contamination mitigation related to post-incident operations in a Chemical Biological Radiological and Nuclear (CBRN) contaminated environment. The acquisition strategy includes market research through both Requests for Information (RFIs) and a call for White Papers through an Other Transaction Authority (OTA) contracting approach. Data collected will inform a Milestone A decision in FY23. The OTA vehicle will also be used to request prototypes, which will undergo technology demonstrations and Early Field testing, followed by an analysis to determine the most suitable candidate. Results of Prototyping will inform Milestone B and Request for Proposals (RFPs) followed by developmental and operational testing and Milestone C/Full Rate Production Approval.

WIDE AREA DECONTAMINATION SYSTEM (WADS)

The WADS program will develop the equipment, processes and procedures for contamination mitigation of various types of terrain and the exterior of DoD fixed site facilities contaminated by chemical, biological, and radiological agents. The acquisition strategy includes market research through both Requests for Information (RFIs) and a call for White Papers through an Other Transaction Authority (OTA) contracting approach. The OTA vehicle will also be used to request prototypes, which will undergo technology demonstrations and Early Field testing, followed by an analysis to determine the most suitable candidate. The WADS program funding ends in FY22 and all program contract, test, and acquisition documentation will be archived and the Joint Requirements Office will enter the Draft Capability Development Document into Knowledge Management/Decision Support tool for archiving.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** DE4 / *Decontamination (ACD&P)*

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
C3PO - HW S - Advanced Product Development	Various	Various : Various	0.000	0.203	Feb 2021	0.208	Nov 2021	0.000		0.000		0.000	0.000	0.411	0.000
MPD - HW S - Hardware System	C/FFP	Advanced Technologies International : Summerville, SC	0.441	0.320	Oct 2022	0.000		0.000		0.000		0.000	0.000	0.761	0.000
SEDS - HW S - SEDS Product Development	SS/FFP	TBD : N/A	0.000	0.000		3.298	Aug 2022	0.000		0.000		0.000	0.000	3.298	0.000
SEDS - HW S - MPCAD Devices/Product Development	C/FFP	FLIR Systems Inc : Wilsonville, OR	0.000	0.897	Jul 2021	0.000		0.000		0.000		0.000	0.000	0.897	0.000
TCMS - HW S - Product Development	C/FFP	TBD : N/A	0.000	0.000		2.408	May 2022	0.000		0.000		0.000	0.000	2.408	0.000
WADS - HW C - Autonomous Contamination Mitigation Prototype	C/FFP	TBD : N/A	0.000	0.000		1.127	May 2022	0.000		0.000		0.000	0.000	1.127	0.000
		Subtotal	0.441	1.420		7.041		0.000		0.000		0.000	0.000	8.902	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
C3PO - ES SB - Logistics, Engineering and IPT Support	MIPR	Various : Various	0.000	0.525	Feb 2021	0.270	Nov 2021	0.000		0.000		0.000	0.000	0.795	0.000
SEDS - ES SB - SEDS Logistics, Engineering and IPT Support	MIPR	Various : Various	0.000	0.066	Mar 2021	1.348	Oct 2021	0.000		0.000		0.000	0.000	1.414	0.000
TCMS - ES SB - Logistics, Engineering and IPT Support	MIPR	Various : Various	0.000	0.000		0.515	May 2022	0.000		0.000		0.000	0.000	0.515	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** DE4 / *Decontamination (ACD&P)*

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
WADS - ES C - Engineer and Logistics Support	MIPR	Various : Various	0.000	0.000		0.378	Apr 2022	0.000		0.000		0.000	0.000	0.378	0.000
		Subtotal	0.000	0.591		2.511		0.000		0.000		0.000	0.000	3.102	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
C3PO - Other S - Developmental Testing and Test Planning Support	MIPR	Various : Various	0.000	0.784	Feb 2021	2.698	Dec 2021	0.000		0.000		0.000	0.000	3.482	0.000
MPD - OTHT S - System Component Testing, Prototype Testing, DT, Test Planning	C/FFP	Advanced Technologies International : Summerville, SC	2.492	0.955	Jul 2021	0.000		0.000		0.000		0.000	0.000	3.447	0.000
SEDS - OTHT S - SEDS T&E IPR Test Planning	MIPR	Various : Various	0.000	0.562	Aug 2021	3.501	Nov 2021	0.000		0.000		0.000	0.000	4.063	0.000
TCMS - OTHT S - Prototype T&E IPR Test Planning	MIPR	Various : Various	0.000	0.000		0.254	Jun 2022	0.000		0.000		0.000	0.000	0.254	0.000
WADS - OTHT C - T&E Support	MIPR	Various : Various	0.000	0.000		0.709	Apr 2022	0.000		0.000		0.000	0.000	0.709	0.000
		Subtotal	2.492	2.301		7.162		0.000		0.000		0.000	0.000	11.955	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
C3PO - PM/MS S- Program Management Support	MIPR	Various : Various	0.000	0.131	Feb 2021	0.396	Nov 2021	0.000		0.000		0.000	0.000	0.527	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** DE4 / *Decontamination (ACD&P)*

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
MPD - PM/MS S - Program Management Support	MIPR	Various : Various	0.807	0.225	Dec 2020	0.000		0.000		0.000		0.000	0.000	1.032	0.000
SEDS - PM/MS S - Program Management Support	MIPR	Various : Various	0.000	0.251	Mar 2021	0.841	Jan 2022	0.000		0.000		0.000	0.000	1.092	0.000
TCMS - PM/MS S - Program Management Support	C/FFP	TBD : N/A	0.000	0.000		0.256	May 2022	0.000		0.000		0.000	0.000	0.256	0.000
WADS - PM/MS S - Program Management Support	MIPR	Various : Various	0.000	0.000		0.178	Apr 2022	0.000		0.000		0.000	0.000	0.178	0.000
		Subtotal	0.807	0.607		1.671		0.000		0.000		0.000	0.000	3.085	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	3.740	4.919		18.385		0.000		0.000		0.000	0.000	27.044	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** DE4 / *Decontamination (ACD&P)*

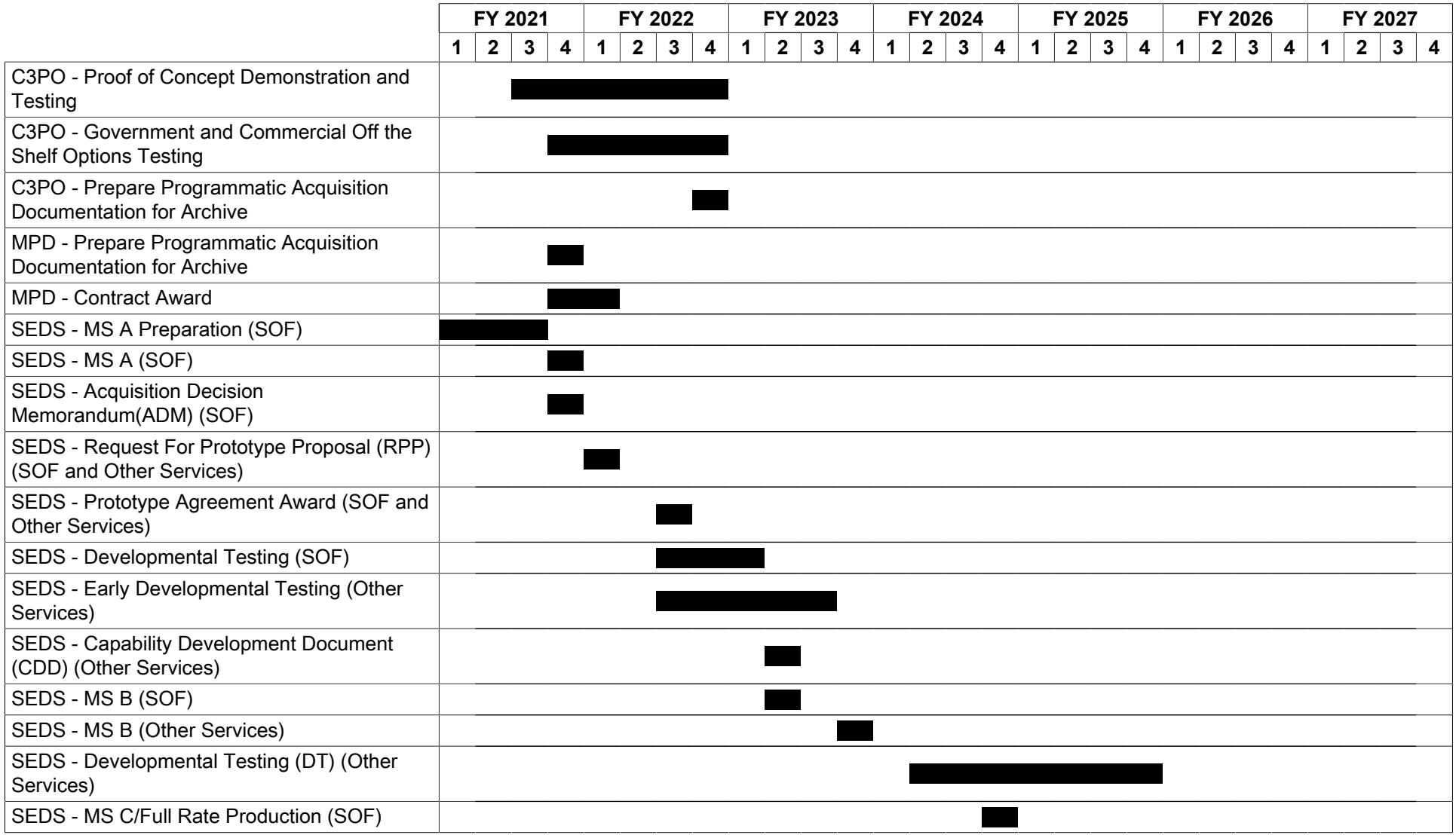

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** DE4 / *Decontamination (ACD&P)*

