Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Chemical and Biological Defense Program	Date: March 2023
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	0.000	291.122	301.611	382.977	0.000	382.977	314.012	299.540	263.749	243.375	Continuing	Continuing
UN5: *Understand (SDD)*	-	0.000	126.071	182.726	0.000	182.726	137.991	127.671	108.908	68.088	Continuing	Continuing
PT5: *Protect (SDD)*	-	0.000	87.923	97.975	0.000	97.975	69.858	66.259	52.871	67.776	Continuing	Continuing
MT5: *Mitigate (SDD)*	-	0.000	74.225	88.441	0.000	88.441	92.279	91.431	87.773	93.250	Continuing	Continuing
EN5: *Enabling Investments (SDD)*	-	0.000	13.392	13.835	0.000	13.835	13.884	14.179	14.197	14.261	Continuing	Continuing
CA5: *Contamination Avoidance (SDD)*	-	84.967	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	84.967
CO5: *Collective Protection (SDD)*	-	2.888	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.888
DE5: *Decontamination (SDD)*	-	7.485	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	7.485
IP5: *Individual Protection (SDD)*	-	18.690	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	18.690
MB5: *Medical Biological Defense (SDD)*	-	138.156	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	138.156
MC5: *Medical Chemical Defense (SDD)*	-	38.936	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	38.936

A. Mission Description and Budget Item Justification

This program element (PE) resources System Development & Demonstration across the Understand, Protect, Mitigate, and Enabling Investments portfolios. The Chemical Biological Defense Programs (CBDP) investments provide an integrated, layered capability to enable Countering 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 the development, build, and test of products to verify that all operational and derived requirements have been met and to support production or deployment decisions. The activities include mature system development, integration, and demonstration to support Milestone C decisions, and conducting operational tests and evaluation of production representative articles. FY24 funding accelerates characterization and situational awareness of emerging biothreats and accelerates delivery of improved protection from and mitigation of biothreats, including rapid repurposing of available therapeutics and development of new vaccines.

Individual Projects include:

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Chemical and Biological Defense Program	Date: March 2023
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- Understand (UN5): Provides the Joint Force the ability to detect and identify hazards from traditional and emerging chemical and biological threats to improve the timeliness and confidence of information for decision-makers. Supports freedom of maneuver and informs commanders' decisions by predicting, locating, identifying, analyzing, and warning of chemical and biological (CB) hazards.

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

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

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

- Contamination Avoidance (CA5), Collective Protection (CO5), Decontamination (DE5), Individual Protection (IP5), Medical Biological Defense (MB5) and Medical Chemical Defense (MC5) are no longer active FY24 Projects due to budget restructuring.

Middle Tier Acquisition programs:

The total cost of the Rapid Opioid Countermeasure System (ROCS) Middle Tier of Acquisition effort is $12.974 million, including RDT&E (Project MC5) and procurement of prototype units (CBDP BLIN Protection & Hazard Mitigation). The ROCS is fully funded across the Future Years Defense Program.
The total cost of the Forward Area Mobility Spray System (FAMS-S) Middle Tier of Acquisition effort is $34.141 million, including RDT&E (Projects DE5 and MT5) and procurement of prototype units (CBDP BLIN Protection & Hazard Mitigation). The FAMS-S program is fully funded across the Future Years Defense Program.
The total cost of the Uniform Integrated Protective Ensemble Family of Systems Gloves (UIPE FOS GLOVES) Middle Tier of Acquisition effort is $49.483 million, including RDT&E (Projects IP4 and PT5) and procurement of prototype units (CBDP BLIN Protection & Hazard Mitigation). The UIPE FOS GLOVES program is fully funded across the Future Years Defense Program.

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

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Chemical and Biological Defense Program	Date: March 2023
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604384BP *I Chemical and Biological Defense Program - EMD*

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	299.848	312.148	276.205	-	276.205
Current President's Budget	291.122	301.611	382.977	-	382.977
Total Adjustments	-8.726	-10.537	106.772	-	106.772
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-10.537			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-2.237	-			
• SBIR/STTR Transfer	-6.488	-			
• Other Adjustments	-0.001	-	106.772	-	106.772

Change Summary Explanation

Funding: FY 2022 (-$2.237 Million): Below threshold reprogramming to Advanced Component Development & Prototypes, Budget Activity 4 for Advanced Emerging Threat Defense efforts, and reprogrammed prior year execution balances to RDT&E Management Support, Budget Activity 6 in support of the Departments higher priorities.
FY 2022 (-$6.488 Million): Transfer of funding to support Small Business Innovative Research/Small Business Technology Transfer efforts.

FY 2023 (-$10.537 Million): Congressional Directed Reductions.

FY 2024 (+$106.772 Million): Increase provides for biological defense improvement efforts, Next Generation Diagnostic System Increment 2 Man Portable Diagnostic System continued development and testing, Alternate Autoinjector Manufacturer Capability design development and prototype evaluations, complete engineering and manufacturing development (EMD) activities for the Multi-Phase Chemical Agent Detector, Aerosol Vapor Chemical Agent Detector activities in support of a Full Rate Production decision, Botulinum Monoclonal Antibodies manufacturing and clinical studies, initiating efforts within the Understand, Protect and Mitigate portfolios, and Departmental inflation rate adjustments (+$1.687 Million).

Schedule: N/A

Technical: Provides for critical new start programs Advanced System for Protection and Integrated Reduction of Encumbrances - Enhanced Biodefense (ASPIRE-ENBD), Collective Protection CONEX Enhanced Biodefense (COL PRO CONEX-ENBD), Portable Patient Transport System-Enhanced Biodefense (PPTS-ENBD), and Shipboard Isolation System (SIS).

Exhibit R-2A, RDT&E Project Justification: PB 2024 Chemical and Biological Defense Program			Date: March 2023
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0604384BP / *Chemical and Biological Defense Program - EMD*	Project (Number/Name) UN5 / *Understand (SDD)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
UN5: *Understand (SDD)*	-	0.000	126.071	182.726	0.000	182.726	137.991	127.671	108.908	68.088	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Understand System Development & Demonstration (SDD) Project provides the Joint Force the ability to continually receive information about the Chemical, Biological, Radiological and Nuclear (CBRN) situation at a desired time and place by detecting, identifying, and quantifying CBRN hazards in air, water, or on land, and on personnel, equipment or facilities. These efforts support the ability to conduct early warning (informing protective posture) and employment of rapid detection, identification, and analysis tools needed to address emerging biological threats. Efforts also keep the Joint Force ahead of emerging chemical threats with portable, reduced size, weight, and power, cost detectors to protect general and specialized forces and to enhance operations on the battlefield by providing early warning and field analytics. Medical diagnostic activities develop U.S. Food & Drug Administration (FDA) approved products for the warfighter at the point of care to inform far-forward medical and protection decisions. In FY 2023, the Chemical Biological Defense Program (CBDP) RDT&E Projects were restructured to align with the CBDP portfolio construct. UN5 efforts in FY 2022 remain in Project CA5, IP5, and MB5. This restructuring provided standardization and alignment across CBDP research, development and acquisition efforts.

Efforts included in this Project are:

(1) Advanced Emerging Threat Defense (AET DEFENSE)
(2) Aerosol & Vapor Chemical Agent Detector (AVCAD)
(3) Chemical and Biological Wearables - Enhanced Biodefense (CB Wearables - ENBD)
(4) Chemical Biological Radiological and Nuclear (CBRN) Sensor Integration on Robotics Platforms (CSIRP)
(5) Compact Vapor Chemical Agent Detector (CVCAD)
(6) Defense Biological Products Assurance Program (DBPAP)
(7) Defense Biological Products Assurance Program-Enhanced Biodefense (DBPAP-ENBD)
(8) Far Forward Biological Sequencing (FFBS)
(9) Wearable All Hazard Remote Monitoring Program (WARP)
(10) Joint Biological Tactical Detection System (JBTDS)
(11) Mobile Field Kit (MFK)
(12) Multi-Phase Chemical Agent Detector (MPCAD)
(13) Nuclear Biological Chemical Reconnaissance Vehicle Sensor Suite Upgrade (NBCRV SSU)
(14) Next Generation Diagnostic System Increment 2 Chemical Diagnostic (NGDS 2 CHEMDX)
(15) NGDS 2 Man Portable Diagnostic System (NGDS 2 MPDS)
(16) Surveillance and Pathogen Characterization - Enhanced Biodefense (SPCHAR-ENBD)
(17) Special Purpose Unit Rapid Capability Development and Deployment (SPU RCDD)

Exhibit R-2A, RDT&E Project Justification: PB 2024 Chemical and Biological Defense Program		Date: March 2023
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The Advanced Emerging Threat Defense (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 Non-Traditional Agents (NTAs), such as Novichoks and Pharmaceutical-Based Agents (PBA) (e.g. synthetic opioids), emerging biological threats, toxins, and other advanced and emerging threats as they are identified across the entire CBDP enterprise portfolio. In FY24, AET DEFENSE continues to broaden data set for emerging biological threats and PBAs to better assess detection and decontamination capabilities.

AVCAD is a man portable system to detect aerosol and vapor chemical agents. AVCAD fills critical gaps in current Joint Force chemical sensor capabilities, in the areas of liquid, solid and dusty aerosol Chemical Warfare Agent detection, and detection of specific advanced threats/Non-Traditional Agents. The AVCAD will also detect low-level off-gassing, or residual vapors, to prevent/mitigate health effects associated with low concentration exposures, and perform remote alarm warning and reporting. AVCAD will support chemical and biological defense missions, including monitoring, collective protection, base defense, decontamination, unmasking, and reconnaissance. AVCAD will be integrated on the Nuclear Biological Chemical Reconnaissance Vehicle (NBCRV) Stryker. AVCAD also has a fixed site variant that will be integrated onto ships. In FY24, AVCAD will execute and complete production and deployment testing.

CB Wearables-ENBD will continue to develop an integrated physiological monitoring capability that leverages artificial intelligence and machine learning (AI/ML) analytics to detect and alert anomalies that may indicate exposure to biological warfare agents (BWA) or other emerging threats. This will enable the Services to conduct force-wide monitoring to detect the presence or initial onset of CBRN threats and human physiological stressors before an operator's mission performance degrades, a communicable disease spreads, or an individual becomes a casualty. This provides the Government the ability to understand, address and provide solutions against emerging threats encountered under many operational scenarios, which could deter maneuver and ability to project force. CB Wearables-ENBD will continue to directly interface and integrate with existing Joint Force computing environments and directly supports the strategic goals of the CBDP's Enhanced Biodefense effort.

CSIRP is a prototyping and fielding effort that will focus on repackaging and integrating of modular CBRN sensor and common interface solutions to enhance Unmanned Aircraft Systems (UAS), Unmanned Surface Vessels (USV) and Unmanned Ground Vehicles (UGV) to provide situational awareness across the echelons of command in order to enable freedom of maneuver and action on the battlefield. An integrated CSIRP capability will exploit advances in artificial intelligence, machine learning and autonomy, sensing and communication capabilities that enable timely and accurate detection, warning and reporting of CBRN hazards. This reduces risk at tactical and operational echelons in mounted and dismounted configurations. CSIRP gives the Joint Force an opportunity to enhance capabilities and maintain operational advantage in a lethal and sophisticated operating environment. In FY24, CSIRP will integrate standoff detection and provide upgrades to CBRN autonomy, mapping and obstacle avoidance for denied global positioning system (GPS) operations on UASs.

The Compact Vapor Chemical Agent Detector (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. FY24 funding conducts engineering manufacturing and development of systems after Milestone B decision and provides program management support.

The Defense Biological Product Assurance Program (DBPAP) serves as the principal resource of high quality, validated, and standardized biological detection assays and reagents that meet the requirements of the warfighter and Joint biological defense systems. DBPAP pursues an array of analytical tools to verify assay performance and predict effective medical countermeasure solutions that are critical to preparedness. The DBPAP enables an Ordering System for Critical Assays and Reagents (OSCAR), where multiple government agencies and customers can place orders, track order status, and monitor ordering history. In FY24 DBPAP will continue to support optimization and expansion of biological threat agents reference materials and assays to known and emerging threats.

The Defense Biological Product Assurance Program - Enhanced Biodefense (DBPAP-ENBD) efforts increase the capabilities above DBPAP baseline levels specifically through enhancements to biological threat agent reference materials, analytical tools portfolios, increased sequencing capabilities, expanded analytical tool capabilities, increased repository of collected biothreat genomic information, and additional biorepository of targeted biothreats and toxins against emerging diseases and potential pandemics. In FY24 DBPAP-ENBD continues to support expanded enhancements to biological threat agent reference materials, and analytical tools portfolios, increased sequencing capabilities, expanding on analytical tools, additional repository of collected biothreat genomic information, and increased biorepository of targeted biothreats and toxins against emerging diseases and potential pandemics.

Far Forward Biological Sequencing (FFBS) system is a rapid handheld biological sequencing device that will identify an unlimited number of Biological Warfare Agents (BWAs) to include emerging or engineered biological weapon threats on or near the objective. It will provide far-forward Special Operations Forces (SOF) and Special Operations Task Forces (SOTFs) the detect-to-inform capability with a reduction in timeline from weeks to hours, increasing tactical flexibility and fighting strength, and it will save lives. The system includes sampling equipment, consumables, a sequencing device, and a back-end bioinformatics library with an intuitive front-facing user interface. When used together, this system will allow for the identification and documentation of emerging or engineered BWAs with the ability to reach back to biological warfare experts with detailed sequencing information. This system will provide near-real time identification of BWAs, to decrease the tactical decision timeline from weeks to hours, significantly increasing the situational awareness of biological threats to SOF forces operating in a far-forward environment and enabling Commanders' real-time tactical decision-making. FY24 funds will focus on the development of prototypes to ensure they meet the requirements of the Capabilities Development Document.

Wearable All-hazard Remote-monitoring Project (WARP) is a family of wearable and attachable sensors to collect, transmit, and integrate information about the operational environment, disposition of warfighters, and equipment status in order to optimize actions on the objective and facilitate reconstruction of the force post-mission. This network of sensors may be accessed by multiple echelons to maximize operational decisions and will result in increased force protection within the assault force and more timely and accurate situational awareness.

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

surface sampling capability which interfaces with the JBTDS identifier to support sensitive site exploitation missions. In FY24, JBTDS will continue activities required to support the low rate initial production (LRIP).

MFK effort is the modernization, development, and continuous engineering of Mobile Field Kit (MFK), which is the National Guard Bureau's (NGBs) interim CBRN Awareness & Understanding capability for the Homeland Defense Mission. MFK is a suite of software applications, platforms, and architecture residing on the National Guard CBRN Response Enterprise (CRE) Information Management System (NG-CIMS) operationally deployed in support of Title 32 missions. MFK provides the NGB real-time visualization and mapping of CBRN threats, personnel location and health, and other sensor data to support the Homeland mission. FY24 funds will begin the modernization, development and continuous engineering required to integrate MFK into the Joint architecture, while maintaining the operational relevancy of the current capability.

MPCAD is a two-man portable system that will conduct near real-time, near-laboratory grade analysis of solid, liquid, and vapor samples collected by the operator in a presumptively contaminated area. The MPCAD results will support the Commander's tactical and operational decisions regarding maneuver, protection, decontamination, and treatment measures. The Army and Marine Corps will employ MPCAD in Dismounted Reconnaissance and Site Assessment missions to substantiate presumptive detector results. The Air Force will employ the MPCAD to support Post-Event Reconnaissance in support of Reconnaissance and Surveillance missions by monitoring the environment at airbases after a chemical release. The Air Force will continuously monitor contaminated areas for chronic health effects levels through analysis of samples from collectors deployed at the contamination site and brought back to the analyzer for identification and quantification. This information will support commander decisions to determine Mission Oriented Protective Posture (MOPP) levels and eventual termination of cordon restrictions. In FY24, MPCAD will complete the vapor LRIP testing and plan to conduct the Full Rate Production Decision in late FY24.