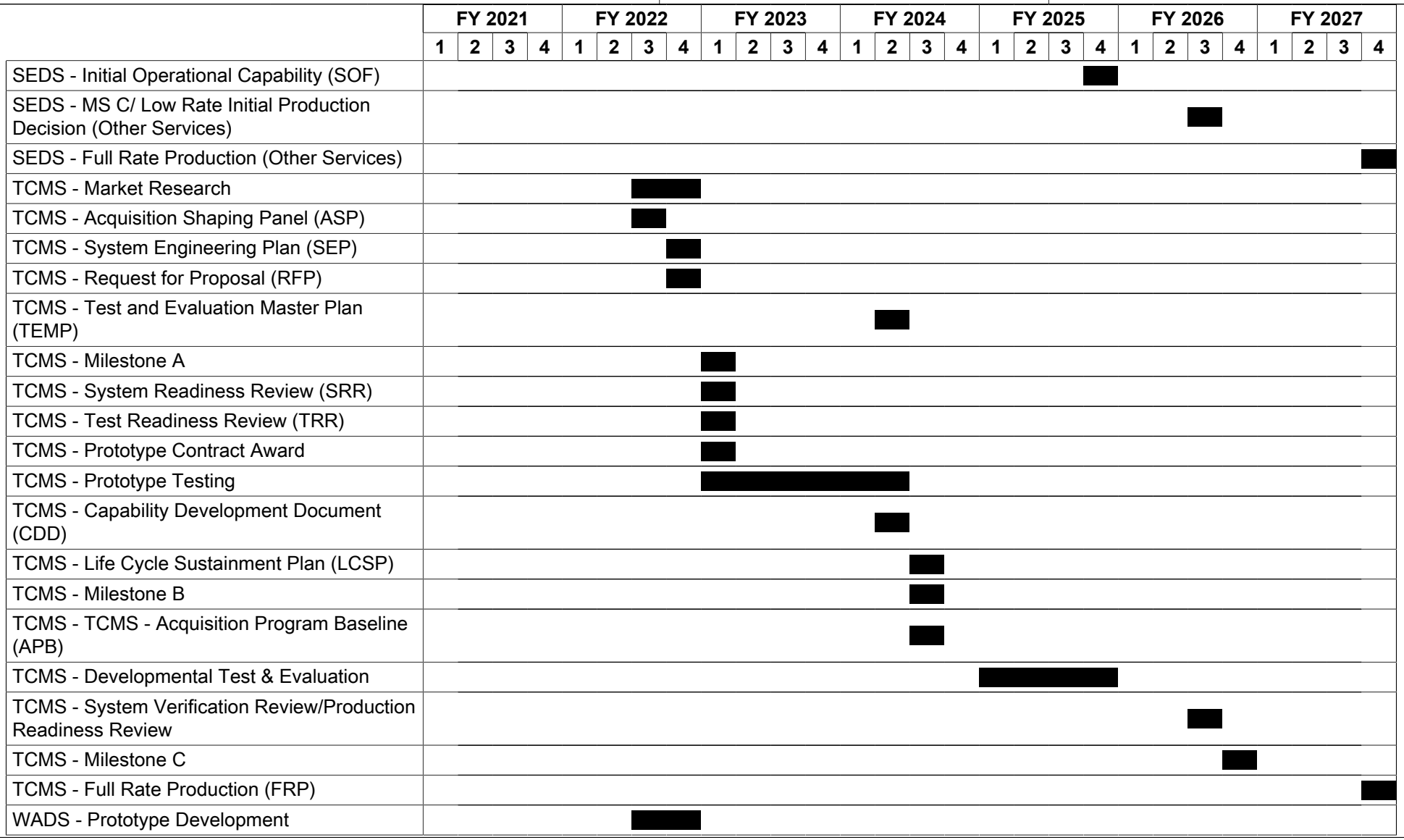

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** DE4 / *Decontamination (ACD&P)*

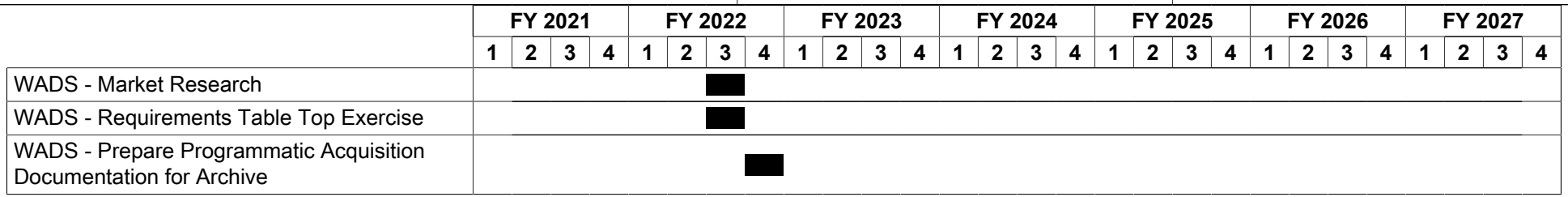

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** DE4 / *Decontamination (ACD&P)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
C3PO - Proof of Concept Demonstration and Testing	3	2021	4	2022
C3PO - Government and Commercial Off the Shelf Options Testing	4	2021	4	2022
C3PO - Prepare Programmatic Acquisition Documentation for Archive	4	2022	4	2022
MPD - Prepare Programmatic Acquisition Documentation for Archive	4	2021	4	2021
MPD - Contract Award	4	2021	1	2022
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
SEDS - Full Rate Production (Other Services)	4	2027	4	2027
TCMS - Market Research	3	2022	4	2022
TCMS - Acquisition Shaping Panel (ASP)	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 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** DE4 / *Decontamination (ACD&P)*

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
TCMS - System Engineering Plan (SEP)	4	2022	4	2022
TCMS - Request for Proposal (RFP)	4	2022	4	2022
TCMS - Test and Evaluation Master Plan (TEMP)	2	2024	2	2024
TCMS - Milestone A	1	2023	1	2023
TCMS - System Readiness Review (SRR)	1	2023	1	2023
TCMS - Test Readiness Review (TRR)	1	2023	1	2023
TCMS - Prototype Contract Award	1	2023	1	2023
TCMS - Prototype Testing	1	2023	2	2024
TCMS - Capability Development Document (CDD)	2	2024	2	2024
TCMS - Life Cycle Sustainment Plan (LCSP)	3	2024	3	2024
TCMS - Milestone B	3	2024	3	2024
TCMS - TCMS - Acquisition Program Baseline (APB)	3	2024	3	2024
TCMS - Developmental Test & Evaluation	1	2025	4	2025
TCMS - System Verification Review/Production Readiness Review	3	2026	3	2026
TCMS - Milestone C	4	2026	4	2026
TCMS - Full Rate Production (FRP)	4	2027	4	2027
WADS - Prototype Development	3	2022	4	2022
WADS - Market Research	3	2022	3	2022
WADS - Requirements Table Top Exercise	3	2022	3	2022
WADS - Prepare Programmatic Acquisition Documentation for Archive	4	2022	4	2022

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program			Date: April 2022
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	Project (Number/Name) IP4 / *Individual Protection (ACD&P)*	

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
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
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project includes the development of next generation individual protective ensembles (e.g., suits, boots, and gloves) that enable the Joint Forces to survive and continue the mission in Chemical, Biological, and Radiological (CBR) contaminated environments. In FY2023, the Chemical Biological Defense Program (CBDP) RDT&E Projects have been restructured to align to the CBDP portfolio. IP4 efforts in FY2022 progress to the Protect (PT) portfolio. This restructuring is intended to provide standardization and alignment across CBDP research, development and acquisition efforts.

Efforts included in this Project are:

(1) UIPE FoS Gloves **Progresses to PT5 in FY2023**, and
(2) UIPE FoS General Purpose (GP) (i.e. Land) **Progresses to PT5 in FY2023**

The UIPE FoS program 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 Chemical Biological Radiological and Nuclear (CBRN) threats likely to be encountered during joint force operations.

UIPE FoS Gloves provides percutaneous protection to the Warfighter against traditional and non-traditional CBRN threats. UIPE FoS Gloves provides improved comfort, tactility and dexterity, and for some mission profiles advanced features such as touch screen and flame resistance. In FY22 UIPE FoS Gloves will finalize UIPE FoS Glove prototype development and testing for multiple mission profiles (General Purpose, Aviation Light and Aviation Heavy Variants) and conduct Developmental Testing/Operational Testing (DT/OT) events on mature prototypes.

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 FY22 UIPE FoS GP will conduct Critical Design Review (CDR), Joint Independent Logistics Assessment (JILA), Prototype Development, update the Capability Development Document (CDD), Engineering/Technical IPT Support, and Technical Manual validation and verification.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: 1) UIPE FoS GP	2.954	3.028	-

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** IP4 / *Individual Protection (ACD&P)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Description: Development of the Next Generation Protective Ensembles ***FY 2022 Plans:*** Conduct Critical Design Review (CDR), Conduct the Joint Independent Logistics Assessment (JILA), Prototype Development, update the Capability Development Document (CDD), Engineering/Technical IPT Support, and Technical Manual validation and verification. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Program/project transitioned to Engineering and Manufacturing Development Phase. Funding transferred to a new Project due to budget restructure. FY23 budget activity 5 (BA5) funding transferred to Project PT5.			
Title: 2) 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:*** Program/project transitioned to Engineering and Manufacturing Development Phase. Funding transferred to a new Project due to budget restructure. FY23 budget activity 5 (BA5) funding transferred to Project PT5.	0.494	0.940	-
Accomplishments/Planned Programs Subtotals	3.448	3.968	-

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
• IP5: *Individual Protection (SDD)*	17.129	18.941	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	36.070
• PT5: *Protect (SDD)*	0.000	0.000	96.860	-	96.860	98.427	78.868	48.793	35.494	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
• PHM033: *UNIFORM INTEGRATED PROTECTIVE*	0.000	17.686	51.130	-	51.130	101.486	174.124	194.691	264.433	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** IP4 / *Individual Protection (ACD&P)*

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
ENSEMBLE GENERAL PURPOSE (UIPE FOS GP)											

Remarks

D. Acquisition Strategy

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 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 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** IP4 / *Individual Protection (ACD&P)*

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
UIPE FOS GP - HW C - Prototype Development	Various	Various : Various	0.000	0.256	Dec 2020	1.949	Nov 2021	0.000		0.000		0.000	0.000	2.205	0.000
UIPE FOS GLOVES - HW C - Prototype Development	C/CPFF	ATI Solutions : Inc., Tysons Corner, VA	0.000	0.100	Dec 2020	0.033	Jan 2022	0.000		0.000		0.000	0.000	0.133	0.000
		Subtotal	0.000	0.356		1.982		0.000		0.000		0.000	0.000	2.338	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
UIPE FOS GP - ES C - Engineering and Technical IPT Support/PM and SME Support	Various	Various : Various	0.000	0.858	Dec 2020	0.454	Apr 2022	0.000		0.000		0.000	0.000	1.312	0.000
UIPE FOS GLOVES - ES C - Engineering and Technical IPT Support / SME Support	MIPR	Various : Various	0.000	0.113	Dec 2020	0.089	Nov 2021	0.000		0.000		0.000	0.000	0.202	0.000
		Subtotal	0.000	0.971		0.543		0.000		0.000		0.000	0.000	1.514	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
UIPE FOS GP - OTHT S - DT/OT	Various	Various : Various	0.000	1.616	Dec 2020	0.000		0.000		0.000		0.000	0.000	1.616	0.000
UIPE FOS GP - DTE C - Surveillance Testing	MIPR	Defense Technical Information Center (DTIC) : Fort Belvoir, VA	0.000	0.000		0.399	Nov 2021	0.000		0.000		0.000	0.000	0.399	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** IP4 / *Individual Protection (ACD&P)*

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 GLOVES - DTE C - Prototype Testing & Test Support	MIPR	Various : Various	0.000	0.241	Sep 2021	0.761	Nov 2021	0.000		0.000		0.000	0.000	1.002	0.000
		Subtotal	0.000	1.857		1.160		0.000		0.000		0.000	0.000	3.017	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
UIPE FOS GP - PM/MS C - Program Management Support	Various	Various : Various	0.000	0.224	Dec 2020	0.226	Apr 2022	0.000		0.000		0.000	0.000	0.450	0.000
UIPE FOS GLOVES - PM/MS C - Program Management Support	Various	Various : Various	0.000	0.040	Dec 2020	0.057	Nov 2021	0.000		0.000		0.000	0.000	0.097	0.000
		Subtotal	0.000	0.264		0.283		0.000		0.000		0.000	0.000	0.547	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	3.448		3.968		0.000		0.000		0.000	0.000	7.416	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** IP4 / *Individual Protection (ACD&P)*

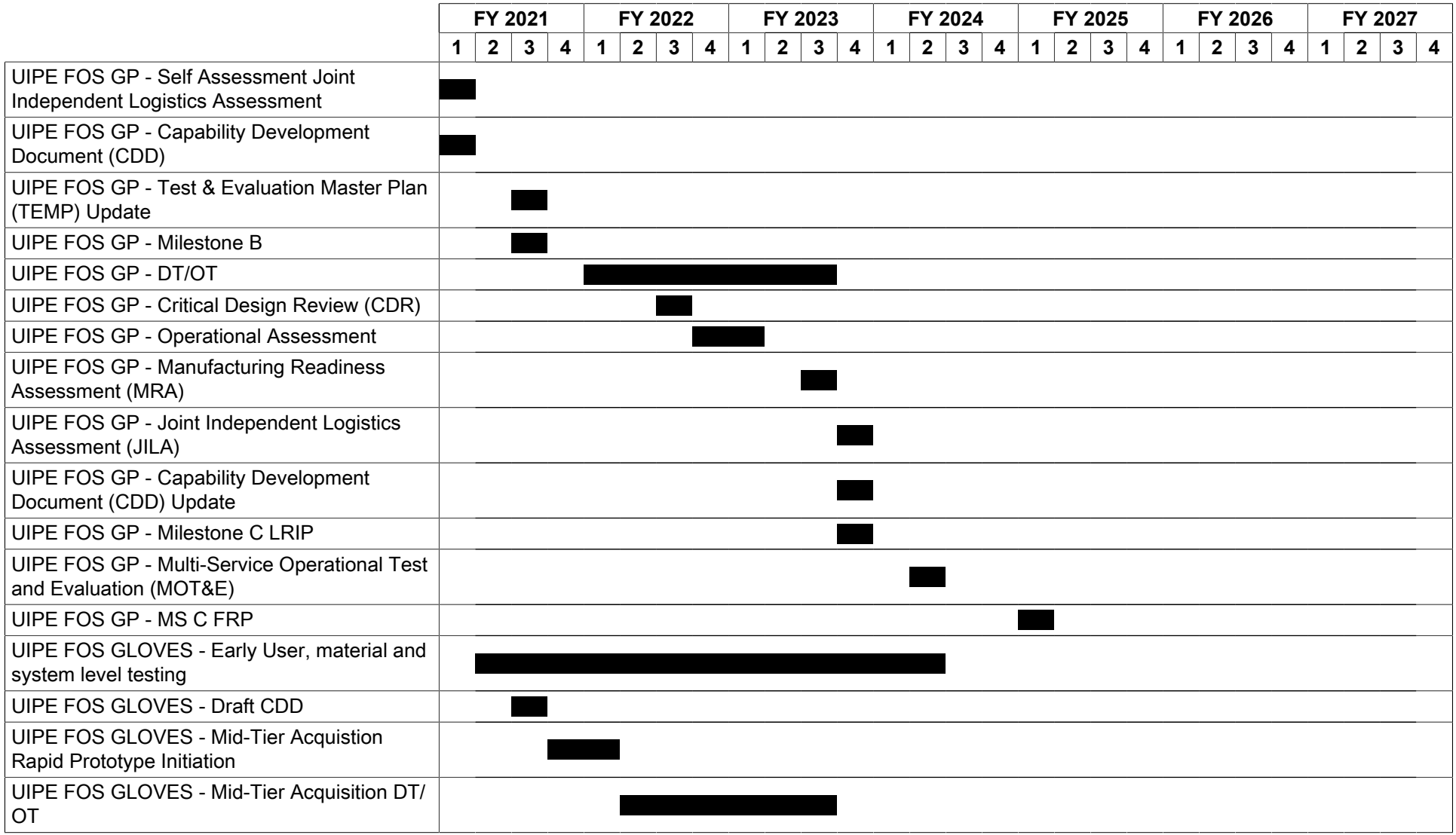

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** IP4 / *Individual Protection (ACD&P)*

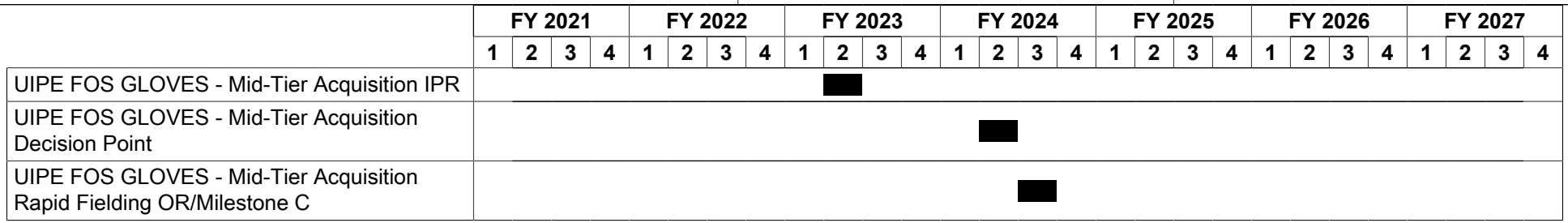

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** IP4 / *Individual Protection (ACD&P)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
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 - 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 - Multi-Service Operational Test and Evaluation (MOT&E)	2	2024	2	2024
UIPE FOS GP - MS C FRP	1	2025	1	2025
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 - 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 / 4	R-1 Program Element (Number/Name) PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	Project (Number/Name) IS4 / *Information Systems (ACD&P)*	

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
IS4: *Information Systems (ACD&P)*	-	13.414	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	13.414
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) Software Support Activity (SSA), and
(2) CBRN Integrated Early Warning (CBRN IEW).

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 budget activity 7 (BA7) under the MOD CBRN IS program (Project IS7) starting in FY22.