Nuclear Biological Chemical Reconnaissance Vehicle Sensor Suite Upgrade (NBCRV SSU) provides maneuver formations the ability to conduct mounted Chemical Biological Radiological and Nuclear (CBRN) reconnaissance and surveillance. The NBCRV SSU will answer the commander’s priority intelligence requirements & facilitate proactive risk-based decisions, to ensure freedom of action and maintain maneuver momentum in Large Scale Combat Operations. NBCRV SSU is an Acquisition Category (ACAT) II modification work order (MWO) effort to modernize the current NBCRV Sensor Suite to increase maintainability, reliability, maneuverability of the force, and standoff distance from the threat, via enhanced CBRN standoff capabilities & integrating onto robotics for manned unmanned teaming.

NGDS 2 ChemDx program will provide a rapid, hand-held, point-of-care device, for the detection of acetyl cholinesterase (AChE) levels in blood samples, an indicator of possible Nerve Agent exposure in individuals. NGDS 2 ChemDx will be employed by the Army, Air Force, Navy, Marines and SOCOM at multiple echelons of healthcare. NGDS 2 ChemDx test results are to be used to aid in the diagnosis and treatment of individuals suspected of having exposure to chemical nerve agents. In FY24, NGDS 2 ChemDx continues Engineering & Manufacturing Development, including Development Testing (DT) and Operational User Evaluations, and initiation of clinical trials.

The NGDS 2 MPDS program will provide a simple-to-use, portable diagnostic device capability that can be used in austere battlefield environments to assist in the diagnosis of infectious diseases and biological warfare agents. The MPDS will enable earlier patient diagnosis, improve decision support for treatment, evacuation and command situational awareness, and; mitigate the effects of exposure to unknown infectious disease and biological agents. In FY24, NGDS 2 MPDS concludes hardware, software and assay design, including planning for Initial Operational Test and Evaluation (IOT&E) and completion of clinical trials.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Chemical and Biological Defense Program		Date: March 2023
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SPCHAR-ENBD (contact tracing) integrates innovative and emerging contact tracing capabilities into the pre-symptomatic exposure wearable system outlined in CB Wearables-ENBD. This effort will leverage on-going COVID-19 investments in contact tracing stemming from the joint service response to Joint Emergent Operational Needs Statement (JEONS) JS-0003. It will include person-worn digital proximity tools for logging close contacts with the infected. SPCHAR-ENBD directly supports the strategic goals of the Chemical Biological Defense Program's (CBDP's) Enhanced Biodefense effort.

SPU RCDD facilitates Joint Special Operations Command (JSOC) rapid response requirements to near-term and emergent chemical-biological defensive capabilities. This includes select elements from across the Special Operations Force (SOF) Enterprise such as CBRN Assessment Response Teams (CARTs) and other Joint Force enabling units such as the 20th Chemical, Biological, Radiological, Nuclear and Explosives Command. SPU RCDD mitigates risk across the Chemical Biological Defense Program (CBDP) by creating a portfolio of operationally-relevant CB capabilities that can be quickly transitioned in response to the articulated, emergent capability needs of the geographic combatant commanders. These objectives are met by the early transitioning of promising science and technologies (S&T); the focused conduct of combat evaluations and mission-oriented operational assessments to assess technological and mission suitability; and the active leveraging of existing Commercial-Off-The-Shelf (COTS) and Government-Off-The-Shelf (GOTS) products along with novel redesign approaches to optimize existing solutions to new challenges supported by "buy-try-decide-acquire" acquisition strategies. SPU RCDD initiates efforts such as respiratory breathing systems, biological identification, unmanned aerial and ground platform sensor integration, development of enhanced and augmented reality systems, and modernization of protective Chemical and Biological ensembles that have gone through requirements validation and continues product enhancement development and technology upgrades on currently fielded SOF equipment to counter emerging threats. In FY24, SPU RCDD will continue prototype development and test and evaluation activities to transition critical CBRND capabilities into production for the SOF user to close near-term JSOC capability gaps.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: 1) AET DEFENSE	-	1.248	2.692
Description: This effort will focus on Expand capabilities of Defense Biological Product Assurance Office. This effort includes Program Management, Product Development, Support, and Testing of technologies that have been demonstrated to be Technology Readiness Level (TRL) 6 or higher in order to rapidly field solutions to combat emerging threats. ***FY 2023 Plans:*** Continue efforts to leverage expanded requirements to broaden data set for emerging biological threats and Pharmaceutical Based Agents (PBAs). Produce additional data to better assess detection and decontamination capabilities against new requirements and inform rapid fielding decisions. Conduct field exercises to support Joint Service and interagency tactics, techniques, and procedures (TTP) development and gap analysis for materiel solutions. Assess potential upgrades to systems in the Engineering and Manufacturing Development (EMD) phase of acquisitions to add emerging threat capability prior to or shortly after fielding. ***FY 2024 Plans:*** Continue efforts to leverage expanded requirements to broaden data set for emerging biological threats and Pharmaceutical Based Agents (PBAs). Expand efforts to include data for defensive capabilities against three additional emerging threat materials.			

Exhibit R-2A, RDT&E Project Justification: PB 2024 Chemical and Biological Defense Program		Date: March 2023
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Produce additional data to better assess detection and defensive capabilities against new requirements and inform rapid fielding decisions. Produce new data to understand decontamination capabilities against multiple emerging threat materials. Conduct exercises to support Joint Service and interagency tactics, techniques, and procedures (TTP) development and gap analysis for materiel solutions. Assess potential upgrades to systems in the Engineering and Manufacturing Development (EMD) phase of acquisitions to add emerging threat defensive capability prior to or shortly after fielding. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase due to significant increase in quantity of emerging threats being assessed for impacts simultaneously. Increase also due to a more thorough understanding of all defensive capabilities, not just sensors, against emerging threats within the AET DEFENSE program.			
Title: 2) AVCAD ***Description:*** Product Development, Testing, Support Cost, Program Management Support. ***FY 2023 Plans:*** Complete Low Rate Initial Production (LRIP) contract activities and Pharmaceutical Based Agents (PBA) algorithm development to support the Full Rate Production decision. Continue Systems Engineering and other Integrated Product Teams (IPTs) for product development and materiel release. Complete Multi-Service Operational Test and Evaluation (MOT&E) in support of a Full Rate Production decision. ***FY 2024 Plans:*** Executing and completing product development and testing. Preparing for Full Rate Production (FRP) to include type classification / material release (TCMR). Continue Systems Engineering and other IPTs for product development and materiel release. Complete Multi-Service Operational Test and Evaluation (MOT&E) in support of a Full Rate Production decision. Continue Program management and administration processes to include but not limited to program oversight, resource justification, budgeting and programming, milestone and schedule tracking. Continue Other Government Agency (OGA) Support for logistics and test evaluation results in support of a Full Rate Production decision. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Program/project transitioned to Production and Deployment Phase. Decrease in funding due to program transition to procurement starting in FY24.	-	12.972	11.290
Title: 3) AVCAD ***Description:*** Support Costs/Program Management ***FY 2023 Plans:***	-	3.972	-

Exhibit R-2A, RDT&E Project Justification: PB 2024 Chemical and Biological Defense Program		Date: March 2023
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Continue Program management and administration processes to include but not limited to program oversight, resource justification, budgeting and programming, milestone and schedule tracking. Continue OGA Support for logistics and test evaluation results in support of a Full Rate Production decision. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Minor change due to routine program adjustments.			
Title: 4) CB WEARABLES-ENBD ***Description:*** This effort will develop and field wearable sensor capabilities and architectures for use across the joint services. ***FY 2023 Plans:*** Develops, tests, and evaluates a series of interfaces that connect a family of wearable devices to service-operated combat networks and architectures operating within all phases of multi-domain operations. Conducts advanced development on algorithmic tools used to monitor and predict joint Warfighter exposure to emerging threats and CBRN hazards. ***FY 2024 Plans:*** Continues to develop, test, and evaluate a series of interfaces that connect a family of wearable devices to service-operated combat networks and architectures operating within all phases of multi-domain operations. Conducts advanced development on algorithmic tools used to monitor and predict joint warfighter exposure to emerging threats and CBRN hazards. Develops architectures and standards to support integrating existing Government and industry solutions into system level capabilities. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Minor change due to routine program adjustments. Additional investment in enhanced biodefense and pandemic preparedness.	-	38.700	39.201
Title: 5) CSIRP ***Description:*** Product Development, Program Management, Test and Evaluation and Support. ***FY 2023 Plans:*** Continue chemical sensor integration on an Unmanned Air Systems (UAS) to support the Nuclear, Biological, and Chemical Reconnaissance Vehicles Sensor Suite Upgrade (NBCRV SSU) program, as part of Prototype Plan #2. Continue coordination of demonstrations and test events for additional Service end users. Continue program office management and administration processes to include, but not limited to, program oversight, resource justification, budgeting and programming, milestone and schedule tracking. Continue evaluation of capability and development of Concept of Operations (CONOPS). ***FY 2024 Plans:*** Completion of chemical sensor integration on an Unmanned Air Systems (UAS) to support the Nuclear Biological Chemical Reconnaissance Vehicle Sensor Suite Upgrade (NBCRV SSU) program and integration work on Unmanned Surface Vessels	-	12.730	18.505

Exhibit R-2A, RDT&E Project Justification: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** UN5 / *Understand (SDD)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
(USV). Initiate repacking and integration of standoff detection, cross platform teaming, and upgrades to autonomous CBRN mapping in denied GBS operations for UASs, as part of the Development Objective Strategy #2. Continue coordination of demonstrations and test events for additional Service end users. Continue program office management and administration processes to include, but not limited to, program oversight, resource justification, budgeting and programming, milestone and schedule tracking. Continue evaluation of capability and development of Concept of Operations (CONOPS). ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase due to fact of life change in the program/project. Increase in FY24 reflects new service objectives identified in Development Objectives Strategy #2.			
Title: 6) CVCAD ***Description:*** Engineering, Manufacturing and Product Development, and Program Management Support ***FY 2023 Plans:*** Initiate award Phase III engineering and development tasks following Milestone decision and programmatic activities. ***FY 2024 Plans:*** Conduct Engineering and Development tasks to include military standard environmental and false alarm testing, as well as conduct a soldier touch point to assess and measure system performance and assess risk. Continue Program management and administration processes to include but not limited to program oversight, resource justification, budgeting and programming, milestone and schedule tracking. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase due to ramp up of engineering and manufacturing development testing and operational testing.	-	3.606	16.834
Title: 7) DBPAP ***Description:*** Development ***FY 2023 Plans:*** Continue development/expansion of biological threat agents reference materials to known and emerging threats. Continue development of assays and nucleic acid based genomic assays to support fielded and developmental systems. Continue Quality Assurance/Quality Control (QA/QC) testing to encompass the transition and fielding of biological detection assays. Continue to maintain yearly accreditation audits such as ISO 9001, 17025, and Guide 34 certifications. Continue quality actions throughout to maintain the quality managed systems. Continue development of prototypes/information for strains contained in Unified Culture Collection. Supports establishment of a Common Reference Repository - a single source for well-characterized, traceable test	-	8.163	8.313

Exhibit R-2A, RDT&E Project Justification: PB 2024 Chemical and Biological Defense Program		Date: March 2023
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
articles and vital information for biological defense, effective verification of proficiency testing, improved acquisition of emerging technologies, all at a decreased cost for the individual organizations. ***FY 2024 Plans:*** Continue development/expansion of biological threat agents reference materials to known and emerging threats. Continue development of assays and nucleic acid based genomic assays to support fielded and developmental systems. Continue Quality Assurance/Quality Control (QA/QC) testing to encompass the transition and fielding of biological detection assays. Continue to maintain yearly accreditation audits such as ISO 9001, 17025, and Guide 34 certifications. Continue quality actions throughout to maintain the quality managed systems. Continue development of prototypes/information for strains contained in Unified Culture Collection. Supports establishment of a Common Reference Repository - a single source for well-characterized, traceable test articles and vital information for biological defense, effective verification of proficiency testing, improved acquisition of emerging technologies, all at a decreased cost for the individual organizations. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Minor change due to routine program adjustments.			
Title: 8) DBPAP-ENBD ***Description:*** Development ***FY 2023 Plans:*** Expansion of site locations for increased sequencing capabilities to monitor critical assay performance that detect biothreats, and exchange critical data (sequence information) collected at these sites. (One Site Per Year through FY28). Expanding the repository of collected biothreat genomic information to a government access controlled, cloud-based information center in order to support analytics from the field. Enable exchange of data by creating data compression/decompression capabilities prior to storage and retrieval on GARDIC. Expansion of biorepository of targeted biothreats and toxins strategically against emerging diseases and potential pandemics. Maintain information storage capabilities on DoD Accredited sites. ***FY 2024 Plans:*** Continue expansion of site locations for increased sequencing capabilities to monitor critical assay performance that detect biothreats, and exchange critical data (sequence information) collected at these sites. (One Site per Year through FY28). Continue expanding the repository of collected biothreat genomic information to a government access controlled, cloud-based information center to support analytics from the field. Maintain exchange of data by creating data compression/decompression capabilities prior to storage and retrieval on GARDIC. Continue expansion of biorepository of targeted biothreats and toxins strategically against emerging diseases and potential pandemics.	-	2.600	1.900

Exhibit R-2A, RDT&E Project Justification: PB 2024 Chemical and Biological Defense Program		Date: March 2023
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Maintain information storage capabilities on DoD Accredited sites. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Decrease due to change in program/project technical parameters. Reduced infrastructure costs in FY24.			
Title: 9) FFBS ***Description:*** Prototype Development ***FY 2024 Plans:*** Prototype development and testing effort will focus on the development of prototypes to ensure they are able to meet requirements of decreasing sample to answer time, increasing the ease of use for the preparation of samples, increasing bioinformatics data and software and database development. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Program/project funding transferred from another funding line. Program funding transferred from Biological Defense Improvement Program (BDIP) starting in FY24.	-	-	2.488
Title: 10) WARP ***Description:*** Prototype Development: this effort will initiate, prototype, and mature WARP kits, maximizing the use of commercial off-the-shelf and Government off-the-shelf (COTS/GOTS), against validated United States Special Operations Command (USSOCOM) requirements. ***FY 2024 Plans:*** Execute integration of commercial off-the-shelf and Government off-the-shelf (COTS/GOTS) CBRN sensors into a visualization tool that is viewable on a customer-specific Team Awareness Kit (TAK) device. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Program/project funding transferred from another funding line. WARP is a byproduct of the required Biological Defense Improvement Program (BDIP) subdivision.	-	-	2.100
Title: 11) WARP ***Description:*** Test & Evaluation: this effort will test and evaluate via developmental and operational assessments the capability of the WARP kits. The exit criteria will be a technology readiness level (TRL) 6 or higher system, meeting the validated United States Special Operations Command (USSOCOM) requirements. ***FY 2024 Plans:***	-	-	1.100