CBRN IEW program will transition and integrate successful mature technologies into a baseline IEW framework to support environmental monitoring and biological surveillance to support immediate force health protection requirements. Applicable technologies within the Chemical Biological Defense Program (CBDP) will be experimented, integrated, networked, and deployed through rapid acquisition methods and transitioned to programs of record to achieve integrated early warning in accordance with Office of the Secretary of Defense (OSD) IEW Campaign Plan. CBRN IEW will utilize Table-Top exercises (TTX), Operational Demonstrations, and other venues to provide sensor interoperability and interdependence and integrated layered defense in order to increase readiness within the CBDP. In FY22, CBRN IEW efforts will move from Project IS4 to Project CA4 within the CBRN Support to Command and Control (CSC2) program.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: 1) CBRN Integrated Early Warning (CBRN IEW)	13.342	-	-
Description: Implementation of common Chemical Biological Radiological and Nuclear (CBRN) integrated systems architecture throughout the sensor portfolio enabling a common operating environment and integration hub with sensor data analysis and integrated layered defense.			
Title: 2) Software Support Activity (SSA)	0.072	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** IS4 / *Information Systems (ACD&P)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Description: Enterprise Service			
Accomplishments/Planned Programs Subtotals	13.414	-	-

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
• UN4: *Understand (ACD&P)*	0.000	0.000	57.908	-	57.908	55.291	59.174	57.358	33.474	Continuing	Continuing
• IS5: *Information Systems (SDD)*	5.810	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	5.810
• 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

Remarks

D. Acquisition Strategy

CBRN INTEGRATED EARLY WARNING (CBRN IEW)

CBRN IEW focuses on technology maturation, demonstration, integration and transitioning early warning capability sets to fielded Chemical Biological Defense Program (CBDP) programs of record to combat emerging and potentially urgent threats within the multi-domain operations spectrum. Contracting strategy includes the use of Other Transaction Authority R&D and prototyping. Annual development cycles and capability drops are requested and validated by all Department of Defense (DoD) services in the OASD(NCB/CB) IEW Campaign Plan and prioritized based on National Defense Strategy and National Military Strategy goals. Current strategy also collaborates with multi-agency partners to obtain synergy and interoperability across the areas of sensor data analytics, integrated early warning, and protect to warn/ protect to treat capabilities.

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 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** IS4 / *Information Systems (ACD&P)*

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 IEW - SW C - Network Architecture	C/CPFF	Advanced Technologies International : Summerville, SC	0.000	6.795	Mar 2021	0.000		0.000		0.000		0.000	0.000	6.795	0.000
CBRN IEW - SW C- Systems Integration	MIPR	U.S. Army Combat Capabilities Development Command (DEVCOM) Chemical Biological Center (CBC) : Aberdeen Proving Ground, MD	0.000	1.000	Jan 2021	0.000		0.000		0.000		0.000	0.000	1.000	0.000
CBRN IEW - SW C - Government/Contractor Team Labor	MIPR	Various : Various	0.000	1.545	Nov 2020	0.000		0.000		0.000		0.000	0.000	1.545	0.000
CBRN IEW - SW C - Operational Capability	C/CPFF	Various : Various	0.000	1.665	Jan 2021	0.000		0.000		0.000		0.000	0.000	1.665	0.000
		Subtotal	0.000	11.005		0.000		0.000		0.000		0.000	0.000	11.005	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
SSA - TD/D C - Engineering Support	MIPR	U.S. Army Combat Capabilities Development Command (DEVCOM) Chemical Biological Center (CBC) : Aberdeen Proving Ground, MD	0.656	0.072	Nov 2020	0.000		0.000		0.000		0.000	0.000	0.728	0.000
		Subtotal	0.656	0.072		0.000		0.000		0.000		0.000	0.000	0.728	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** IS4 / *Information Systems (ACD&P)*

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 IEW - DT C - Development Test	MIPR	U.S. Army Combat Capabilities Development Command (DEVCOM) Chemical Biological Center (CBC) : Aberdeen Proving Ground, MD	0.000	0.800	Jan 2021	0.000		0.000		0.000		0.000	0.000	0.800	0.000
		Subtotal	0.000	0.800		0.000		0.000		0.000		0.000	0.000	0.800	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
CBRN IEW - PM/MS S - Program Management Support	MIPR	Various : Various	0.000	1.537	Jan 2021	0.000		0.000		0.000		0.000	0.000	1.537	0.000
		Subtotal	0.000	1.537		0.000		0.000		0.000		0.000	0.000	1.537	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	0.656	13.414		0.000		0.000		0.000		0.000	0.000	14.070	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** IS4 / *Information Systems (ACD&P)*

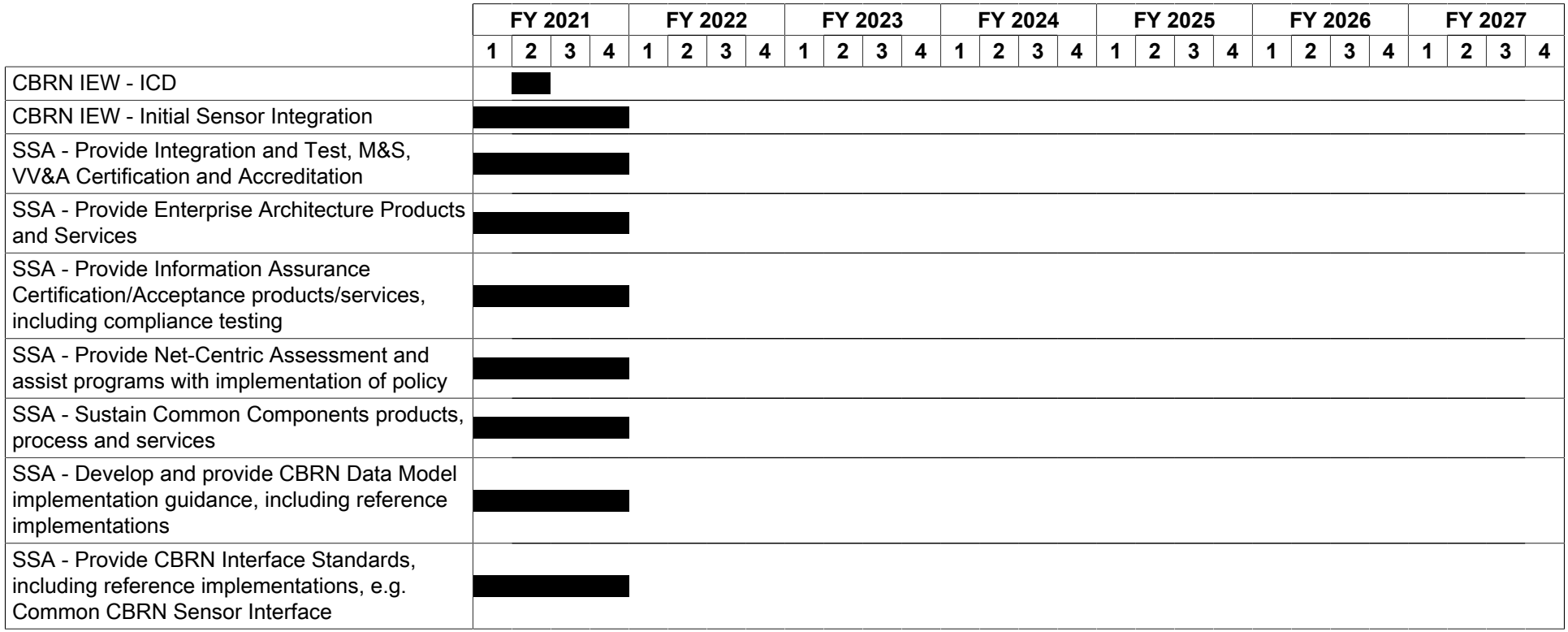

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** IS4 / *Information Systems (ACD&P)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
CBRN IEW - ICD	2	2021	2	2021
CBRN IEW - Initial Sensor Integration	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 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 / 4					R-1 Program Element (Number/Name) PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*				Project (Number/Name) MB4 / *Medical Biological Defense (ACD&P)*			
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**
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
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project includes Medical Countermeasure platform technologies, Medical Countermeasures (vaccines and therapeutics), development of reagents, assays, diagnostic equipment, biosurveillance and supporting efforts. In FY2023, the Chemical Biological Defense Program (CBDP) RDT&E Projects have been restructured to align to the CBDP portfolio. MB4 efforts in FY2022 progress to the Enabling Investments (EN) and Protect (PT) portfolio. This restructuring is intended to provide standardization and alignment across CBDP research, development and acquisition efforts.

Efforts included in this Project are:

(1) COVID Therapies Monoclonal Antibodies (COVID TX MAB) **Progresses to PT4 in FY2023**,
(2) Validated Nucleic Acid Vaccine Construction (COVID VAC) **Progresses to PT4 in FY2023**,
(3) Biosafety Level 4 Good Laboratory Practice Test and Evaluation (BSL4 GLP T&E),
(4) Chem Bio Incident Preparedness and Response - Biosafety Level 4 Research Institute of Infectious Diseases (CBIPR - BSL4 RIID),
(5) Chem Bio Incident Preparedness and Response - Advanced Development and Manufacturing (CBIPR - ADM) **Progresses to EN4 in FY2023**,
(6) Medical Countermeasure Platform Technologies (MCMPT) **Progresses to PT4 in FY2023**, and
(7) Next Generation Diagnostic System 2 Chemical Diagnostics (NGDS 2 CHEMDX)

The COVID TX MAB program will leverage lessons learned from the COVID response to rapidly discover, manufacture and clinically evaluate new monoclonal antibodies to deliver short term capabilities against long standing biological threats. Monoclonal antibodies are a proven technology and first line of defense for many biological threats. In FY22, COVID TX MAB will target the discovery, identification and small scale manufacture of mAbs, with sufficient material to support non-clinical and clinical testing.

COVID VAC will leverage lessons learned from the COVID response to shorten future emergency response timelines and creating interim capabilities for prophylaxis. In FY2022, COVID VAC will work with the interagency, industry, and academia to design and construct vaccine prototypes on validated nucleic acid vaccine platforms then evaluate them in appropriate animal models through Phase 1 clinical trials for safety as needed.

The BSL4 GLP T&E program performs T&E and provides the essential data packages to support US Food and Drug Administration (FDA) approval of leading biodefense medical countermeasure candidates to protect the Warfighter and the Nation. This capability provides dedicated capacity at U.S. Army Medical Research Institute of Infectious Diseases (USAMRIID) for Department of Defense (DoD) to conduct biosafety level "4" studies that produce Good Laboratory Practices (GLP) study reports required by the FDA.

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** MB4 / *Medical Biological Defense (ACD&P)*

The CBIPR - BSL4 RIID program continues to utilize and maintain a testing capability at the existing and planned new USAMRIID facilities supporting testing of Medical Countermeasures (MCM) against threats that require high-level containment using non-human primates.