Exhibit R-2A, RDT&E Project Justification: PB 2024 Chemical and Biological Defense Program		Date: March 2023
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Execute test and evaluation on the software and communication protocol for the integrated CBRN sensors and the Team Awareness Kit (TAK) device(s). ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Program/project funding transferred from another funding line. WARP is a byproduct of the required Biological Defense Improvement Program (BDIP) subdivision.			
Title: 12) JBTDS ***Description:*** Test & Evaluation (T&E) ***FY 2023 Plans:*** Conduct Low Rate Initial Production T&E activities. ***FY 2024 Plans:*** Complete Low Rate Initial Production T&E activities. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase due to fact of life change in the program/project. Increase funds completion of T&E activities to support Full Rate Production (FRP) in FY25.	-	2.596	7.892
Title: 13) MFK ***Description:*** Modernization, Development and Continuous Engineering ***FY 2024 Plans:*** Begin the modernization, development and continuous engineering of MFK, with a focus on hardening the application suite for cyber security. Effort also includes updates to the software based on user feedback in order to maintain operational relevancy. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Program/project is new start effort in FY 2024.	-	-	6.300
Title: 14) MPCAD ***Description:*** Product Development, Testing & Program Management ***FY 2023 Plans:*** Complete two Low Rate Initial Procurement (LRIP) contracts, Government and contracted Integrated Product Development team, systems engineering and Integrated Product Team (IPT) Support. Complete operational testing, Other Government Agency (OGA) support of development and testing of MPCAD systems including development of logistics products, test plans, and	-	2.103	8.265

Exhibit R-2A, RDT&E Project Justification: PB 2024 Chemical and Biological Defense Program		Date: March 2023
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
reports. No additional LRIP test articles will be items purchased in FY23. Complete program management efforts including Government system engineering, program/financial management, costing, personnel support and travel. ***FY 2024 Plans:*** Complete Vapor Low Rate Initial Procurement (LRIP) product and development (P&D) testing. Complete program management efforts including Government system engineering, program/financial management, costing, personnel support and travel. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase due to change in program/project schedule. Increase in FY24 funding required to address vapor testing delays. The FY22 EMD vapor testing experienced performance challenges and lower trials throughput then originally estimated. This pushed end of EMD vapor testing to 3QFY23 and LRIP vapor testing to occur in FY24. Increased the time estimated to complete the LRIP vapor testing based on experience during EMD testing.			
Title: 15) NBCRV SSU ***Description:*** Product Development, Program Management, Test and Evaluation and Support. ***FY 2023 Plans:*** Continue government strategic planning, systems engineering, logistics, training, test and evaluation, technical support, integration, and system level developmental testing. ***FY 2024 Plans:*** Continue government strategic planning, systems engineering, logistics, training, test and evaluation, technical support, integration, and developmental testing. Complete Limited User Test for Capability Set 2.1 (CS2.1). Complete CBRN sensor and integrated sensor suite prototype development, and maturation of CS2.2, and initiate CS2.2 developmental testing. Continue program office management and administration processes to include but not limited to program oversight, resource justification, budgeting and programming, milestone and schedule tracking. Continue program office management and administration processes. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase due to change in program/project schedule. Increase due to refined CS2.2 test cost estimate based on CS2.2 scope within Test and Evaluation Master Plan (TEMP) approved on 7 March 2022, and completing chemical surface detection development in CS2.2 configuration prior to beginning test activities in FY24.	-	16.916	21.629
Title: 16) NGDS 2 CHEMDX ***Description:*** Engineering and Manufacturing Development. ***FY 2023 Plans:***	-	5.288	7.808

Exhibit R-2A, RDT&E Project Justification: PB 2024 Chemical and Biological Defense Program		Date: March 2023
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Continue engineering and manufacturing development, initiate developmental testing. ***FY 2024 Plans:*** Continue Engineering Development, conduct Development Testing and Operational User Evaluations, begin clinical trials. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase due to change in program/project schedule.			
Title: 17) NGDS 2 MPDS ***Description:*** Engineering and Manufacturing Development. ***FY 2023 Plans:*** Continues hardware and software development based on new material solution. Continues assay development based on new material solution leveraging work accomplished based on previous material solution. Management of hardware and software configurations. Plans for two clinical trial starts. ***FY 2024 Plans:*** Continue hardware, software, assay development; instrument developmental testing, and analytical testing/ two clinical trials. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase due to fact of life change in the program/project.	-	6.914	19.359
Title: 18) SPCHAR-ENBD ***Description:*** This effort will focus on Innovative Contact Tracing. ***FY 2023 Plans:*** Integrates innovative and emerging contact tracing capabilities stemming from the Joint Emergent Operational Needs Statement (JEONS) JS-0003 response into the pre-symptomatic exposure wearable system outlined in CB WEARABLES-ENBD. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Efforts will wind down by end of fiscal year FY23, with no additional resources required in FY24.	-	1.400	-
Title: 19) SPU RCDD ***Description:*** Advanced Development: this line includes Product Development, Test and Evaluation, Management Services, and Support to mature technology across multiple commodity areas to rapidly field solutions in response to emergent threats. ***FY 2023 Plans:***	-	6.863	7.050

Exhibit R-2A, RDT&E Project Justification: PB 2024 Chemical and Biological Defense Program		Date: March 2023
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Continue developing, prototyping, and maturing CBRND technologies to rapidly equip users with capabilities in response to new and emerging threats and opportunities. Continue developing Special Operations Command (SOCOM) specific Unmanned Ground Vehicle (UGV) and Unmanned Aerial Vehicle (UAV) sensor integration and closing Joint Special Operations Command (JSOC) capability gaps. ***FY 2024 Plans:*** Continue developing, prototyping, and maturing CBRND technologies to rapidly equip users with capabilities in response to new and emerging threats and opportunities. Continue developing prototype systems across the CBDP commodity areas in order to close Joint Special Operations Command (JSOC) capability gaps. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Minor change due to routine program adjustments.			
Accomplishments/Planned Programs Subtotals	-	126.071	182.726

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• CA4: *Contamination Avoidance (ACD&P)*	37.189	-	-	-	-	-	-	-	-	0.000	37.189
• CA5: *Contamination Avoidance (SDD)*	84.967	-	-	-	-	-	-	-	-	0.000	84.967
• IP5: *Individual Protection (SDD)*	18.690	-	-	-	-	-	-	-	-	0.000	18.690
• IP7: *Individual Protection (Op Sys Dev)*	11.659	-	-	-	-	-	-	-	-	0.000	11.659
• MB4: *Medical Biological Defense (ACD&P)*	46.791	-	-	-	-	-	-	-	-	0.000	46.791
• MB5: *Medical Biological Defense (SDD)*	138.156	-	-	-	-	-	-	-	-	0.000	138.156
• UN4: *Understand (ACD&P)*	-	52.708	61.638	-	61.638	64.399	48.874	41.264	38.169	Continuing	Continuing
• UN7: *Understand (Op Sys Dev)*	-	40.414	50.603	-	50.603	58.881	71.869	68.839	50.628	Continuing	Continuing
• JX0210: *Defense Biological Products Assurance Program (DBPAP)*	2.760	2.736	2.736	-	2.736	2.736	2.736	2.736	2.736	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2024 Chemical and Biological Defense Program			Date: March 2023
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C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• MX0001: *Joint Bio Tactical Detection System (JBTDS)*	17.060	-	7.025	-	7.025	22.238	17.385	44.150	44.150	Continuing	Continuing
• PHM018: *SPU Rapid Capability Development And Demo (SPU RCDD)*	10.834	9.914	49.455	-	49.455	20.689	20.180	24.216	26.638	Continuing	Continuing
• SA0005: *CBRN Sensor Integration On Robotic Platforms (CSIRP)*	3.461	2.099	-	-	-	-	-	-	-	0.000	6.063
• SA0015: *Aerosol Vapor Chemical Agent Detector (AVCAD)*	-	-	2.458	-	2.458	43.262	55.762	66.237	43.029	Continuing	Continuing
• SA0017: *Multiphase Chemical Agent Detector (MPCAD)*	6.502	4.014	13.561	-	13.561	21.852	36.758	37.261	0.829	Continuing	Continuing
• SA0024: *Compact Vapor Chemical Agent Detector (CVCAD)*	-	-	-	-	-	-	0.585	8.200	22.144	Continuing	Continuing
• SA0043: *Next Gen Diag 2 Chemical Diagnostics (NGDS 2 CHEM DX)*	-	-	1.881	-	1.881	9.579	10.982	11.898	11.861	Continuing	Continuing
• SA0044: *Next Gen Diag 2 Man Portable Diagnostic System (NGDS 2 MPDS)*	0.336	-	-	-	-	7.949	7.291	4.752	2.290	Continuing	Continuing
• SA0055: *Wearable All Hazard Remote Monitoring Program (WARP)*	-	-	-	-	-	17.500	-	-	-	Continuing	Continuing
• SA0056: *Nuclear Biological Chemical Reconnaissance Vehicle Sensor Suite Upgrade (NBCRV SSU)*	-	-	16.795	-	16.795	-	15.525	15.561	16.222	Continuing	Continuing

Remarks

D. Acquisition Strategy

ADVANCED AND EMERGING THREAT DEFENSE (AET DEFENSE)

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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 defensive capability gaps. The program will utilize existing Multiple Award Indefinite Delivery Indefinite Quantify Task Order Contracts to provide technical support to studies and assessments of performance against emerging threat. 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 Other Transaction Authority (OTA) agreements for system development and prototyping activities and Government Agencies and Federally Funded Research and Development Centers to provide development, testing and technical support.

AEROSOL VAPOR CHEMICAL AGENT DETECTOR (AVCAD)

The AVCAD program is conducting full Engineering & Manufacturing Development (EMD) Record Testing in support of the Milestone C decision. The program intends to award the low rate initial production (LRIP) as an existing option leveraging the current contract. Upon completion of Production & Deployment test activities, full rate production options are also available.

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

CB Wearables-ENBD will leverage a presumed hybrid acquisition strategy that will use the software acquisition pathway to integrate and field software algorithms developed under the PM2S program, as well as middle tier of acquisition to develop and integrate Government Off-The-Shelf (GOTS) hardware needed for deployment on service-sponsored networks and weapons platforms.

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. BA5 funding provides integration, demonstrations, testing, development of interface control documentation, and operational assessments of prototypes to support transition decisions for residual capabilities and final configurations to Program of Record (PoR) or sustained capability.

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; Phase I S&T advanced development, Phase II technology transition maturation evaluation, Phase III competitive prototyping down select and Engineering decision. Phase IV will execute Production and

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Development for low rate initial production (LRIP) systems. CVCAD will procure full rate production (FRP) items through a follow-on Federal Acquisition Regulation based contract.

DEFENSE BIOLOGICAL PRODUCTS ASSURANCE PROGRAM (DBPAP)

DBPAP utilizes best buying principles and acquisition rigor for alignment to requirements to perform an “enabling” function for certain programs of record (e.g., Analytical Lab System (ALS), Common Analytical Lab System (CALS), Next Generation Diagnostic System (NGDS)) and other enterprise partners. The DBPAP uses better buying power to consolidate requirements for “commodity-like” biological detection products. The DBPAP coordinates closely with the Joint, Science and Technology Office to enhance the DBPAP reference material holdings in the Unified Culture Collection (UCC); improve antibodies and expand the portfolio of DBPAP immunoassays and reagents; and develop new molecular assays. The DBPAP uses a mix of competitive commercial contracts and funding of government laboratories to produce high quality assays and reagents.

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

The DBPAP-ENBD provides increased capabilities above baseline abilities by utilizing best buying principles and acquisition rigor for alignment to requirements to perform an “enabling” function for certain programs of record (e.g., ALS, CALS, NGDS) and other enterprise partners. The DBPAP-ENBD uses better buying power to consolidate requirements for “commodity-like” biological detection products. The DBPAP-ENBD coordinates closely with the Joint, Science and Technology Office to enhance the DBPAP-ENBD reference material holdings in the Unified Culture Collection (UCC); improve antibodies and expand the portfolio of DBPAP-ENBD immunoassays and reagents; and develop new molecular assays. The DBPAP-ENBD uses a mix of competitive commercial contracts and funding of government laboratories to produce high quality assays and reagents.

Far Forward Biological Sequencing

Anticipate Assistant Secretary of the Army for Acquisition, Logistics, & Technology approval of the FFBS acquisition strategy by 1st Quarter FY23. The FFBS Prototype development was conducted via iterative process of early user feedback and assessments, and laboratory testing with biological agents. FFBS is a bio-sequencing Commercial Off-The-Shelf (COTS) system that is integrated into a stand-alone military-hardened hand-held system that added battery life, reduced size and weight and provided a bioinformatics database on the system (vice COTS product that uses a laptop). Sample preparation procedures developed for Special Operations Forces (SOF) users’ skill set and refined library preparation to reduce data output timeline from weeks to hours. FFBS will seek a competitive production award in FY25 to meet Initial Operational Capability (IOC) in 4QFY26 and Full Operational Capability (FOC) in 4QFY27.

Wearable All Hazard Remote Monitoring Program

Wearable All Hazard Remote Monitoring Program (WARP) will leverage other Joint Program Executive Office for Chemical, Biological, Radiological, and Nuclear Defense (JPEO-CBRND) developmental efforts that integrate CBRN sensors and COTS physiological monitoring devices into a common network infrastructure for

display on Tactical Assault Kit devices in order to capitalize on previous development. This will be accomplished through Multiple Award Indefinite Delivery Indefinite Quantify Task Order and Government Agencies for prototype development, test and evaluation, and technical support.

JOINT BIO TACTICAL DETECTION SYSTEM (JBTDS)

The JBTDS program utilizes a streamlined acquisition strategy leveraging a contract with Chemring Sensors and Electronic Systems (CSES). The contract includes options for Low Rate Initial Production (LRIP) and Full Rate Production (FRP). The JBTDS is moving towards a MS C decision in third quarter FY23, utilizing the current contract to award both the LRIP and FRP options. To support the National Guard requirement, the Joint Handheld Biological Identifier (JHBI) will award congruently with the JBTDS LRIP and FRP options. The JBTDS program uses an agile acquisition strategy which leverages current technologies, recognizing up front the need for potential technology insertion to provide more cost effective capabilities.

Mobile Field Kit

Development of MFK will transition from the Defense Threat Reduction Agency (DTRA) by coordinating a Joint Development plan that addresses current technical and acquisition shortfalls and limitations. MFK will manage the continuous engineering process in support of National Guard Bureau operations by assuming control of the requirements generation process and incrementally modernizing the software architecture. Additional work includes modernizing the MFK architecture to make it interoperable with the Joint architecture, and assessing and validating cyber security. The long-term strategy is to align MFK with the CBRN Support to C2 (CSC2) program, provide a capability to CSC2 in order to support the Homeland Defense Mission, and finally manage MFK as an application that supports CSC2. This strategy will be executed without impacting the current operational relevancy of MFK.

MULTI-PHASE CHEMICAL AGENT DETECTOR (MPCAD)

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

Nuclear Biological Chemical Reconnaissance Vehicle Sensor Suite Upgrade

Nuclear Biological Chemical Reconnaissance Vehicle Sensor Suite Upgrade (NBCRV SSU) is an upgrade for the Stryker NBCRV. The Army Requirements Oversight Council (AROC) Review Board (ARB) decided on 1 FEB 2022 to continue a Modification Work Order (MWO) pathway for Capability Set 2.1 (CS2.1) (initial SSU capability) as a bridge to CS2.2 (full SSU capability). The NBCRV SSU program received prototype CS2.1 systems via Other Transaction Authority (OTA) in March 2022, and will continue testing through October 2023, to inform a Conditional Materiel Release Decision in FY24. An In Progress Review (IPR) will be held starting in FY23 to execute an MWO for CS2.1 production and fielding, starting in FY24. The NBCRV SSU program will receive prototype CS2.2 systems via another OTA in August 2024, followed by testing in FY24 through early FY26 to inform the CS2.2 MWO Full Materiel Release Decision in FY26.

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NEXT GEN DIAG 2 CHEMICAL DIAGNOSTICS (NGDS 2 CHEMDX)

NGDS 2 ChemDx is using an Other Transactions Authority (OTA) agreement to take advantage of nontraditional Defense contractor offerings, leveraging commercial technology to develop a capability for the diagnosis of nerve agent exposure in individuals. The OTA agreement holder is conducting system development, clinical trials and pre-developmental testing. ChemDx will use Department of Defense (DoD) test agencies to conduct Development Testing (DT) and operational user evaluations. Clinical trials will inform approval of the ChemDx system by the U.S. Food and Drug Administration.

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

NGDS 2 MPDS is currently in engineering and manufacturing development (EMD). MPDS is using Other Transactions Authority (OTA) agreements to take advantage of nontraditional Defense contractor offerings. MPDS will use the agreement holder to develop the system and assays, conduct the clinical trials, and for pre-developmental testing (pre-DT) instrument testing. MPDS will be using DoD clinical trial sites to support the agreement holder. MPDS will be using Department of Defense (DoD) agencies to conduct Developmental Testing (DT), operational assessment (OA), and Initial Operational Test & Evaluation (IOT&E).

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

SPCHAR-ENBD (contact tracing) sunsets at the end of FY23 and will integrate all capabilities into the CB-Wearables ENBD.

SPU RAPID CAPABILITY DEVELOPMENT AND DEPLOYMENT (SPU RCDD)

The SPU RCDD overall acquisition strategy allows for rapid prototyping and testing of novel and modified Commercial Off-The-Shelf (COTS) or Government Off-The-Shelf (GOTS) systems against mission critical capabilities to enhance mission success. The SPU RCDD will use technical and functional evaluations of currently fielded items to identify materiel that requires modernization and incorporate operationally-relevant system developments. This will be accomplished through competitive contracting vehicles such as Multiple Award Indefinite Delivery Indefinite Quantify Task Order and the Countering Weapons of Mass Destruction Other Transaction Authority (CWMD OTA) for the development of prototype test assets. The SPU RCDD will use Government Agencies for prototype development, test and evaluation, and technical support.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** UN5 / *Understand (SDD)*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AET DEFENSE - HW C - Protection Capability Prototyping	Various	Various : N/A	-	0.000		0.197	Feb 2023	0.280	Jan 2024	-		0.280	Continuing	Continuing	0.000
AET DEFENSE - HW S - System Prototyping and Modification	Various	Various : N/A	-	0.000		0.197	Feb 2023	0.000		-		0.000	0.000	0.197	0.000
AET DEFENSE - HW S - Emerging threat detection/ decontamination/protection capability engineering development	Various	Various : N/A	-	0.000		0.197	Jan 2023	0.000		-		0.000	0.000	0.197	0.000
AET DEFENSE - HW C - Emerging Threat Detection	MIPR	U.S. Army Combat Capabilities Development Command (DEVCOM) Chemical Biological Center (CBC) : Aberdeen Proving Ground, MD	-	0.000		0.000		0.964	Mar 2024	-		0.964	Continuing	Continuing	0.000
AVCAD - Government Product Development Team Labor	MIPR	Various : N/A	-	0.000		2.200	Nov 2022	1.850	Feb 2024	-		1.850	Continuing	Continuing	0.000
AVCAD - HW S - P&D Contract	C/CPIF	Smiths Detection : Edgewood, MD	-	0.000		6.019	Nov 2022	0.000		-		0.000	0.000	6.019	0.000
AVCAD - SW C - Pharmaceutical Based Agent (PBA) Development	C/CPIF	TBD : N/A	-	0.000		0.600	Nov 2022	0.000		-		0.000	0.000	0.600	0.000
CB WEARABLES-ENBD - SW C - Software Interface Development	C/CPFF	Various : N/A	-	0.000		10.460	Jan 2023	13.430	Jan 2024	-		13.430	Continuing	Continuing	0.000
CB WEARABLES-ENBD - HW C - Platform Development	C/CPFF	Various : N/A	-	0.000		19.816	Jan 2023	14.410	Jan 2024	-		14.410	Continuing	Continuing	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** UN5 / *Understand (SDD)*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CSIRP - HW C - Government Product Development Team Labor	MIPR	U.S. Army Combat Capabilities Development Command (DEVCOM) Chemical Biological Center (CBC) : Aberdeen Proving Ground, MD	-	0.000		1.900	Nov 2022	1.900	Nov 2023	-		1.900	Continuing	Continuing	0.000
CSIRP - HW C - Contractor Product Development Team Labor	C/FFP	Various : N/A	-	0.000		0.500	Feb 2023	0.540	Feb 2024	-		0.540	Continuing	Continuing	0.000
CSIRP - HW C - Chem Sensor Design	Various	Various : N/A	-	0.000		1.300	Nov 2022	1.600	Nov 2023	-		1.600	Continuing	Continuing	0.000
CSIRP - HW C - UAS Manufacturing and Design	MIPR	Various : N/A	-	0.000		3.000	Nov 2022	5.500	Nov 2023	-		5.500	Continuing	Continuing	0.000
CSIRP - SW C - UAS and Sensor Manufacturing and Design	C/CPFF	T2S Solutions (T2S, LLC) : Belcamp, MD	-	0.000		1.468	Nov 2022	0.000		-		0.000	0.000	1.468	0.000
CSIRP - HW C - Sensor Integration	C/FFP	FLIR Systems, Inc. : Elkridge, MD	-	0.000		0.000		2.500	Nov 2023	-		2.500	Continuing	Continuing	0.000
CSIRP - SW C - Sensor Integration	C/CPFF	Charles Stark Draper Laboratories, Inc. : Cambridge, MA	-	0.000		1.000	Nov 2022	1.400	Nov 2023	-		1.400	Continuing	Continuing	0.000
CVCAD - HW S - CWMD OTA Phase 3 Task Awards	MIPR	Advanced Technologies International : Summerville, SC	-	0.000		3.572	Jun 2023	9.200	May 2024	-		9.200	Continuing	Continuing	0.000
DBPAP - HW C - Development of Select Biological Threat Agent Reference Materials and Assays	MIPR	Various : N/A	-	0.000		3.618	Mar 2023	4.869	Feb 2024	-		4.869	Continuing	Continuing	0.000
DBPAP-ENBD - HW C - Targeted Acquisition of Reference Materials	MIPR	Various : N/A	-	0.000		2.600	Feb 2023	1.900	Feb 2024	-		1.900	Continuing	Continuing	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** UN5 / *Understand (SDD)*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Augmenting Capabilities (TARMAC) initiative															
FFBS - HW S - Hardware - prototype refinement and maturation	Various	Various : N/A	-	0.000		0.000		1.363	Apr 2024	-		1.363	Continuing	Continuing	0.000
WARP - HW C - Prototype Development	Various	Various : N/A	-	0.000		0.000		2.100	Dec 2023	-		2.100	Continuing	Continuing	0.000
JBTDS - Government Product Development Team Labor	MIPR	Various : N/A	-	0.000		0.442	Jan 2023	0.829	Jan 2024	-		0.829	Continuing	Continuing	0.000
MFK - SW S - Modernization	C/CPFF	Various : N/A	-	0.000		0.000		3.000	Oct 2023	-		3.000	Continuing	Continuing	0.000
MFK - SW S - Cyber Security Sustainment	MIPR	TBD : N/A	-	0.000		0.000		0.620	Mar 2024	-		0.620	Continuing	Continuing	0.000
MFK - SW S - CSC2 Interoperability	C/CPFF	Various : N/A	-	0.000		0.000		0.389	Mar 2024	-		0.389	Continuing	Continuing	0.000
MPCAD - HW S - EMD Contract	C/CPFF	FLIR Systems, Inc. : West Lafayette, IN	-	0.000		0.750	Nov 2022	1.035	Nov 2023	-		1.035	Continuing	Continuing	0.000
MPCAD - HW S - EMD Contract	C/CPFF	Signature Science : Austin, TX	-	0.000		0.639	Nov 2022	1.035	Nov 2023	-		1.035	Continuing	Continuing	0.000
MPCAD - PM/MS S - Government Team Labor	MIPR	U.S. Army Combat Capabilities Development Command (DEVCOM) Chemical Biological Center (CBC) : Aberdeen Proving Ground, MD	-	0.000		0.200	Nov 2022	1.804	Nov 2023	-		1.804	Continuing	Continuing	0.000
MPCAD - HW C - Contract Support	C/FFP	Various : N/A	-	0.000		0.000		0.161	Feb 2024	-		0.161	Continuing	Continuing	0.000
NBCRV SSU - HW C - Virtual Trainer	Various	Various : N/A	-	0.000		1.419	Nov 2022	0.000		-		0.000	0.000	1.419	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** UN5 / *Understand (SDD)*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
NBCRV SSU - HW C - Government Product Development Team Labor	MIPR	U.S. Army Combat Capabilities Development Command (DEVCOM) Chemical Biological Center (CBC) : Aberdeen Proving Ground, MD	-	0.000		2.535	Nov 2022	0.000		-		0.000	0.000	2.535	0.000
NBCRV SSU - HW C - Contractor Team Labor	C/FFP	Various : N/A	-	0.000		0.549	Feb 2023	0.000		-		0.000	0.000	0.549	0.000
NBCRV SSU - SW C - Integration	C/FFP	FLIR Systems Inc. : Elkridge, MD	-	0.000		2.223	Nov 2022	7.418	Nov 2023	-		7.418	Continuing	Continuing	0.000
NGDS 2 CHEMDX - HW C - Product Development	C/CPFF	MRIGlobal : Kansas City, MO	-	0.000		2.657	Feb 2023	3.895	Dec 2023	-		3.895	Continuing	Continuing	0.000
NGDS 2 CHEMDX - HW C - Product Management	Various	Various : N/A	-	0.000		1.954	Dec 2022	2.304	Dec 2023	-		2.304	Continuing	Continuing	0.000
NGDS 2 MPDS - HW C - Product Development	C/CPFF	Cepheid : Sunnyvale, CA	-	0.000		3.162	Mar 2023	11.870	Dec 2023	-		11.870	Continuing	Continuing	0.000
NGDS 2 MPDS - HW C - Product Management	Various	Various : N/A	-	0.000		2.370	Dec 2022	3.930	Dec 2023	-		3.930	Continuing	Continuing	0.000
SPCHAR-ENBD - SW C - JEONS JS 0003 Integration	C/CPFF	Various : N/A	-	0.000		1.000	Jan 2023	0.000		-		0.000	0.000	1.000	0.000
SPU RCDD - HW C - Prototype Procurement	Various	Various : N/A	-	0.000		4.802	Dec 2022	4.156	Dec 2023	-		4.156	Continuing	Continuing	0.000
		Subtotal	-	0.000		83.346		106.252		-		106.252	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AVCAD - ES C - OGAs	MIPR	Various : N/A	-	0.000		3.017	Nov 2022	2.907	Nov 2023	-		2.907	Continuing	Continuing	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Chemical and Biological Defense Program			Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** UN5 / *Understand (SDD)*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CB WEARABLES-ENBD - ES S - Systems Engineering Support Services	MIPR	Various : N/A	-	0.000		4.023	Jan 2023	5.200	Dec 2023	-		5.200	Continuing	Continuing	0.000
CSIRP - ES C - Engineering Support	Various	Various : N/A	-	0.000		0.390	Nov 2022	0.395	Nov 2023	-		0.395	Continuing	Continuing	0.000
CVCAD - OGA Support and Analysis	Various	Various : N/A	-	0.000		0.000		3.000	Feb 2024	-		3.000	Continuing	Continuing	0.000
DBPAP - Select Biological Threat Agent Reference Material Support	MIPR	Various : N/A	-	0.000		1.683	Mar 2023	1.714	Feb 2024	-		1.714	Continuing	Continuing	0.000
DBPAP - Select Biological Threat Agent Reference Material Regulatory/Quality Assurance (QA) Support	MIPR	Edgewood Chemical Biological Center (ECBC) : Aberdeen Proving Ground, MD	-	0.000		1.699	Mar 2023	1.730	Feb 2024	-		1.730	Continuing	Continuing	0.000
FFBS - ES S - System engineering and design support	Various	Various : N/A	-	0.000		0.000		0.212	Nov 2023	-		0.212	Continuing	Continuing	0.000
JBTDS - Contract and Product Support	MIPR	Various : N/A	-	0.000		0.546	Nov 2022	0.000		-		0.000	0.000	0.546	0.000
MFK - ES S - Program Support	TBD	Various : N/A	-	0.000		0.000		0.550	Oct 2023	-		0.550	Continuing	Continuing	0.000
NBCRV SSU - ES C - Stryker NBCRV Maintenance	C/FFP	General Dynamics Land Systems : Detroit, MI	-	0.000		4.043	Nov 2022	0.900	Nov 2023	-		0.900	Continuing	Continuing	0.000
NBCRV SSU - ILS C - Logistic Support	C/FFP	TBD : N/A	-	0.000		0.250	Nov 2022	0.000		-		0.000	0.000	0.250	0.000
NBCRV SSU - ES C - Contract and Product Support	Various	Various : N/A	-	0.000		1.350	Nov 2022	0.000		-		0.000	0.000	1.350	0.000
SPU RCDD - Engineering Support	Various	Various : N/A	-	0.000		0.626	Dec 2022	0.669	Dec 2023	-		0.669	Continuing	Continuing	0.000
		Subtotal	-	0.000		17.627		17.277		-		17.277	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** UN5 / *Understand (SDD)*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AET DEFENSE - DTE C - Technology Assessments	MIPR	Various : N/A	-	0.000		0.284	Feb 2023	0.300	Mar 2024	-		0.300	Continuing	Continuing	0.000
AET DEFENSE - DTE S - Technology Assessments	Various	Various : N/A	-	0.000		0.284	Dec 2022	0.000		-		0.000	0.000	0.284	0.000
AET DEFENSE - DTE C - Technology Assessments	MIPR	U.S. Army Combat Capabilities Development Command (DEVCOM) Chemical Biological Center (CBC) : Aberdeen Proving Ground, MD	-	0.000		0.000		0.906	Mar 2024	-		0.906	Continuing	Continuing	0.000
AVCAD - OTE C - DT/OT Test Activities	MIPR	Various : N/A	-	0.000		3.300	Nov 2022	5.374	Jun 2024	-		5.374	Continuing	Continuing	0.000
CB WEARABLES-ENBD - DTE S - System DT&E	MIPR	Various : N/A	-	0.000		0.725	Jan 2023	1.475	Jan 2024	-		1.475	Continuing	Continuing	0.000
CSIRP - DTE C - Testing and Evaluation	Various	Various : N/A	-	0.000		1.500	Nov 2022	1.530	Nov 2023	-		1.530	Continuing	Continuing	0.000
CSIRP - DTE C - JHU Applied Physics Lab	MIPR	Johns Hopkins University - Applied Physics Lab : Laurel, MD	-	0.000		0.400	Nov 2022	0.660	Jan 2024	-		0.660	Continuing	Continuing	0.000
CVCAD - DTE S - Developmental Test Activities	MIPR	Various : N/A	-	0.000		0.000		2.834	May 2024	-		2.834	Continuing	Continuing	0.000
FFBS - DTE S - T&E for prototype refinement and maturation	Various	Various : N/A	-	0.000		0.000		0.665	Apr 2024	-		0.665	Continuing	Continuing	0.000
WARP - DTE C - Prototype Testing	Various	Various : N/A	-	0.000		0.000		1.100	Dec 2023	-		1.100	Continuing	Continuing	0.000
JBTDS - Operational Assessment	MIPR	Various : N/A	-	0.000		0.000		3.000	Feb 2024	-		3.000	Continuing	Continuing	0.000
JBTDS - DT/OT Test Activities	MIPR	Various : N/A	-	0.000		1.439	Nov 2022	3.125	Feb 2024	-		3.125	Continuing	Continuing	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** UN5 / *Understand (SDD)*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MFK - DTE S - Integration and Interoperability T&E	MIPR	Various : N/A	-	0.000		0.000		1.200	Oct 2023	-		1.200	Continuing	Continuing	0.000
MPCAD - DTE C - Program Management Evaluation for Solid/Liquid Vapor Testing	MIPR	West Desert Test Center : Dugway, UT	-	0.000		0.150	Nov 2022	0.000		-		0.000	0.000	0.150	0.000
MPCAD - DTE C - DT/OT Chemical Chamber Event	MIPR	West Desert Test Center : Dugway, UT	-	0.000		0.164	Nov 2022	1.000	Dec 2023	-		1.000	Continuing	Continuing	0.000
MPCAD - OTE S - Multi-Service Test	MIPR	Operational Test Command (OTC) : Fort Hood, TX	-	0.000		0.000		0.838	Nov 2023	-		0.838	Continuing	Continuing	0.000
MPCAD - DTE C - CVI, Program Support, OGA Support, CBRCS, Non-Chemical testing	MIPR	Various : N/A	-	0.000		0.000		1.607	Dec 2023	-		1.607	Continuing	Continuing	0.000
NBCRV SSU - DTE C - Test and Evaluation	Various	TBD : N/A	-	0.000		2.855	Nov 2022	0.000		-		0.000	0.000	2.855	0.000
NBCRV SSU - DTE C - Component Level Developmental Testing	MIPR	West Desert Test Center : Dugway, UT	-	0.000		0.000		1.200	Nov 2023	-		1.200	Continuing	Continuing	0.000
NBCRV SSU - DTE C - Component Level Developmental Testing	C/FFP	MRIGlobal : Kansas City, MO	-	0.000		0.000		1.800	Nov 2023	-		1.800	Continuing	Continuing	0.000
NBCRV SSU - DTE C - System Level Testing Developmental Testing	MIPR	Aberdeen Test Center (ATC) : Aberdeen Proving Ground, MD	-	0.000		0.000		7.000	Nov 2023	-		7.000	Continuing	Continuing	0.000
NGDS 2 CHEMDX - DTE S - Testing	MIPR	Various : N/A	-	0.000		0.200	Apr 2023	0.750	Dec 2023	-		0.750	Continuing	Continuing	0.000
NGDS 2 MPDS - OTHT C - Analytical/Clinical Testing	MIPR	U.S. Army Medical Research and Development Command	-	0.000		0.733	May 2023	1.430	Dec 2023	-		1.430	Continuing	Continuing	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Chemical and Biological Defense Program			Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** UN5 / *Understand (SDD)*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		(USAMRDC) : Fort Detrick, MD													
SPU RCDD - DTE C - Testing and Evaluation	MIPR	U.S. Army Combat Capabilities Development Command (DEVCOM) Chemical Biological Center (CBC) : Aberdeen Proving Ground, MD	-	0.000		0.449	Dec 2022	1.249	Dec 2023	-		1.249	Continuing	Continuing	0.000
		Subtotal	-	0.000		12.483		39.043		-		39.043	Continuing	Continuing	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AET DEFENSE - PM/MS S - IPT Support/Program Management	MIPR	JPEO Chem, Bio, Rad, and Nuc Defense (JPEO-CBRND) : Aberdeen Proving Ground, MD	-	0.000		0.089	Dec 2022	0.242	Dec 2023	-		0.242	Continuing	Continuing	0.000
AVCAD - PM/MS S - Program Management	MIPR	Various : N/A	-	0.000		1.808	Nov 2022	1.159	Nov 2023	-		1.159	Continuing	Continuing	0.000
CB WEARABLES-ENBD - PM/MS C - Program Management	MIPR	Various : N/A	-	0.000		3.676	Jan 2023	4.686	Dec 2023	-		4.686	Continuing	Continuing	0.000
CSIRP - PM/MS C - PM/MS S Program Management Support	Various	Various : N/A	-	0.000		1.272	Jan 2023	2.480	Jan 2024	-		2.480	Continuing	Continuing	0.000
CVCAD - PM/MS C - Program Management Support	MIPR	Various : N/A	-	0.000		0.034	Dec 2022	1.800	Oct 2023	-		1.800	Continuing	Continuing	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** UN5 / *Understand (SDD)*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DBPAP - PM/MS C - Product Management Contractor Support	SS/FFP	Various : N/A	-	0.000		1.163	Mar 2023	0.000		-		0.000	0.000	1.163	0.000
FFBS - PM/MS C - Program management	Various	Various : N/A	-	0.000		0.000		0.248	Nov 2023	-		0.248	Continuing	Continuing	0.000
JBTDS - Program Management	MIPR	Various : N/A	-	0.000		0.169	Mar 2023	0.938	Jan 2024	-		0.938	Continuing	Continuing	0.000
MFK - PM/MS S - Program Management Office Support	MIPR	TBD : N/A	-	0.000		0.000		0.541	Oct 2023	-		0.541	Continuing	Continuing	0.000
MPCAD - PM/MS S - Program Management Support	MIPR	Various : N/A	-	0.000		0.200	Nov 2022	0.785	Nov 2023	-		0.785	Continuing	Continuing	0.000
NBCRV SSU - PM/MS C - Program Management Support	Various	Various : N/A	-	0.000		1.692	Jan 2023	3.311	Jan 2024	-		3.311	Continuing	Continuing	0.000
NGDS 2 CHEMDX - PM/MS S - Management Services	Various	Various : N/A	-	0.000		0.477	Dec 2022	0.859	Dec 2023	-		0.859	Continuing	Continuing	0.000
NGDS 2 MPDS - PM/MS S - Management Services	Various	Various : N/A	-	0.000		0.649	Dec 2022	2.129	Dec 2023	-		2.129	Continuing	Continuing	0.000
SPCHAR-ENBD - PM/MS C - Program Management	MIPR	Various : N/A	-	0.000		0.400	Jan 2023	0.000		-		0.000	0.000	0.400	0.000
SPU RCDD - PM/MS C - Program Management Support	Various	Various : N/A	-	0.000		0.986	Dec 2022	0.976	Dec 2023	-		0.976	Continuing	Continuing	0.000
		Subtotal	-	0.000		12.615		20.154		-		20.154	Continuing	Continuing	N/A