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 FY22, 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 MCMPT program intends to streamline and accelerate medical countermeasure delivery to the Warfighter by reducing developmental risk using well known platform technologies. MCMPT is establishing enabling technologies and prepositioning platform systems within the DoD's Advanced Development Manufacturing (ADM) network using standardized discovery, design, manufacturing, and testing processes to reduce the medical countermeasure (MCM) development risks. MCMPT will deliver an enduring capability from which future candidates can be manufactured. In FY23 the MCMPT program continues development of a rapid response capability.

The NGDS 2 ChemDx program will provide a rapid, hand-held, point-of-care device. It utilizes an electrochemical assay for the quantitative detection of acetylcholinesterase (AChE) activity in finger stick and venous whole blood samples of individuals suspected of being exposed to cholinesterase inhibiting substances, such as nerve agents. NGDS 2 ChemDx diagnostic capabilities will be employed in Army, Air Force, Navy, Marines and United States Special Operations Command (SOCOM) (Roles 1-3), with applicability to routine healthcare at higher echelons. NGDS 2 ChemDx test results are to be used to aid in the diagnosis of cholinesterase inhibition in an individual suspected of having exposure to non-traditional agents (NTAs) and his/her treatment decision with an Antidote Treatment Nerve Agent, Autoinjector (ATNAA): self-aid; buddy aid; combat lifesaver; or medic. In FY22 NGDS 2 ChemDx continues Engineering & Manufacturing Development.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: 1) COVID TX MAB	-	10.000	-
Description: Rapid Monoclonal Antibody Development			
FY 2022 Plans: Target the discovery, identification and small scale manufacture of mAbs, with sufficient material to support non-clinical and clinical testing.			
FY 2022 to FY 2023 Increase/Decrease Statement:			

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** MB4 / *Medical Biological Defense (ACD&P)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Program/project funding transferred from another funding line. Supports COVID-19/pandemic response efforts which transition to Project PT4 starting in FY23.			
Title: 2) COVID VAC ***Description:*** Validated Nucleic Acid Vaccine Construction Development ***FY 2022 Plans:*** Leverage lessons learned from the COVID response to design and construct vaccine prototypes on validated nucleic acid vaccine platforms then evaluate them in appropriate animal models through Phase 1 clinical trials for safety as needed. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Program/project funding transferred to another funding line. Supports COVID-19/pandemic response efforts which transition to Project PT4 starting in FY23.	-	10.000	-
Title: 3) BSL-4 GLP Test & Evaluation ***Description:*** Clinical Studies	3.694	-	-
Title: 4) CBIPR-BSL4 RIID ***Description:*** Performs T&E and provides the essential data packages to support US Food and Drug Administration approval of leading biodefense medical countermeasure candidates to protect the Warfighter and the Nation	2.411	-	-
Title: 5) CBIPR - ADM ***Description:*** Establish proven enabling manufacturing technologies at the Department of Defense (DoD) ADM Capability Building. ***FY 2022 Plans:*** Continue tech transfer and enhancement of manufacturing technologies to support medical countermeasures (MCM) development against biological threats. Manufacturing technologies can come from any government sources (including JSTO, WRAIR, BARDA, etc. when mature enough for BA4 funding) and other external sources and targets of opportunity from industry. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred to a new Project due to budget restructure. FY23 Funding ($8.781 Million) transferred to EN4.	7.844	8.290	-
Title: 6) Medical Countermeasure Platform Technologies (MCMPT) ***Description:*** Rapid Response	11.104	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** MB4 / *Medical Biological Defense (ACD&P)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: 7) MCMPT ***Description:*** ADAMANT ***FY 2022 Plans:*** Continue development of ADAMANT Plague mAbs to support delivery of a product MCM. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred to a new Project due to budget restructure. FY23 funding transferred to PT4, under the PLG MAB effort.	15.476	19.061	-
Title: 8) NGDS 2 Chemical Diagnostics (NGDS 2 CHEMDX) ***Description:*** Chemical Diagnostic System	2.464	-	-
Accomplishments/Planned Programs Subtotals	42.993	47.351	-

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
• 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
• UN5: *Understand (SDD)*	0.000	0.000	127.671	-	127.671	101.933	98.742	98.122	72.699	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

Remarks

D. Acquisition Strategy

COVID THERAPIES MONOCLONAL ANTIBODIES (COVID TX MAB)

COVID TX MAB will leverage industry capabilities, in the interest of speed, in order to establish capabilities that can be tech transferred to the DoD ADM for longer term use and scale up as necessary.

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** MB4 / *Medical Biological Defense (ACD&P)*

COVID VACCINE (COVID VAC)

The COVID VAC Validated Nucleic Acid Vaccine Construction program will leverage lessons learned from the COVID response to shorten future emergency response timelines and creating interim capabilities for prophylaxis. COVID VAC will work with the interagency, industry, and academia to design and construct vaccine prototypes on validated nucleic acid vaccine platforms then evaluate them in appropriate animal models through Phase 1 clinical trials for safety as needed in FY22.

BSL4 GOOD LABORATORY PRACTICES TEST & EVALUATION (BSL4 GLP T&E)

The Medical Countermeasure Systems (MCM) Biosafety Level (BSL) 4 Test and Evaluation (T&E) capability continues to utilize and maintain a testing capability at the existing and planned new United States Army Medical Research Institute of Infectious Diseases (USAMRIID) facilities. MCM BSL-4 T&E costs support testing of Medical Countermeasures (MCMs) against threats that require high-level containment using non-clinical studies. Continue to support the testing, training and continuous qualification of the lab equipment and resources to ensure Good Laboratory Practices (GLP) Food and Drug Administration (FDA) standards are maintained as RIID is the only BSL 4 lab with GLP capability to support the Department of Defense (DoD).

CHEM BIO INCIDENT PREPAREDNESS AND RESPONSE - BIOSAFETY LEVEL 4 RESEARCH INSTITUTE OF INFECTIOUS DISEASES (CBIPR-BSL4 RIID)

The Medical Countermeasure Systems (MCM) Biosafety Level (BSL) 4 Test and Evaluation (T&E) capability continues to utilize and maintain a testing capability at the existing and planned new USAMRIID facilities. MCM BSL-4 T&E costs support testing of Medical Countermeasures (MCMs) against threats that require high-level containment using non-clinical studies. The BSL-4 capability supports the testing , training and continuous qualification of the lab equipment and resources to ensure Good Laboratory Practices (GLP) Food and Drug Administration (FDA) standards are maintained as RIID is the only BSL 4 lab with GLP capability to support the Department of Defense (DoD).

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

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** MB4 / *Medical Biological Defense (ACD&P)*

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.

MCM PLATFORM TECHNOLOGIES (MCMPT)

The goal of the MCMPT is to rapidly counter a broad-spectrum of threat agents using standardized discovery, design, manufacturing, and testing processes to reduce the MCM development risks. Efforts will focus on establishing advanced platform technologies within the Department of Defense (DoD)'s Advanced Development Manufacturing (ADM) network and evaluating that capability through nonclinical and clinical testing. A subset of these technologies will be adapted to deliver a rapid response capability to novel and emerging threats. Once established, future programs will be able to leverage these platforms for the development of future medical countermeasures. It is anticipated that these efforts will leverage the Other Transactions Authority (OTA) through the medical OTA consortium.

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."

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** MB4 / *Medical Biological Defense (ACD&P)*

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
COVID TX MAB - Accelerated Antibody Development	C/CPFF	Various : Various	0.000	0.000		9.053	Apr 2022	0.000		0.000		0.000	0.000	9.053	0.000
COVID VAC - Vaccine - Development	Various	Various : Various	0.000	0.000		8.275	Dec 2021	0.000		0.000		0.000	0.000	8.275	0.000
CBIPR-ADM - Enabling Manufacturing Technologies	C/CPFF	Ology : Alachua, FL	6.706	7.098	Dec 2020	7.756	Mar 2022	0.000		0.000		0.000	0.000	21.560	0.000
MCMPT - HW S - ADAMANT PLAGUE MCM Development	C/CPFF	Various : Various	22.506	13.609	Dec 2020	17.529	Apr 2022	0.000		0.000		0.000	0.000	53.644	0.000
MCMPT - HW S - Rapid Response	C/CPFF	Ology : Alachua, FL	11.549	9.330	Dec 2020	0.000	Dec 2021	0.000		0.000		0.000	0.000	20.879	0.000
NGDS 2 CHEMDX - HW C - Develop and mature prototypes for Chemical Agent Diagnostics	C/CPFF	MRIGlobal : Palm Bay, FL	0.000	0.883	Nov 2020	0.000		0.000		0.000		0.000	0.000	0.883	0.000
NGDS 2 CHEMDX - PM/ MS S - ChemDx Product Management	Various	Various : Various	0.000	1.248	Dec 2020	0.000		0.000		0.000		0.000	0.000	1.248	0.000
		Subtotal	40.761	32.168		42.613		0.000		0.000		0.000	0.000	115.542	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 CHEMDX - ES C - Studies and WIPT Support	C/CPFF	Johns Hopkins University - Applied Physics Lab : Laurel, MD	0.000	0.129	Apr 2021	0.000		0.000		0.000		0.000	0.000	0.129	0.000
		Subtotal	0.000	0.129		0.000		0.000		0.000		0.000	0.000	0.129	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** MB4 / *Medical Biological Defense (ACD&P)*