	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	0.000		126.071		182.726		-		182.726	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** UN5 / *Understand (SDD)*

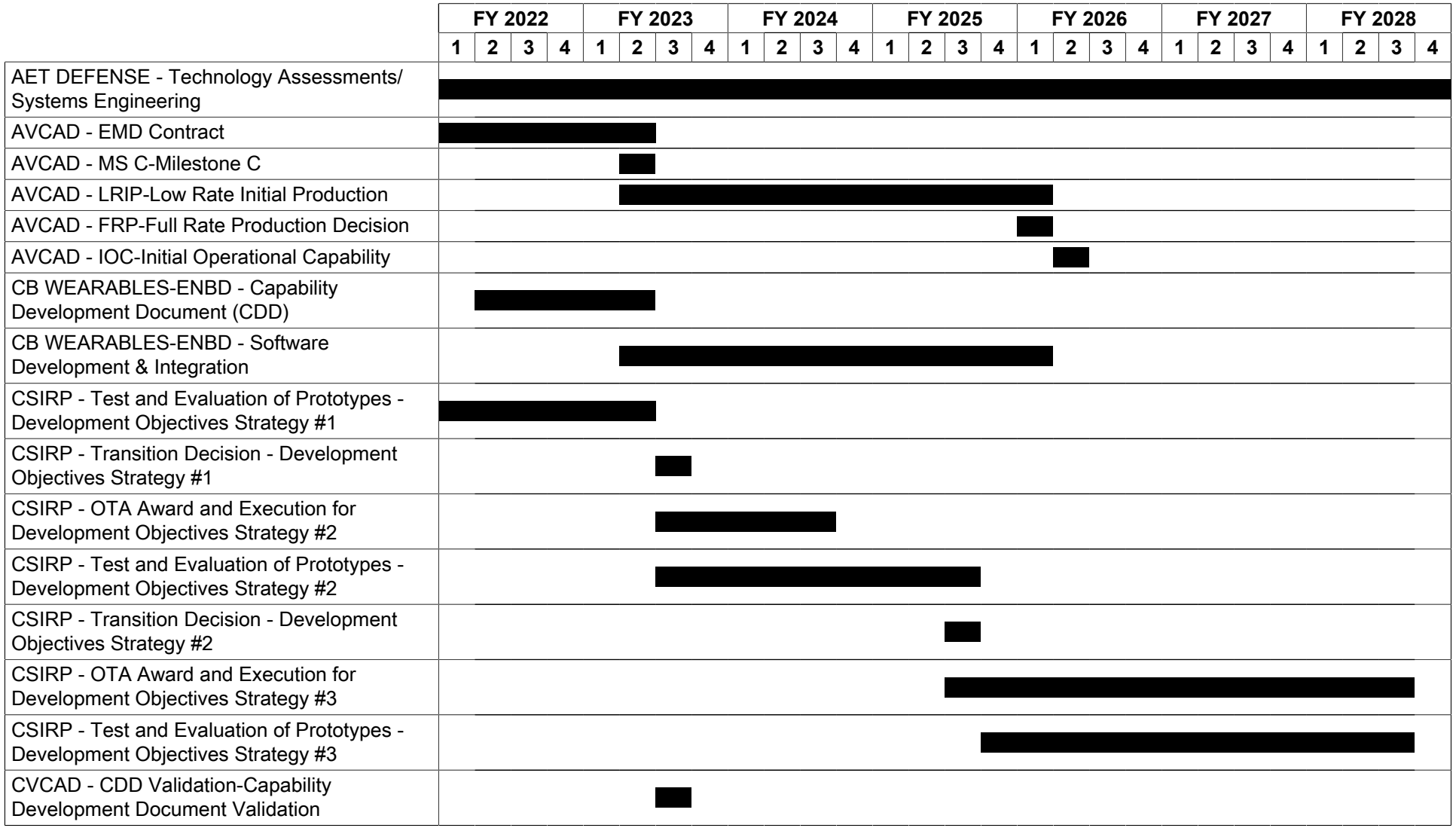

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** UN5 / *Understand (SDD)*

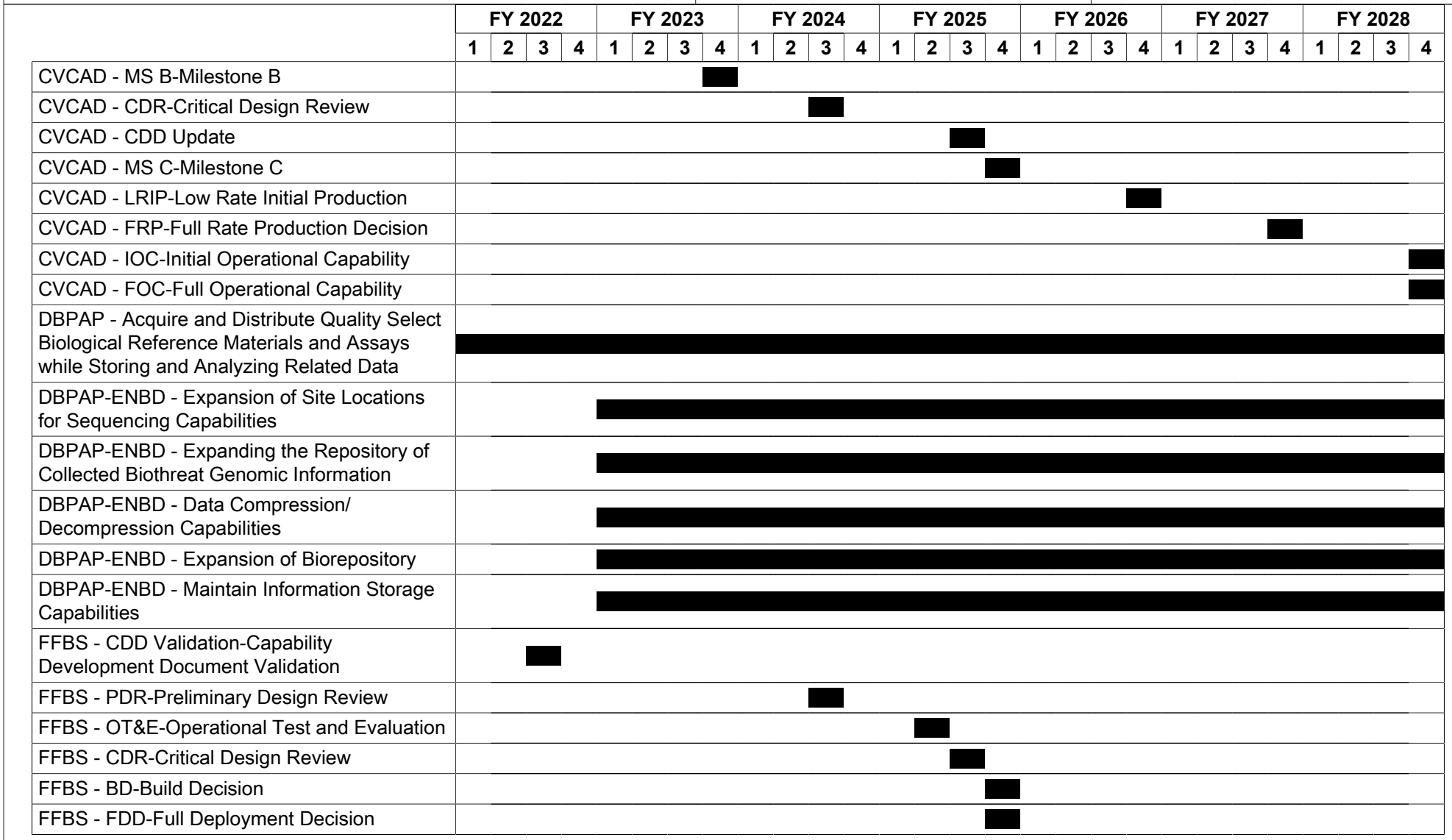

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** UN5 / *Understand (SDD)*

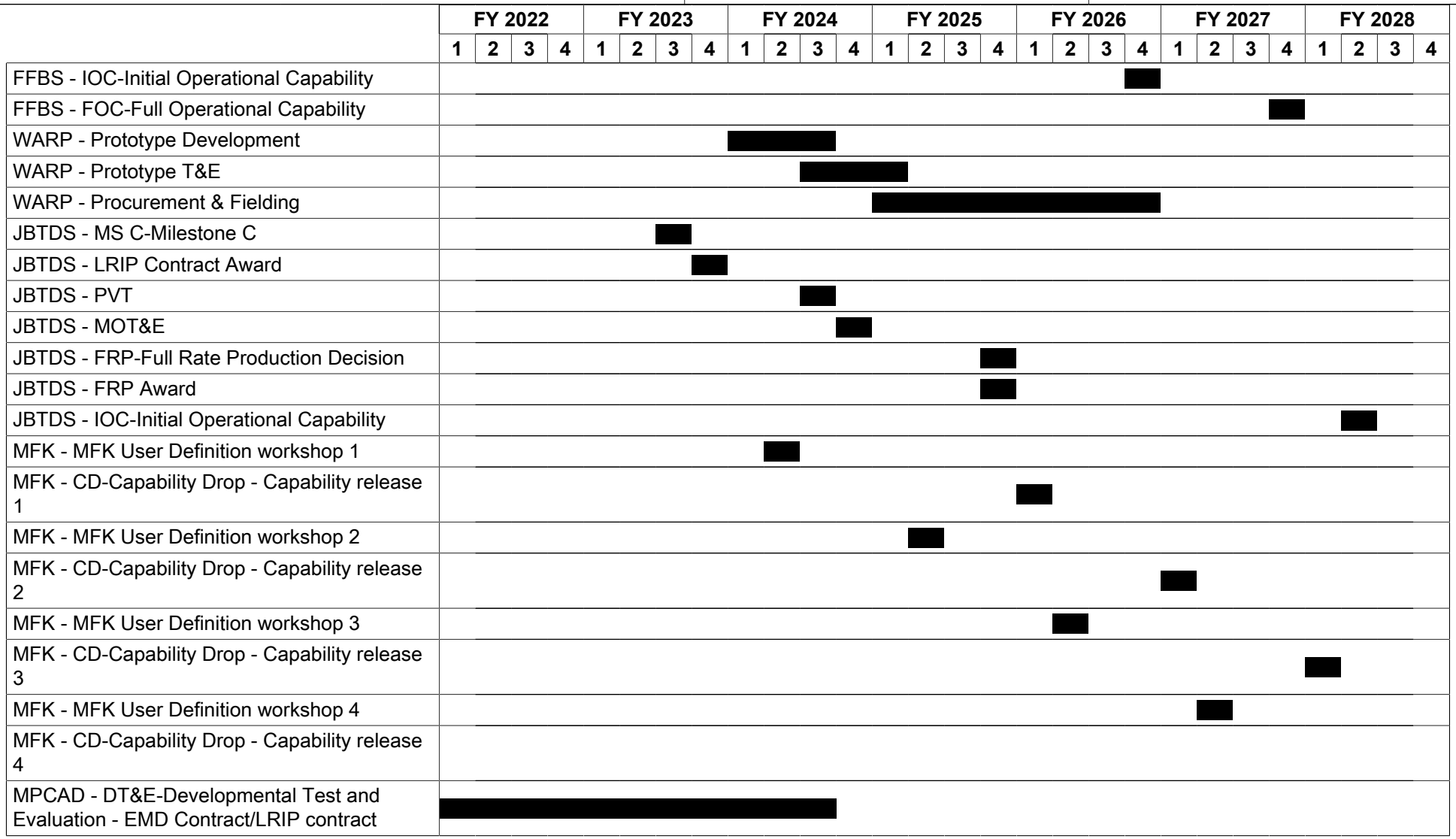

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** UN5 / *Understand (SDD)*

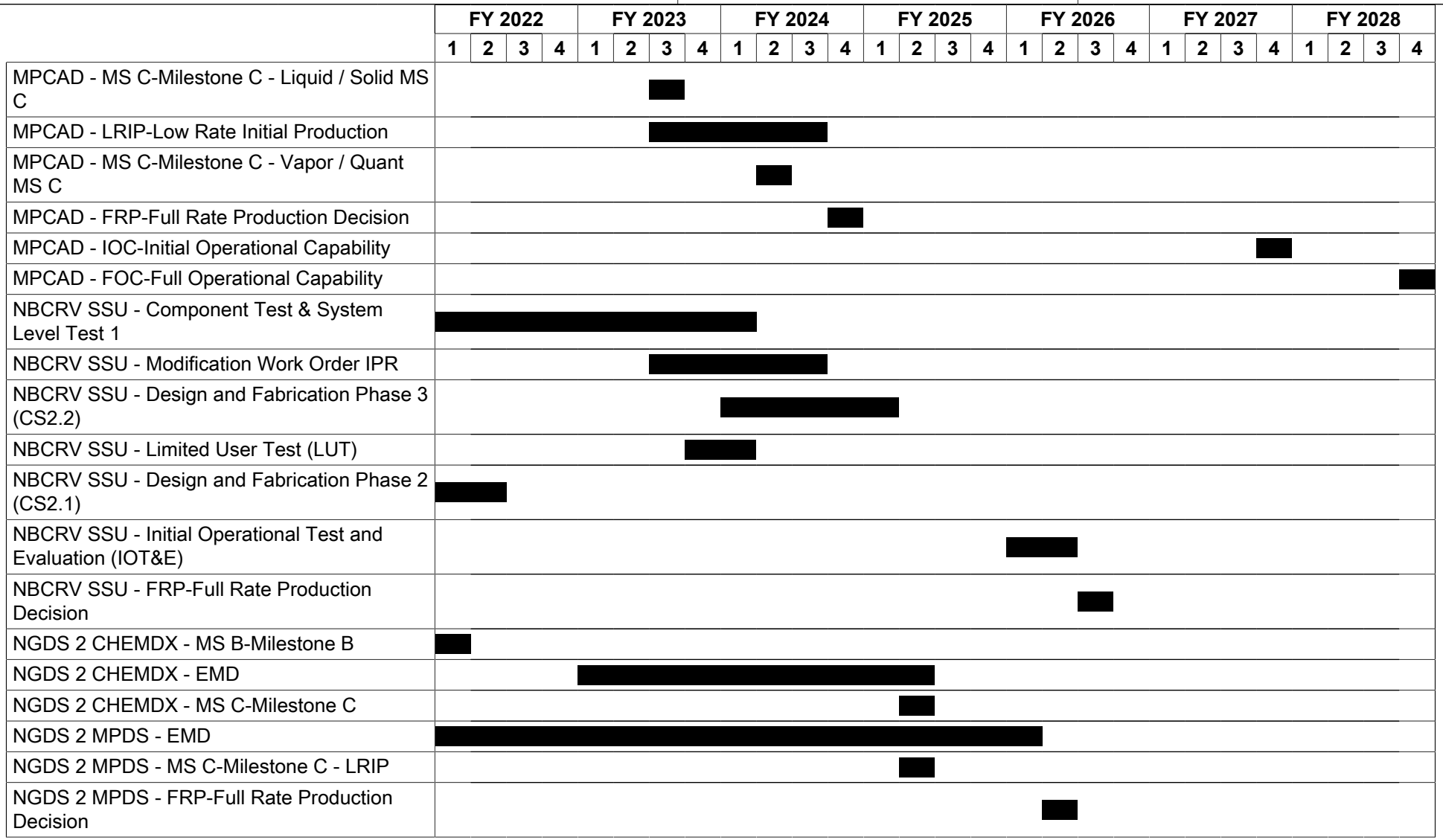

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** UN5 / *Understand (SDD)*

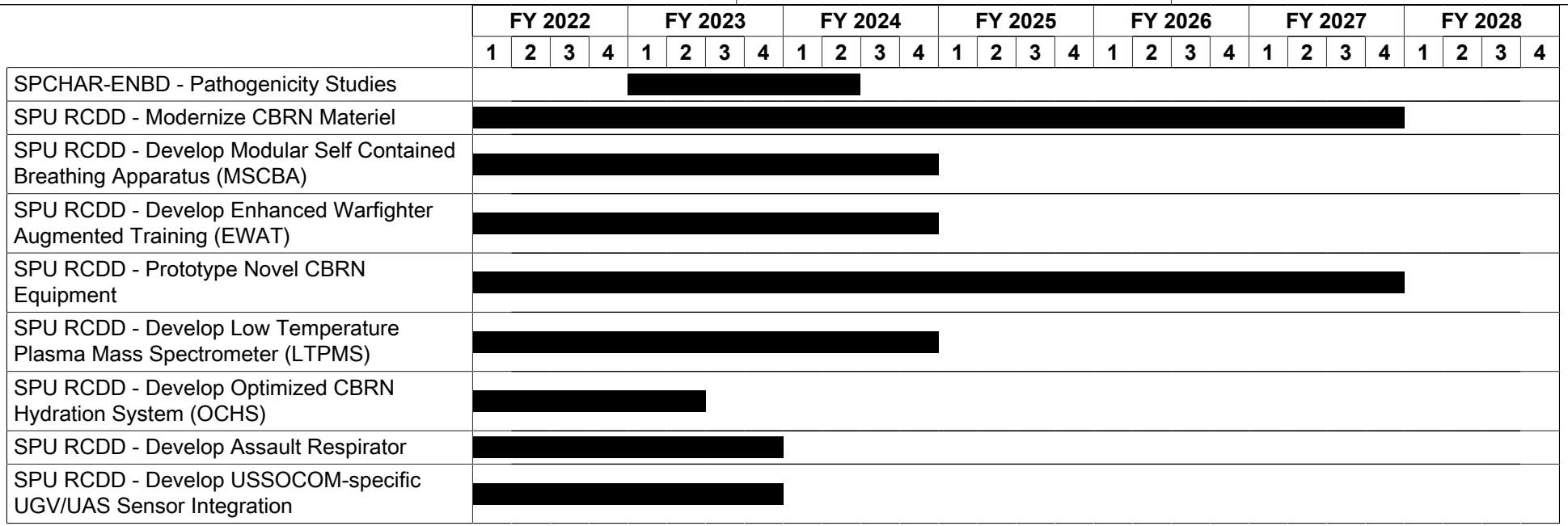

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** UN5 / *Understand (SDD)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
AET DEFENSE - Technology Assessments/Systems Engineering	1	2022	4	2028
AVCAD - EMD Contract	1	2022	2	2023
AVCAD - MS C-Milestone C	2	2023	2	2023
AVCAD - LRIP-Low Rate Initial Production	2	2023	1	2026
AVCAD - FRP-Full Rate Production Decision	1	2026	1	2026
AVCAD - IOC-Initial Operational Capability	2	2026	2	2026
CB WEARABLES-ENBD - Capability Development Document (CDD)	2	2022	2	2023
CB WEARABLES-ENBD - Software Development & Integration	2	2023	1	2026
CSIRP - Test and Evaluation of Prototypes - Development Objectives Strategy #1	1	2022	2	2023
CSIRP - Transition Decision - Development Objectives Strategy #1	3	2023	3	2023
CSIRP - OTA Award and Execution for Development Objectives Strategy #2	3	2023	3	2024
CSIRP - Test and Evaluation of Prototypes - Development Objectives Strategy #2	3	2023	3	2025
CSIRP - Transition Decision - Development Objectives Strategy #2	3	2025	3	2025
CSIRP - OTA Award and Execution for Development Objectives Strategy #3	3	2025	3	2028
CSIRP - Test and Evaluation of Prototypes -Development Objectives Strategy #3	4	2025	3	2028
CVCAD - CDD Validation-Capability Development Document Validation	3	2023	3	2023
CVCAD - MS B-Milestone B	4	2023	4	2023
CVCAD - CDR-Critical Design Review	3	2024	3	2024
CVCAD - CDD Update	3	2025	3	2025
CVCAD - MS C-Milestone C	4	2025	4	2025
CVCAD - LRIP-Low Rate Initial Production	4	2026	4	2026
CVCAD - FRP-Full Rate Production Decision	4	2027	4	2027

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** UN5 / *Understand (SDD)*

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
CVCAD - IOC-Initial Operational Capability	4	2028	4	2028
CVCAD - FOC-Full Operational Capability	4	2028	4	2028
DBPAP - Acquire and Distribute Quality Select Biological Reference Materials and Assays while Storing and Analyzing Related Data	1	2022	4	2028
DBPAP-ENBD - Expansion of Site Locations for Sequencing Capabilities	1	2023	4	2028
DBPAP-ENBD - Expanding the Repository of Collected Biothreat Genomic Information	1	2023	4	2028
DBPAP-ENBD - Data Compression/Decompression Capabilities	1	2023	4	2028
DBPAP-ENBD - Expansion of Biorepository	1	2023	4	2028
DBPAP-ENBD - Maintain Information Storage Capabilities	1	2023	4	2028
FFBS - CDD Validation-Capability Development Document Validation	3	2022	3	2022
FFBS - PDR-Preliminary Design Review	3	2024	3	2024
FFBS - OT&E-Operational Test and Evaluation	2	2025	2	2025
FFBS - CDR-Critical Design Review	3	2025	3	2025
FFBS - BD-Build Decision	4	2025	4	2025
FFBS - FDD-Full Deployment Decision	4	2025	4	2025
FFBS - IOC-Initial Operational Capability	4	2026	4	2026
FFBS - FOC-Full Operational Capability	4	2027	4	2027
WARP - Prototype Development	1	2024	3	2024
WARP - Prototype T&E	3	2024	1	2025
WARP - Procurement & Fielding	1	2025	4	2026
JBTDS - MS C-Milestone C	3	2023	3	2023
JBTDS - LRIP Contract Award	4	2023	4	2023
JBTDS - PVT	3	2024	3	2024
JBTDS - MOT&E	4	2024	4	2024
JBTDS - FRP-Full Rate Production Decision	4	2025	4	2025
JBTDS - FRP Award	4	2025	4	2025

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** UN5 / *Understand (SDD)*