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
BSL4 GLP T&E - DTE SB - T&E Facility	MIPR	US Army Medical Research Institute of Infectious Disease (USAMRIID) : Fort Detrick, MD	34.692	3.298	Dec 2020	0.000		0.000		0.000		0.000	0.000	37.990	0.000
CBIPR-BSL4 RIID - DTE C - DTE SB - T&E Facility	MIPR	US Army Medical Research Institute of Infectious Disease (USAMRIID) : Fort Detrick, MD	0.000	2.411	Dec 2020	0.000		0.000		0.000		0.000	0.000	2.411	0.000
		Subtotal	34.692	5.709		0.000		0.000		0.000		0.000	0.000	40.401	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
COVID TX MAB - Program Management Support	Various	JPL CBRN EB : Frederick, MD	0.000	0.000		0.947	Dec 2021	0.000		0.000		0.000	0.000	0.947	0.000
COVID VAC - PM/MS C - Program Management	Various	JPEO Chem : Bio, Rad, and Nuc Defense (JPEO-CBRND)	0.000	0.000		0.725	Dec 2021	0.000		0.000		0.000	0.000	0.725	0.000
COVID VAC - PM/MS C - PM/MS S - Program Management (SETA)	C/CPFF	Various : Various	0.000	0.000		0.500	Dec 2021	0.000		0.000		0.000	0.000	0.500	0.000
COVID VAC - PM/MS C - Management Support	Various	JPM CBRN Medical : JPEO-CBRND, Fort Detrick, MD	0.000	0.000		0.500	Dec 2021	0.000		0.000		0.000	0.000	0.500	0.000
BSL4 GLP T&E - Program Management Support	Various	JPM CBRN Medical : Ft. Detrick, MD	0.142	0.090	Dec 2020	0.000		0.000		0.000		0.000	0.000	0.232	0.000
BSL4 GLP T&E - Management Services	Various	JPEO Chem : Bio, Rad, and Nuc Defense (JPEO-CBRND)	0.960	0.306	Dec 2020	0.000		0.000		0.000		0.000	0.000	1.266	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** MB4 / *Medical Biological Defense (ACD&P)*

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
CBIPR-ADM - Program Management Support	Various	JPL CBRN EB : Frederick, MD	0.734	0.746	Dec 2020	0.534	Feb 2022	0.000		0.000		0.000	0.000	2.014	0.000
MCMPT - Program Management Support	Various	JPL CBRN EB : Frederick, MD	2.969	1.180	Dec 2020	1.532	Dec 2021	0.000		0.000		0.000	0.000	5.681	0.000
MCMPT - PM/MS C Program Management	Various	JPEO Chem : Bio, Rad, and Nuc Defense (JPEO-CBRND)	3.804	2.461	Dec 2020	0.000	Dec 2021	0.000		0.000		0.000	0.000	6.265	0.000
NGDS 2 CHEMDX - PM/MS S - JPM/JPEO Management Services	Various	Various : Various	0.000	0.204	Dec 2020	0.000		0.000		0.000		0.000	0.000	0.204	0.000
		Subtotal	8.609	4.987		4.738		0.000		0.000		0.000	0.000	18.334	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	84.062	42.993		47.351		0.000		0.000		0.000	0.000	174.406	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** MB4 / *Medical Biological Defense (ACD&P)*

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** MB4 / *Medical Biological Defense (ACD&P)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
COVID TX MAB - Accelerated Antibody Development	1	2022	4	2022
COVID VAC - Development	1	2022	4	2022
BSL4 GLP T&E - T&E - Maintain Bio-Safety Level and Evaluation Capability	1	2021	4	2021
CBIPR-BSL4 RIID - T&E - Maintain Bio-Safety and Evaluation Capability	1	2021	4	2021
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
MCMPT - Rapid Response Design, Manufacturing, Testing	1	2021	4	2026
MCMPT - MCM Optimization Phase Design, Manufacturing, Testing	1	2021	4	2023
MCMPT - ADAMANT Plague	1	2021	4	2024
MCMPT - Plague Manufacturing	4	2021	1	2023
MCMPT - Plague Nonclinical Studies	1	2022	2	2024
MCMPT - Plague Clinical Studies	1	2023	2	2024
MCMPT - P3/Nucleic Acid	1	2023	4	2026
NGDS 2 CHEMDX Increment 2 - TMRR	1	2021	1	2022
NGDS 2 CHEMDX Increment 2 - MS B	1	2022	1	2022

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program			Date: April 2022
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	Project (Number/Name) TE4 / *Test & Evaluation (ACD&P)*	

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
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
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 Chemical Biological Defense Program (CBDP). CBMAI provides test fixtures and methodology to support advanced 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 conducts requirements analysis to ensure the availability of needed test infrastructure to meet Program of Record (PoR) testing and milestone schedules. Conduct studies of the capabilities and limitations of existing infrastructure and methodologies to align with POR test requirements. Initiate requirements generation and early development of new test infrastructure to support POR test requirements.	3.306	-	-
Title: 2) CBMAI ***Description:*** Government Integrated Product Team (IPT) program management and IPT Support to all Joint Program Executive Office for Chemical, Biological, Radiological and Nuclear Defense (JPEO-CBRND) programs and external partners.	0.801	-	-
Accomplishments/Planned Programs Subtotals	4.107	-	-

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
• TE5: *Test & Evaluation (SDD)*	5.995	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	5.995

Remarks

D. Acquisition Strategy

CHEMICAL BIOLOGICAL MATERIEL ASSESSMENT INFRASTRUCTURE (CBMAI)

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** TE4 / *Test & Evaluation (ACD&P)*

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 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 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** TE4 / *Test & Evaluation (ACD&P)*

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 - Low Volume Surface Deposition	MIPR	U.S. Army Combat Capabilities Development Command (DEVCOM) Chemical Biological Center (CBC) : Aberdeen Proving Ground, MD	0.000	0.373	Mar 2021	0.000		0.000		0.000		0.000	0.000	0.373	0.000
CBMAI - HW C - OADMS	C/CPFF	MRIGlobal : Kansas City, MO	0.000	0.537	Dec 2020	0.000		0.000		0.000		0.000	0.000	0.537	0.000
CBMAI - HW C - Joint Ambient Breeze Tunnel Active Standoff Chamber Updgrades	C/CPFF	MRIGlobal : Kansas City, MO	0.000	0.831	Mar 2021	0.000		0.000		0.000		0.000	0.000	0.831	0.000
CBMAI - HW C - WSLAT	MIPR	West Desert Test Center : Dugway, UT	0.000	0.650	Apr 2021	0.000		0.000		0.000		0.000	0.000	0.650	0.000
CBMAI - HW C - Seams & Closure Fixture Development	MIPR	U.S. Army Combat Capabilities Development Command (DEVCOM) Chemical Biological Center (CBC) : Aberdeen Proving Ground, MD	0.000	0.150	Mar 2021	0.000		0.000		0.000		0.000	0.000	0.150	0.000
CBMAI - HW S - Government/Contractor SE & Technical Management Team	MIPR	U.S. Army Combat Capabilities Development Command (DEVCOM) Chemical Biological Center (CBC) : Aberdeen Proving Ground, MD	2.396	0.765	Mar 2021	0.000		0.000		0.000		0.000	0.000	3.161	0.000
		Subtotal	2.396	3.306		0.000		0.000		0.000		0.000	0.000	5.702	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** TE4 / *Test & Evaluation (ACD&P)*

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 - IPT Support/Program Management	MIPR	JPM CBRN Sensors : JPEO-CBRND, Aberdeen Proving Ground, MD	1.504	0.801	Dec 2020	0.000		0.000		0.000		0.000	0.000	2.305	0.000
		Subtotal	1.504	0.801		0.000		0.000		0.000		0.000	0.000	2.305	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	3.900	4.107		0.000		0.000		0.000		0.000	0.000	8.007	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** TE4 / *Test & Evaluation (ACD&P)*

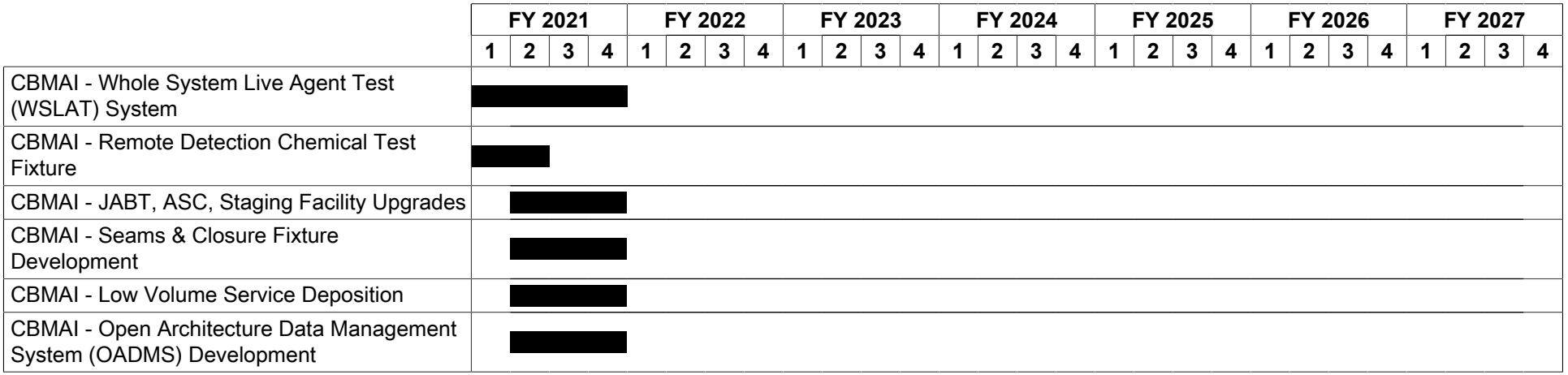

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** TE4 / *Test & Evaluation (ACD&P)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
CBMAI - Whole System Live Agent Test (WSLAT) System	1	2021	4	2021
CBMAI - Remote Detection Chemical Test Fixture	1	2021	2	2021
CBMAI - JABT, ASC, Staging Facility Upgrades	2	2021	4	2021
CBMAI - Seams & Closure Fixture Development	2	2021	4	2021
CBMAI - Low Volume Service Deposition	2	2021	4	2021
CBMAI - Open Architecture Data Management System (OADMS) Development	2	2021	4	2021

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program			Date: April 2022
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	Project (Number/Name) TM4 / *Techbase Medical Defense (ACD&P)*	

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
TM4: *Techbase Medical Defense (ACD&P)*	-	0.000	30.452	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	30.452
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Project TM4 supports early-phase clinical development of vaccines and therapeutic drugs to provide safe and effective medical defense against validated biological threat agents and emerging infectious disease biothreats including bacteria, toxins, and viruses. This effort reduces programmatic risk of failure in the advanced development phase by generating clinical and supporting non-clinical safety, tolerability and toxicity data for candidate vaccines and therapeutic drugs prior to transition to System Development & Demonstration. In FY2023, the Chemical Biological Defense Program (CBDP) RDT&E Projects have been restructured to align to the CBDP portfolio. TM4 efforts in FY2022 progress to the Mitigate (MT4) and Protect (PT4) portfolios. This restructuring is intended to provide standardization and alignment across CBDP research, development and acquisition efforts.

Individual efforts in this project include:
- Supports the advanced development of medical countermeasures to include prophylaxes, pretreatments, antidotes and therapeutic drugs against identified and emerging biological warfare threat agents.
- Demonstration of human safety and tolerability prior to entry of candidate vaccines and therapeutics into advanced development, supporting the preparation of technical data packages that conform to the Food and Drug Administration (FDA) Investigational New Drug (IND) processes, Department of Defense (DoD) acquisition regulations, and the oversight of early phase clinical trials in accordance with FDA guidelines.
- In addition, this project supports innovative biotechnology approaches to advance medical systems designed to rapidly identify, diagnose, prevent, and treat emerging biological threats whether naturally occurring or engineered.
- Focuses on therapeutic and prophylactic strategies to effectively minimize injuries resulting from exposure to Chemical Weapons Agents. This effort involves the evaluation FDA approved therapeutics for operational use, as well as generation of novel drug products and formulations to enhance level of protection and/or operational utility for the Warfighter. Efforts in this area are designed to develop drug candidates that will ultimately be submitted for FDA licensure or to identify previously licensed products for new uses in the treatment and pretreatment against chemical warfare injury.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: 1) DOMANE/LIMIT (Layered Integrated Medical Countermeasure Intervention Technologies)	-	9.000	-
Description: Develop both prophylactic and therapeutic medical countermeasures against viral, bacterial, and biological toxin threats using a layered approach looking at combinations of effective therapies. ***FY 2022 Plans:*** - Initiate plans to evaluate new countermeasures for novel and emerging threats in animal and organoid models.			

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** TM4 / *Techbase Medical Defense (ACD&P)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
- Initiate plans to conduct clinical trials to evaluate safety and efficacy for new medical countermeasures. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Program/project funding transferred to another funding line. FY23 funding transferred to Project MT4 and PT4.			
Title: 2) Biological Warfare Defense Therapeutics ***Description:*** Biomedical research focused on the nonclinical and early clinical development of therapeutic countermeasures against known and emerging viral, bacterial, and toxin biological warfare (BW) threats for which Food and Drug Administration (FDA)-approved therapeutics are limited or lacking. BW defense therapeutics mitigate and reverse the effects of known and emerging viral, bacterial, and toxin biological warfare threats in symptomatic warfighters diagnosed with BW disease. They are the last line of defense against BW threats and are critical to returning symptomatic warfighters to service. Biomedical research is focused on preclinical evaluation (e.g., in large animal models) of broad-spectrum therapeutic candidates that target viruses, bacteria or toxins directly, enhance the host response (e.g., by modulating the immune system) and/or relieve BW disease symptoms. Broad-spectrum therapeutic candidates that are shown to be both safe and efficacious against BW threats will advance for further clinical evaluation and can be accelerated for use against emerging infectious diseases during an outbreak. Clinical and nonclinical evaluation of novel small molecules (chemically synthesized), novel biologic molecules (isolated from natural sources), drug and drug/vaccine combinations (aka layered defense), and repurposing of drugs approved by the US Food and Drug Administration or in clinical development for other indications, are included in this research. Refinement of appropriate animal models in which to evaluate therapeutic candidates is also included. Projects leverage interagency and commercial sector investments to accelerate development and reduce costs. ***FY 2022 Plans:*** - Initiate human clinical trial and supportive current Good Manufacturing Practice (cGMP) manufacture and Non-Human Primate (NHP) studies to establish safety, tolerability, and efficacy of broad spectrum antibacterial candidate. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred to a new Project due to budget restructure. FY23 funding ($3.114 Million) transferred to MT4.	-	7.476	-
Title: 3) Bacterial/Viral/Toxin/Broad Spectrum Prophylaxis ***Description:*** The ultimate protection of the Warfighter is by pretreating the Warfighter to withstand any biological threat with no adverse side effects from the pretreatment. Such pretreatment would enable the Warfighter to work in a less restrictive environment, absent of any personal protective equipment allowing operation at peak performance. Investments in this Program Element supports GMP manufacturing of candidates for clinical testing, toxicology studies necessary for entry into Phase 1 clinical trials and Phase 1 clinical trials just prior to transition to advanced development. ***FY 2022 Plans:***	-	7.476	-

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** TM4 / *Techbase Medical Defense (ACD&P)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
- Initiate support of cGMP manufacture to supply and the initiation of phase 1 human clinical trial for antiviral vaccine candidate. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred to a new Project due to budget restructure. FY23 funding ($3.000 Million) transferred to PT4.			
Title: 4) PBA Medical Countermeasures ***Description:*** Focuses on therapeutic and prophylactic strategies to effectively minimize injuries and/or death resulting from exposure to Pharmaceutical Based Agents (PBA). This will allow the Warfighter to maintain operational capacity in a chemically contested battlefield scenario. This effort involves the evaluation FDA approved therapeutics for operational use, as well as generation of novel drug products and formulations to enhance level of protection and/or operational utility for the Warfighter. Efforts in this area are designed to develop drug candidates that will ultimately be submitted for Food and Drug Administration (FDA) licensure or to identify previously licensed products for new uses in the treatment and pretreatment against chemical warfare injury. ***FY 2022 Plans:*** - Initiate medical countermeasures clinical studies to treat respiratory depression and intoxication caused by synthetic opioids. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred to a new Project due to budget restructure. FY23 funding ($2.076 Million) transferred to MT4.	-	2.000	-
Accomplishments/Planned Programs Subtotals	-	25.952	-

	FY 2021	FY 2022
Congressional Add: 1) Development of medical countermeasures against novel entities (DOMANE)	-	4.500
FY 2022 Plans: DOMANE: Deliver platform biotechnologies, capabilities, processes and candidate MCMs in support of the JSTO-CBD Vaccines and Therapeutics Division, Therapeutics and Prophylaxes product development teams. Investments will develop a rapid drug discovery and development engine to enable the joint force to rapidly respond to new & emerging BW threats by providing BW MCMs. Immediate alignment with DTRA-RD-CBM Biological Prophylaxis and Therapeutics Programs to respond and treat the Joint Force against BW threats. - Enhance high-throughput screening technologies and advanced artificial intelligence/machine learning tools for rapid target and drug identification, with an emphasis on repurposing Food and Drug Administration-approved drugs. In cases where no existing drug solution can be identified, new drugs will be identified to fill gaps in the Nations approved drug inventory.		

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** TM4 / *Techbase Medical Defense (ACD&P)*

	FY 2021	FY 2022
- If sufficient funds remain, additional investments will be made in Microphysiological organ-on-a-chip pathogenesis forecasting systems to address mechanisms of action, safety, efficacy to enhance drug development platforms.		
Congressional Adds Subtotals	-	4.500

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
• TM2: *Techbase Medical Defense (Applied Research)*	93.525	105.594	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	199.119
• MT4: *Mitigate (ACD&P)*	0.000	0.000	20.986	-	20.986	13.556	12.702	20.846	18.167	Continuing	Continuing
• PT4: *Protect (ACD&P)*	0.000	0.000	203.689	-	203.689	183.220	139.375	113.754	105.176	Continuing	Continuing

Remarks

D. Acquisition Strategy

TECH BASE MEDICAL TRANSITIONAL MED TECHNOLOGY INTIATIVE (TBMD TMTI)

Supports early-phase clinical development and supporting non-clinical safety, tolerability and toxicity data for candidate vaccines and therapeutic drugs prior to transition to System Development & Demonstration. This work provides safe and effective medical defense against validated biological threat agents and emerging infectious disease biothreats including bacteria, toxins, and viruses. This work also involves the evaluation of Food and Drug Administration (FDA)-approved therapeutics for operational use, as well as generation of novel drug products and formulations, to enhance level of protection and/or operational utility for the Warfighter. This effort reduces programmatic risk of failure in the advanced development phase.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** TM4 / *Techbase Medical Defense (ACD&P)*

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
TBMD TMTI - DTE C - Bacterial Therapeutics	C/CPFF	Advanced Technologies International : Summerville, SC	0.000	0.000		7.476	Oct 2021	0.000		0.000		0.000	0.000	7.476	0.000
TBMD TMTI - DTE C - Viral Prophylaxis	C/CPFF	Advanced Technologies International : Summerville, SC	0.000	0.000		7.476	Oct 2021	0.000		0.000		0.000	0.000	7.476	0.000
TBMD TMTI - DTE C - DOMANE/LIMIT (Layered Integrated Medical Countermeasure Intervention Technologies)	C/CPFF	Advanced Technologies International : Summerville, SC	0.000	0.000		9.000	Oct 2021	0.000		0.000		0.000	0.000	9.000	0.000
TBMDC CHEM CM - DTE C - PBA Medical Countermeasures	MIPR	TBD : N/A	0.000	0.000		2.000	Oct 2021	0.000		0.000		0.000	0.000	2.000	0.000
CONG - DTE C - DOMANE	C/CPFF	Advanced Technologies International : Summerville, SC	0.000	0.000		4.500	Oct 2022	0.000		0.000		0.000	0.000	4.500	0.000
		Subtotal	0.000	0.000		30.452		0.000		0.000		0.000	0.000	30.452	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		30.452		0.000		0.000		0.000	0.000	30.452	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** TM4 / *Techbase Medical Defense (ACD&P)*