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
JBTDS - IOC-Initial Operational Capability	2	2028	2	2028
MFK - MFK User Definition workshop 1	2	2024	2	2024
MFK - CD-Capability Drop - Capability release 1	1	2026	1	2026
MFK - MFK User Definition workshop 2	2	2025	2	2025
MFK - CD-Capability Drop - Capability release 2	1	2027	1	2027
MFK - MFK User Definition workshop 3	2	2026	2	2026
MFK - CD-Capability Drop - Capability release 3	1	2028	1	2028
MFK - MFK User Definition workshop 4	2	2027	2	2027
MFK - CD-Capability Drop - Capability release 4	1	2029	1	2029
MPCAD - DT&E-Developmental Test and Evaluation - EMD Contract/LRIP contract	1	2022	3	2024
MPCAD - MS C-Milestone C - Liquid / Solid MS C	3	2023	3	2023
MPCAD - LRIP-Low Rate Initial Production	3	2023	3	2024
MPCAD - MS C-Milestone C - Vapor / Quant MS C	2	2024	2	2024
MPCAD - FRP-Full Rate Production Decision	4	2024	4	2024
MPCAD - IOC-Initial Operational Capability	4	2027	4	2027
MPCAD - FOC-Full Operational Capability	4	2028	4	2028
NBCRV SSU - Component Test & System Level Test 1	1	2022	1	2024
NBCRV SSU - Modification Work Order IPR	3	2023	3	2024
NBCRV SSU - Design and Fabrication Phase 3 (CS2.2)	1	2024	1	2025
NBCRV SSU - Limited User Test (LUT)	4	2023	1	2024
NBCRV SSU - Design and Fabrication Phase 2 (CS2.1)	1	2022	2	2022
NBCRV SSU - Initial Operational Test and Evaluation (IOT&E)	1	2026	2	2026
NBCRV SSU - FRP-Full Rate Production Decision	3	2026	3	2026
NGDS 2 CHEMDX - MS B-Milestone B	1	2022	1	2022
NGDS 2 CHEMDX - EMD	1	2023	2	2025

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** UN5 / *Understand (SDD)*

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
NGDS 2 CHEMDX - MS C-Milestone C	2	2025	2	2025
NGDS 2 MPDS - EMD	1	2022	1	2026
NGDS 2 MPDS - MS C-Milestone C - LRIP	2	2025	2	2025
NGDS 2 MPDS - FRP-Full Rate Production Decision	2	2026	2	2026
SPCHAR-ENBD - Pathogenicity Studies	1	2023	2	2024
SPU RCDD - Modernize CBRN Materiel	1	2022	4	2027
SPU RCDD - Develop Modular Self Contained Breathing Apparatus (MSCBA)	1	2022	4	2024
SPU RCDD - Develop Enhanced Warfighter Augmented Training (EWAT)	1	2022	4	2024
SPU RCDD - Prototype Novel CBRN Equipment	1	2022	4	2027
SPU RCDD - Develop Low Temperature Plasma Mass Spectrometer (LTPMS)	1	2022	4	2024
SPU RCDD - Develop Optimized CBRN Hydration System (OCHS)	1	2022	2	2023
SPU RCDD - Develop Assault Respirator	1	2022	4	2023
SPU RCDD - Develop USSOCOM-specific UGV/UAS Sensor Integration	1	2022	4	2023

Exhibit R-2A, RDT&E Project Justification: PB 2024 Chemical and Biological Defense Program			Date: March 2023
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0604384BP / *Chemical and Biological Defense Program - EMD*	Project (Number/Name) PT5 / *Protect (SDD)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
PT5: *Protect (SDD)*	-	0.000	87.923	97.975	0.000	97.975	69.858	66.259	52.871	67.776	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Protect System Development & Demonstration (SDD) Project enhances mission performance and provides effective protection against current and emerging threats by rapidly developing and fielding modernized protection capabilities. Developmental efforts focus on advances in materials and systems engineering to enhance protective properties against a broader array of hazards, while reducing Countering Weapons of Mass Destruction (CWMD) operational challenges and logistical burdens. Developmental efforts focus on advanced medical countermeasures that provide safe and effective medical defenses against biological agents (bacteria, toxins, and viruses), emerging infectious diseases, and chemical agents. In FY 2023, the Chemical Biological Defense Program (CBDP) RDT&E Projects were restructured to align with the CBDP portfolio construct. PT5 efforts in FY 2022 remain in Projects IP5 and MB5. This restructuring provided standardization and alignment across CBDP research, development and acquisition efforts.

Efforts included in this Project are:

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

The Advanced System for Protection and Integrated Reduction of Encumbrances (ASPIRE) program allows near normal operations in a CBRN environment by minimizing or eliminating physical and psychological burden and increasing Warfighter lethality. The ASPIRE program will provide respiratory and ocular protection against CBRN threats. Multiple weapons system sights and enabling equipment are taking away space on the warfighter required to make existing protective masks work. Without this program we will be five to ten years late to need as this trend continues. The program will provide the capability to incorporate upgrades into the current ground masks to improve the suit hood/mask interface with Uniform Integrated Protective Ensemble Family of Systems General Purpose (UIPE FoS GP). In addition, this program, in conjunction with work by Joint Science and Technology Office (JSTO), will lay out the strategy and path forward required to minimize the burden to the warfighter while still providing respiratory and ocular protection against chemical, biological, radiological and nuclear agents. In FY24 the program will

initiate optimization of the current ground mask systems to address suit hood/mask interface and conduct prototype build and evaluation of suit hood/mask interface improvements into current ground masks for down selection and refinement.

Advanced System for Protection and Integrated Reduction of Encumbrances - Enhanced Biodefense (ASPIRE-ENBD), a new start program in FY24, supports unencumbering warfighters and revolutionizing respiratory and ocular protection against Chemical, Biological, Radiological and Nuclear (CBRN) threats, including protection from biological, toxic industrial chemicals, and other emerging threats. ASPIRE-ENBD provides a revolutionary new capability to address interface issues with new and emerging equipment. ASPIRE-ENBD will unencumber the warfighter while still providing respiratory and ocular protection against biological agents, provide durable and extended wear capability, and incorporate anti-microbial materials to develop a reusable respirator. The solution will be optimized to minimize impact on the wearer's performance to continue lethality in Biological environment by reducing burden, improving filtration capability, utilizing powered and supplied air systems as required, and integrate with existing and future equipment that cannot be integrated with current mask systems. ASPIRE-ENBD will provide a revolutionized capability to the Services for the next generation of respiratory and ocular protection. The ASPIRE-ENBD effort will develop half masks/bio-masks that are low-burden, provide protection against bio threats, and are designed as a reusable system with modularity and/or scalability for additional ocular protection. In FY24, the ASPIRE-ENBD program will initiate bio mask prototype development and evaluation.

The Botulinum Monoclonal Antibodies (BOT MAB) program will develop and deliver Food and Drug Administration (FDA) approved Botulinum Monoclonal Antibodies to the warfighter. The BOT MAB will be a monoclonal antibody cocktail that protects warfighter against exposure to botulinum toxins A and B, which is the most lethal toxin known to man. Defense against this toxin is a known gap in defense to the warfighter. This product will do large scale Good Manufacturing Practices (GMP) in the DoD Advanced Development Manufacturing (ADM) facility. This is a transition from Science and Technology (S&T).

Collective Protection CONEX Enhanced Biodefense (COL PRO CONEX-ENBD), a new start program in FY24, will provide a negative pressure shelter system for medical treatment of biologically contaminated patients in an Army field hospital environment. The Bio-Containment Shelter provides an isolation area to treat infectious personnel while preventing spread of the infection to other personnel. It is a modification of a standard two-side expandable International Standards Organization (ISO) shelter that integrates negative pressure containment systems that can be deployed with existing Army field hospitals to provide an isolation capability to Army field hospitals. In FY25, COL PRO CONEX will complete concept design, system planning and conduct an initial concept demonstration.

Portable Patient Transport System-Enhanced Biodefense (PPTS-ENBD), a new start program in FY24, is a patient transport system that enables safe transport of asymptomatic, symptomatic, or infected patients while ensuring that the medical attending personnel and platform crew members are protected from exposure. In FY25, PPTS ENBD will Begin system test and evaluation and develop logistics products.

Shipboard Isolation System (SIS) program is a new start in FY24, and will develop a kitted system that provides U.S. Navy ships the capability to setup an area to effectively isolate patients infected (or suspected of infection) with biological organisms or infectious disease. The SIS also allows medical staff to safely monitor and treat patients, and when necessary, provides a capability to safely evacuate patients off the ship. As a result, the spread of infectious disease among the crew will be minimized and the impact to mission readiness will be reduced significantly. Centers for Disease Control and Prevention (CDC) and DoD requirements for isolation and quarantine will be incorporated into the design of the SIS. In FY24, SIS will begin system planning and prototype development.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** PT5 / *Protect (SDD)*

The Uniform Integrated Protection Ensemble (UIPE) Family of Systems (FoS) Air program will provide the Warfighter percutaneous protection from operationally relevant traditional and non-traditional Chemical, Biological, Radiological, Nuclear (CBRN) threats. UIPE FoS Air will improve aircrew performance and survivability under CBRN conditions by reducing thermal burden and bulk, while increasing mobility and resulting in an increase operational effectiveness. The UIPE FoS Air is composed of two variants. The UIPE FoS Air Chemical, Biological, Radiological Layer (CBRL) to address the specific requirements of the United States Air Force (USAF) tactical/ ejection fixed wing platforms and the Two Piece Undergarment (2PUG) to address the remaining USAF and United States Navy / United States Marine Corps tactical/ ejection seat (rotary wing) and non-ejection (fixed wing) platforms. In FY23, UIPE FoS Air will finalize Engineering, Manufacturing and Developmental (EMD) testing and conduct integration testing on 40+ USAF, USN, and USMC platforms for airworthiness, safe to fly and final flight clearance. FY23 is last year of BA5 funding, program is transitioning to production.

The Uniform Integrated Protective Ensemble Family of Systems General Purpose (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 Chemical, Biological, Radiological and Nuclear (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 FY24, program will conduct a Multi Service Operational Test and Evaluation (MOT&E) and continue low rate production. FY24 is last year of BA5 funding, program is transitioning to Production.

Uniform Integrated Protective Ensemble (UIPE) Family of Systems (FoS) Gloves provides percutaneous protection to the hand and wrist interface of the warfighter against traditional and non-traditional Chemical, Biological, Radiological and Nuclear (CBRN) threats. UIPE FoS Gloves will provide improved comfort, tactility and dexterity and for certain mission profiles enhanced touch screen and flame resistant capability. The UIPE FoS Gloves will be developed using a Middle Tier Acquisition (MTA) approach. In FY24, the UIPE FoS Gloves program will conduct developmental testing and complete prototype development on multiple mission profiles (General Purpose, Aviation Heavy and Aviation Light). Conduct operational testing on prototypes for the multiple mission profiles.

The Special Immunizations Program (VAC SIP) restructures to the Rapid Access to Products in Development (RAPID) program in FY24. VAC SIP continually manages, updates, and executes the Investigational New Drugs (INDs) of selected prophylaxis, treatments and diagnostics development products which provide additional protection to individuals that are at high risk of exposure to CBRN agents. DoD has the mission to maintain IND vaccines in Good Manufacturing Practice (GMP) storage and to conduct the periodic potency and stability testing of these materials to support submissions to the U.S. Food & Drug Administration (FDA).

RAPID (Rapid Access to Products in Development) an FY24 restructure of the VAC SIP program, will allow access to prototype medical countermeasures that are being developed to differential states of readiness by storing and maintaining data packages and doses of countermeasures to enable Interim Fielding Capability (IFC), retargeting, or continued development as a Program of Record. RAPID will employ a tiered system to increase clarity of each Medical Countermeasures (MCMs) state of development and how quickly/costly it will be to achieve IFC.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: 1) ASPIRE	-	-	4.776

Exhibit R-2A, RDT&E Project Justification: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** PT5 / *Protect (SDD)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Description: Development of Advanced System for Protection and Integrated Reduction of Encumbrances (ASPIRE) to provide the warfighter respiratory and ocular protection against CBRN threats. ***FY 2024 Plans:*** Initiate optimization of the current ground mask systems to address suit hood/mask interface and conduct prototype build and evaluation of suit hood/mask interface improvements into current ground masks for down selection and refinement. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Program/project funding transferred from another funding line. Program is a continuation of the ASPIRE - ENBD program.			
Title: 2) ASPIRE-ENBD ***Description:*** This effort will focus on Low Burden Half Mask ***FY 2024 Plans:*** Initiate bio mask/half-mask prototype development and evaluation for down selection and refinement. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Additional investment in enhanced biodefense and pandemic preparedness.	-	-	1.600
Title: 3) BOT MAB ***Description:*** Manufacturing ***FY 2023 Plans:*** Continue large scale Good Manufacturing Practices (GMP) and execute product/process characterization and validation required. ***FY 2024 Plans:*** Complete large scale GMP manufacturing and initiate Process Qualification runs for final drug product. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Decrease due to change in program/project technical parameters. Decrease is due to completion of large scale GMP manufacturing in FY24 and scale of Process Qualification runs reduced based on reduced procurement in future years.	-	36.504	16.528
Title: 4) BOT MAB ***Description:*** Clinical and Nonclinical Studies ***FY 2023 Plans:***	-	27.000	48.000

Exhibit R-2A, RDT&E Project Justification: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** PT5 / *Protect (SDD)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Obtain results from the Phase 2 clinical trial and along with the pivotal animal studies and initiate Phase 3 clinical study, and continue manufacturing for Process Performance Qualification (PPQ) lots to support clinical study and Initial Operational Capability (IOC). ***FY 2024 Plans:*** Complete large scale Good Manufacturing Practices (GMP) manufacturing and initiate Process Qualification runs for final drug product. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase due to change in program/project technical parameters. Increase due to Phase 3 clinical trial execution increase to the number of clinical site locations to meet required enrollment and additional cost of non-human primates (NHPs) to support clinical studies.			
Title: 5) COL PRO CONEX-ENBD ***Description:*** Prototype, test and evaluate ground based biocontainment isolation systems. ***FY 2024 Plans:*** Complete concept design, system planning and conduct an initial concept demonstration. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Additional investment in enhanced biodefense and pandemic preparedness.	-	-	4.600
Title: 6) PPTS-ENBD ***Description:*** Prototype, test and evaluate Aircraft Transportable biocontainment isolation systems ***FY 2024 Plans:*** Begin system test and evaluation and develop logistics products. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Additional investment in enhanced biodefense and pandemic preparedness.	-	-	5.300
Title: 7) SIS ***Description:*** Resource the development and test and evaluation of shipboard portable infectious disease isolation kits ***FY 2024 Plans:***	-	-	0.976

Exhibit R-2A, RDT&E Project Justification: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** PT5 / *Protect (SDD)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Begin system planning and award Countering Weapons of Mass Destruction Other Transaction Authority (CWMD OTA) Prototype Contract. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Program/project is new start effort in FY 2024.			
Title: 8) UIPE FOS AIR ***Description:*** Test and Integration of the 2 Piece Undergarment (2PUG) ***FY 2023 Plans:*** Finalize EMD testing and conduct integration testing on 40+ USAF, USN, and USMC platforms for airworthiness, safe to fly and final flight clearance. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Program/project transitioned to Production and Deployment Phase. FY23 is last year of BA5 funding, program is transitioning to production.	-	5.132	-
Title: 9) UIPE FOS GP ***Description:*** Development of the next generation protective ensembles. ***FY 2023 Plans:*** Conduct System Verification Review, complete MOT&E, award production contract, and conduct Production Verification Testing (PVT). ***FY 2024 Plans:*** Conduct Multi Service Operational Test and Evaluation (MOT&E) and evaluate program cost reduction material alternatives. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Program/project transitioned to Production and Deployment Phase.	-	9.640	7.052
Title: 10) UIPE FOS GLOVES ***Description:*** Development of the Next Generation Protective Glove ***FY 2023 Plans:***	-	2.699	3.856

Exhibit R-2A, RDT&E Project Justification: PB 2024 Chemical and Biological Defense Program		Date: March 2023
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Continue to conduct prototype development on multiple prototypes for multiple mission profiles (General Purpose, Aviation Heavy and Aviation Light). Conduct testing such as tactility, dexterity, chemical protection, flame resistance, wear trials, and interoperability will be conducted as well as analytical framework analysis and down-selects. ***FY 2024 Plans:*** Conduct developmental testing, complete prototype development on multiple mission profiles (General Purpose, Aviation Heavy and Aviation Light) and conduct operational testing on prototypes for the multiple mission profiles. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase due to accelerated development effort. Funding increase supports Middle Tier Acquisition strategy research and development efforts.			
Title: 11) VAC SIP ***Description:*** Storage, Distribution, Potency Testing ***FY 2023 Plans:*** Continue storage, distribution, potency testing, and biosurety compliance activities in support of the Special Immunization Program closure. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Program/project funding transferred to another funding line. FY 2024 funding moves to RAPID Project PT5.	-	6.948	-
Title: 12) RAPID ***Description:*** Storage, Testing ***FY 2024 Plans:*** Initiate RAPID storage and stability testing by leveraging existing Accelerated Antibodies-Enhanced Biodefense (AA-ENBD), Vaccine Acceleration by Modular Progression-Enhanced Biodefense (VAMP-ENBD), RAIDR, and Generative Unconstrained Intelligent Drug Engineering-Enhanced Biodefense (GUIDE-ENBD) program data packages and prototype doses; Design and build a RAPID database that will be the interface for Department of Defense stakeholders for key data associated with the status and availability of medical countermeasures in development. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Program/project funding transferred from another funding line. VAC SIP transfers to RAPID starting in FY24.	-	-	5.287
Accomplishments/Planned Programs Subtotals	-	87.923	97.975