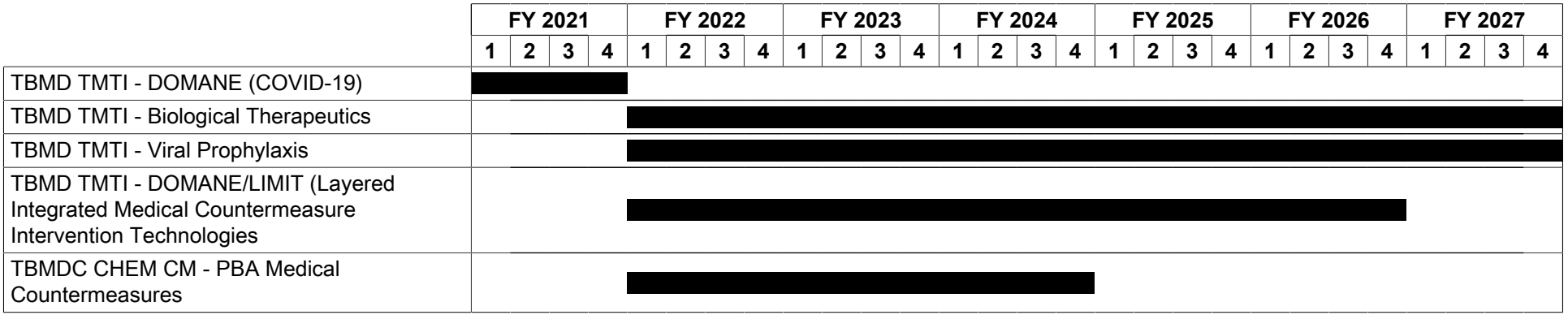

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** TM4 / *Techbase Medical Defense (ACD&P)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
TBMD TMTI - DOMANE (COVID-19)	1	2021	4	2021
TBMD TMTI - Biological Therapeutics	1	2022	4	2027
TBMD TMTI - Viral Prophylaxis	1	2022	4	2027
TBMD TMTI - DOMANE/LIMIT (Layered Integrated Medical Countermeasure Intervention Technologies	1	2022	4	2026
TBMDC CHEM CM - PBA Medical Countermeasures	1	2022	4	2024

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program			Date: April 2022
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	Project (Number/Name) TT4 / *Technology Transition (ACD&P)*	

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
TT4: *Technology Transition (ACD&P)*	-	0.577	0.866	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	1.443
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Project TT4 validates technologies and their respective concepts-of-operations in preparation for transition to advanced development programs requiring chemical and biological (CB) defense technologies. These demonstrations seek to demonstrate the potential for enhanced military operational capability and/or cost effectiveness while soliciting end-user determination of the military utility and operational impact of the technology and capability demonstrated. Successfully demonstrated technologies with proven military utility can either be left in place for extended user evaluations, accepted into advanced stages of the formal acquisition process, proceed directly into limited or full-scale production or be returned to the technical base for further development.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: 1) Techbase Technology Transition (ACD&P) ***Description:*** Integrated Early Warning (IEW) and Integrated Layered Defense (ILD) Advanced Technology Demonstration (ATD) Transition: This project validates high-risk/high-payoff technologies and their respective concepts-of-operations for significant improvement to Warfighter capabilities in preparation for transition of mature technologies to advanced development programs requiring chemical and biological (CB) defense technologies. In FY22, this effort transfers to Advanced Technology Demonstration.	0.577	-	-
Title: 2) Advanced Technology Demonstration ***Description:*** ATDs enable the effective transition of cutting edge Chemical Biological Radiological and Nuclear (CBRN) Science & Technology (S&T) Technologies to the Warfighter by providing them an opportunity to engage with these new technologies in a mission oriented demonstration. Feedback from the Warfighters ensures that these technologies are operationally relevant, value added, and can be matured and transitioned in a timely and effective manner to end users for employment. ***FY 2022 Plans:*** Demonstrate in the Resolute Dragon 2 Integrated Threat Response (ITR) ATD, novel and innovative S&T CBRN technologies and the integration of their information outputs into a Command and Control (C2) Common Operating Picture (COP). The C2 COP will be instantiated through the employment of integrated systems architectures, software, and hardware and will measuring the information's impact to C2 Decisions using decision support tools. Ensure demonstrations compatibility with the CBDP Enterprise, Joint Requirements Office (JRO) led CBRNE Support to Command and Control (CSC2) initiative and into the overarching Joint All Domain Command and Control (JADC2) cross service environment. Develop, integrate and deliver	-	0.866	-

Exhibit R-2A, RDT&E Project Justification: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** TT4 / *Technology Transition (ACD&P)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
integrated Chemical, Biological, Radiological, and Nuclear (CBRN) defense capabilities to include sensors, controllers, and other CBRN enabling capabilities such as medical counter measures (MCMs) and modeling and simulation tools. Technologies to be integrated include an Expeditionary Field Forwarding and Sequencing Technology (F-FAST) and other biological sensors and mitigating technologies, UAV-Borne Hyperspectral Imager (HIS) chemical vapor stand-off detector, Opioid and Pharmaceutical Based Agents (PBAs) prophylaxis and therapeutics, Rapid Analysis of Threat Exposure (RATE) Algorithm, EpiGrid Human Effects and Medical modeling tool, advanced service aligned integrated command and control Common Operating Picture (COP) hardware and software capabilities, and medical diagnostics such as Layered and Integrated Medical Intervention Technologies (LIMIT). Delivered products will increase mission readiness profiles for personnel and resources during operations in hazardous environments. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Program/project is entering completion and all activities will be closed.			
Accomplishments/Planned Programs Subtotals	0.577	0.866	-

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
• TT3: *Technology Transition (ATD)*	10.341	8.787	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	19.128

Remarks

D. Acquisition Strategy

TECHBASE TECH TRANSITION (TECHTRAN)

Advanced Technology Demonstrations (ATDs) exploit mature and maturing technologies to solve important military problems. ATDs emphasize technology integration, operational utility assessment, and transition of operational prototypes for practical use. The goals of efforts under Project TT4 are to provide a prototype capability to the Warfighter and support the evaluation of that capability in operationally-relevant field environments. This will allow Warfighters to evaluate the capabilities in real military exercises and at a scale sufficient to fully assess military utility. The Defense Threat Reduction Agency (DTRA) will fund Department of Defense (DoD) laboratories and DoD Federally Funded Research Development Centers (FFRDCs) through the Military Interdepartmental Purchase Request (MIPR) in accordance with the Economy Act in order to conduct operational evaluation of technology solutions for Integrated Early Warning (IEW) and Integrated Layered Defense (ILD) ATD efforts. Upon completion of efforts under this project, operational prototypes of Technology Readiness Level (TRL) 6 or TRL 7 with documented operational utility assessment outcomes will be transitioned to Service stakeholders and programs of record to support rapid acquisition and fielding decisions.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** TT4 / *Technology Transition (ACD&P)*

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
TECHTRAN - IEW and ILD Transition	MIPR	U.S. Army Combat Capabilities Development Command (DEVCOM) Chemical Biological Center (CBC) : Aberdeen Proving Ground, MD	0.116	0.116	Nov 2020	0.174	Jan 2022	0.000		0.000		0.000	0.000	0.406	0.000
		Subtotal	0.116	0.116		0.174		0.000		0.000		0.000	0.000	0.406	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
TECHTRAN - IEW and ILD Transition	MIPR	U.S. Army Combat Capabilities Development Command (DEVCOM) Chemical Biological Center (CBC) : Aberdeen Proving Ground, MD	0.412	0.411	Nov 2020	0.617	Jan 2022	0.000		0.000		0.000	0.000	1.440	0.000
		Subtotal	0.412	0.411		0.617		0.000		0.000		0.000	0.000	1.440	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
TECHTRAN - PM/MS S - IEW and ILD Transition	MIPR	U.S. Army Combat Capabilities Development Command (DEVCOM) Chemical Biological Center	0.000	0.050	Nov 2020	0.075	Jan 2022	0.000		0.000		0.000	0.000	0.125	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** TT4 / *Technology Transition (ACD&P)*

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
		(CBC) : Aberdeen Proving Ground, MD													
		Subtotal	0.000	0.050		0.075		0.000		0.000		0.000	0.000	0.125	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	0.528	0.577		0.866		0.000		0.000		0.000	0.000	1.971	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** TT4 / *Technology Transition (ACD&P)*

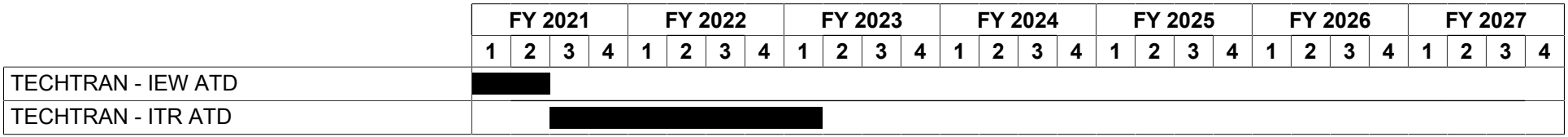

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Chemical and Biological Defense Program		Date: April 2022
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0603884BP / *CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)*	**Project (Number/Name)** TT4 / *Technology Transition (ACD&P)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
TECHTRAN - IEW ATD	1	2021	2	2021
TECHTRAN - ITR ATD	3	2021	1	2023