Exhibit R-2A, RDT&E Project Justification: PB 2024 Chemical and Biological Defense Program			Date: March 2023
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C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• IP4: *Individual Protection (ACD&P)*	4.748	-	-	-	-	-	-	-	-	0.000	4.748
• IP5: *Individual Protection (SDD)*	18.690	-	-	-	-	-	-	-	-	0.000	18.690
• MB5: *Medical Biological Defense (SDD)*	138.156	-	-	-	-	-	-	-	-	0.000	138.156
• PT4: *Protect (ACD&P)*	-	175.219	179.158	-	179.158	135.096	107.341	123.538	139.376	Continuing	Continuing
• JP1111: *Joint Expeditionary Collective Protection (JECP)*	22.719	30.737	-	-	-	3.000	3.750	-	-	Continuing	Continuing
• PHM032: *Uniform Integrated Protective Ensemble FOS Gloves (UIPE FOS GLOVES)*	-	-	4.978	-	4.978	6.215	7.974	8.328	8.926	Continuing	Continuing
• PHM033: *Uniform Integrated Protective Ensemble General Purpose (UIPE FOS GP)*	4.456	30.145	55.100	-	55.100	111.350	111.783	112.106	113.401	Continuing	Continuing
• PHM034: *Uniform Integrated Protection Ensemble FOS Air (UIPE FOS AIR)*	47.798	23.407	25.794	-	25.794	26.195	26.403	17.586	0.492	Continuing	Continuing
• PHM039: *Botulinum Monoclonal Antibodies (BOT MAB)*	-	-	-	-	-	-	33.601	-	-	Continuing	Continuing
• PHM044: *Uniform Integrated Protective Ensemble FOS Footwear (UIPE FOS FOOTWEAR)*	-	-	-	-	-	-	-	6.354	10.954	Continuing	Continuing

Remarks

D. Acquisition Strategy

ADVANCED SYSTEM FOR PROTECTION AND INTEGRATED REDUCTION OF ENCUMBRANCES (ASPIRE)

Efforts for the suit hood/mask interface improvements into current ground masks will be accomplished through the Countering Weapons of Mass Destruction Other Transaction Authority (CWMD OTA) and current Joint Service General Purpose Mask (JSGPM) M53A1 contract. Efforts for the ASPIRE next generation respirator will be accomplished by awarding an agreement through the CWMD OTA to procure multiple prototypes for further development and evaluation to select down to a final solution.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Chemical and Biological Defense Program		Date: March 2023
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ADVANCED SYSTEM FOR PROTECTION AND INTEGRATED REDUCTION OF ENCUMBRANCES-ENHANCED BIODEFENSE (ASPIRE-ENBD)

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

BOTULINUM MONOCLONAL ANTIBODIES (BOT MAB)

The Botulinum Monoclonal Antibodies (BOT MAB) program acquisition strategy supports the development of Pre-Exposure Prophylaxis (PrEP) through the Engineering, Manufacturing and Development (EMD) phase against the Botulinum Neuro Toxin (BoNT). This Medical Countermeasure (MCM) will prevent and reduce the incidence or progression of botulism disease, following exposure to BoNT serotypes A and B. The overall regulatory approach of the program remains to pursue development for Food and Drug Administration (FDA) approval under the Animal Rule.

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

Resource prototype system design and development through the Countering Weapons of Mass Destruction Other Transaction Agreement (CWMD OTA) contract. Prototypes will undergo evaluation and further refinement to optimize performance and minimize total ownership cost.

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

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

Shipboard Isolation System

The SIS program will utilize the Countering Weapons of Mass Destruction (CWMD) Other Transactional Authority (OTA) to design, procure, and test iterative prototypes to meet the shipboard isolation requirements. Once a final prototype design is selected and successfully completes testing and user evaluations, a technical data package (TDP) and logistics package will be developed. The program will culminate in the procurement and fielding of systems for ship use that will be stored at fleet concentration areas on both CONUS and OCONUS locations.

UNIFORM INTEGRATED PROTECTION ENSEMBLE FOS AIR (UIPE FOS AIR)

The Uniform Integrated Protection Ensemble (UIPE) Family of Systems (FoS) Air utilizes a streamlined acquisition strategy that identifies mature technology and capitalizes on work accomplished by the United States Air Force (USAF) Integrated Aircrew Ensemble (IAE) and UIPE FoS General Purpose (GP) programs. The UIPE FoS Air will utilize a Milestone A-C acquisition strategy that will accelerate fielding to the Warfighter. The contract strategy leveraged the USAF IAE Small Business

Exhibit R-2A, RDT&E Project Justification: PB 2024 Chemical and Biological Defense Program		Date: March 2023
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Innovation Research (SBIR) Phase III contract to procure UIPE Air CBRL. The UIPE FoS Air 2PUG is a government owned design and as an item on the Federal Procurement List, will be produced by Source America and Ready One Industries.

UNIFORM INTEGRATED PROTECTIVE ENSEMBLE GENERAL PURPOSE (UIPE FOS GP)

The Uniform Integrated Protective Ensemble Family of Systems General Purpose (UIPE FoS GP) program 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 two variants. During 3QFY22, one variant will be selected to enter the Operational Assessment and Developmental/Operational Testing. 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 Uniform Integrated Protective Ensemble (UIPE) Family of Systems (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 Middle Tier Acquisition Rapid Prototyping strategy. Candidate technologies will undergo Early User Tests/Wear events and material and system level testing to identify available capabilities as well as Analytical framework analyses to determine the most suitable solution(s) per mission profile.

SPECIAL IMMUNIZATION PROGRAM (VAC SIP)

The SIP program manages the continual storage, testing, compliance, and distribution activities associated with Investigational New Drugs (INDs) for legacy prophylactic medical countermeasures, as well as the recent Bot and Plague vaccine candidates. Additionally, the SIP maintains interagency agreements with US Army Medical Research and Development Command to support testing and compliance requirements. This Department of Defense program supports the Federal interagency with this effort, as well as academic and industry partners.

Rapid Access to Products in Development

RAPID (Rapid Access to Products in Development) will leverage existing Chemical Biological Defense Program (CBDP) advanced development programs within the Joint Program Executive Office for Chemical, Biological, Radiological, and Nuclear Defense (JPEO-CBRND) to build a repository of medical countermeasures at tiered development stages, in order to establish a rapid response capability by providing access to products still in development and provide prototype Medical Countermeasures (MCMs) for transition to Programs of Record.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Chemical and Biological Defense Program		Date: March 2023
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ASPIRE - HW S - Hood/ Mask Interface Prototype Development	C/FFP	ATI Solutions, Inc. : Tysons Corner, VA	-	0.000		0.000		2.708	Jan 2024	-		2.708	Continuing	Continuing	0.000
ASPIRE-ENBD - HW C - Bio half-mask Prototype Development	Various	Various : N/A	-	0.000		0.000		0.700	Dec 2023	-		0.700	Continuing	Continuing	0.000
BOT MAB - SW C - BOT MONO	C/CPFF	Resilience Government Services, Inc. : Alachua, Florida	-	0.000		59.164	Dec 2022	54.011	Dec 2023	-		54.011	Continuing	Continuing	0.000
COL PRO CONEX-ENBD - HW S - Concept Design	Various	TBD : N/A,	-	0.000		0.000	Dec 2022	2.187	Nov 2023	-		2.187	Continuing	Continuing	0.000
PPTS-ENBD - HW S - Prototyping Contract	TBD	TBD : N/A	-	0.000		0.000	Dec 2022	2.461	Jan 2024	-		2.461	Continuing	Continuing	0.000
SIS - HW S - Develop Requirements and Specifications, Develop Shipboard Isolation System Concepts	TBD	TBD : N/A	-	0.000		0.000		0.481	Dec 2023	-		0.481	Continuing	Continuing	0.000
UIPE FOS AIR - HW C - Prototype Development (2PUG)	Various	Various : N/A	-	0.000		0.330	Nov 2022	0.000		-		0.000	0.000	0.330	0.000
UIPE FOS GP - HW C - Prototype Development	MIPR	TBD : N/A	-	0.000		0.839	Nov 2022	1.750	Nov 2023	-		1.750	Continuing	Continuing	0.000
UIPE FOS GLOVES - HW C - Prototype Manufacturing, Demonstration and Down-select	MIPR	Various : N/A	-	0.000		0.562	Nov 2022	0.400	Nov 2023	-		0.400	Continuing	Continuing	0.000
		Subtotal	-	0.000		60.895		64.698		-		64.698	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Chemical and Biological Defense Program			Date: March 2023
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Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ASPIRE - ES C - Engineering Support	Various	Various : N/A	-	0.000		0.000		0.716	Nov 2023	-		0.716	Continuing	Continuing	0.000
ASPIRE-ENBD - ES S - Engineering and Technical Support	Various	Various : N/A	-	0.000		0.000		0.240	Nov 2023	-		0.240	Continuing	Continuing	0.000
BOT MAB - PM/MS C - BOT MONO	Various	JPEO Chem, Bio, Rad, and Nuc Defense (JPEO-CBRND) : Aberdeen Proving Ground, MD	-	0.000		4.340	Dec 2022	4.517	Dec 2023	-		4.517	Continuing	Continuing	0.000
BOT MAB - PM/MS C - BOT MONO	Various	JPL CBRND Enabling Biotechnologies, JPEO-CBRND : Fort Detrick, MD	-	0.000		0.000		6.000	Dec 2023	-		6.000	Continuing	Continuing	0.000
COL PRO CONEX-ENBD - ES S - Engineering, Logistics, Technical, IPT Support	MIPR	Various : N/A	-	0.000		0.000	Dec 2022	0.956	Nov 2023	-		0.956	Continuing	Continuing	0.000
PPTS-ENBD - ES S - Engineering, Logistics, Technical, IPT Support	MIPR	Various : N/A	-	0.000		0.000	Dec 2022	1.962	Nov 2023	-		1.962	Continuing	Continuing	0.000
SIS - ES S - Engineering, Logistics, Technical, IPT Support	TBD	TBD : N/A	-	0.000		0.000		0.150	Dec 2023	-		0.150	Continuing	Continuing	0.000
UIPE FOS AIR - ES C - Engineering and IPT Support	Various	Various : N/A	-	0.000		1.821	Nov 2022	0.000		-		0.000	0.000	1.821	0.000
UIPE FOS GP - ILS C - Integrated Log Support-System	Various	Various : N/A	-	0.000		0.608	Nov 2022	0.442	Nov 2023	-		0.442	Continuing	Continuing	0.000
UIPE FOS GP - ES C - Engineering & Technical	Various	Various : N/A	-	0.000		2.477	Nov 2022	0.610	Nov 2023	-		0.610	Continuing	Continuing	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Chemical and Biological Defense Program		Date: March 2023
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Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
IPT Support / SME Support															
UIPE FOS GLOVES - ES C - Engineering, Logistics, Technical, IPT Support	MIPR	Various : N/A	-	0.000		0.812	Nov 2022	0.578	Nov 2023	-		0.578	Continuing	Continuing	0.000
		Subtotal	-	0.000		10.058		16.171		-		16.171	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ASPIRE - OTHT C - Prototype Evaluation	Various	Various : N/A	-	0.000		0.000		1.157	Nov 2023	-		1.157	Continuing	Continuing	0.000
ASPIRE-ENBD - OTHT C - Prototype Evaluation	Various	Various : N/A	-	0.000		0.000		0.562	Dec 2023	-		0.562	Continuing	Continuing	0.000
COL PRO CONEX-ENBD - DTE C - T&E Support	MIPR	Various : N/A	-	0.000		0.000	Dec 2022	1.175	Nov 2023	-		1.175	Continuing	Continuing	0.000
PPTS-ENBD - DTE S - T&E Support	MIPR	Various : N/A	-	0.000		0.000	Dec 2022	0.552	Nov 2023	-		0.552	Continuing	Continuing	0.000
SIS - DTE S - Develop T&E strategy, Provide T&E Inputs to Contract Documentation	TBD	TBD : N/A	-	0.000		0.000		0.285	Dec 2023	-		0.285	Continuing	Continuing	0.000
UIPE FOS AIR - DTE C - System Level Testing	Various	Various : N/A	-	0.000		2.587	Nov 2022	0.000		-		0.000	0.000	2.587	0.000
UIPE FOS GP - DTE C - DT/OT	Various	Various : N/A	-	0.000		5.022	Nov 2022	3.993	Nov 2023	-		3.993	Continuing	Continuing	0.000
UIPE FOS GLOVES - DTE C - Early User Testing, Developmental Testing	MIPR	Various : N/A	-	0.000		1.153	Nov 2022	2.642	Nov 2023	-		2.642	Continuing	Continuing	0.000
VAC SIP - OTHT C - Storage and Distribution of Vaccines	SS/FP	Fisher BioServices : Rockville, MD	-	0.000		1.365	Mar 2023	0.000		-		0.000	0.000	1.365	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Chemical and Biological Defense Program			Date: March 2023
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Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
VAC SIP - OTHT C - Potency Testing of Vaccines	MIPR	US Army Medical Research Institute of Infectious Disease (USAMRIID) : Fort Detrick, MD	-	0.000		1.196	Mar 2023	0.000		-		0.000	0.000	1.196	0.000
VAC SIP - OTHT C - Potency Testing of Vaccines	C/CPFF	Battelle Memorial Institute : Columbus, OH	-	0.000		1.642	Jan 2023	0.000		-		0.000	0.000	1.642	0.000
VAC SIP - OTHT C - BOT & PLG Stability	C/CPFF	TBD : N/A	-	0.000		2.080	Jan 2023	0.000		-		0.000	0.000	2.080	0.000
RAPID - OTHT C	TBD	Various : N/A	-	0.000		0.000		4.927	Dec 2023	-		4.927	Continuing	Continuing	0.000
		Subtotal	-	0.000		15.045		15.293		-		15.293	Continuing	Continuing	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ASPIRE - PM/MS S - Management Support Services	Various	Various : N/A	-	0.000		0.000		0.195	Nov 2023	-		0.195	Continuing	Continuing	0.000
ASPIRE-ENBD - PM/MS C - Program Management Support	Various	Various : N/A	-	0.000		0.000		0.098	Dec 2023	-		0.098	Continuing	Continuing	0.000
COL PRO CONEX-ENBD - PM/MS S - Program Management	MIPR	Various : N/A	-	0.000		0.000	Dec 2022	0.282	Nov 2023	-		0.282	Continuing	Continuing	0.000
PPTS-ENBD - PM/MS S - Program Management	MIPR	Various : N/A	-	0.000		0.000	Dec 2022	0.325	Nov 2023	-		0.325	Continuing	Continuing	0.000
SIS - PM/MS S - Program Management Support	Various	Various : N/A	-	0.000		0.000		0.060	Dec 2023	-		0.060	Continuing	Continuing	0.000
UIPE FOS AIR - PM/MS C - Program Management Services	MIPR	Various : N/A	-	0.000		0.394	Nov 2022	0.000		-		0.000	0.000	0.394	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Chemical and Biological Defense Program		Date: March 2023
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Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
UIPE FOS GP - SBIR/ STTR - Program Management Support	Various	Various : N/A	-	0.000		0.694	Nov 2022	0.257	Nov 2023	-		0.257	Continuing	Continuing	0.000
UIPE FOS GLOVES - PM/MS C - Program Management Support	Various	Various : N/A	-	0.000		0.172	Dec 2022	0.236	Nov 2023	-		0.236	Continuing	Continuing	0.000
VAC SIP - PM Support	Various	JPL CBRND Enabling Biotechnologies, JPEO-CBRND : Fort Detrick, MD	-	0.000		0.665	Jan 2023	0.000		-		0.000	0.000	0.665	0.000
RAPID - PM/MS C	C/CPFF	Various : N/A	-	0.000		0.000		0.360	Dec 2023	-		0.360	Continuing	Continuing	0.000
		Subtotal	-	0.000		1.925		1.813		-		1.813	Continuing	Continuing	N/A

	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	0.000		87.923		97.975		-		97.975	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Chemical and Biological Defense Program		Date: March 2023
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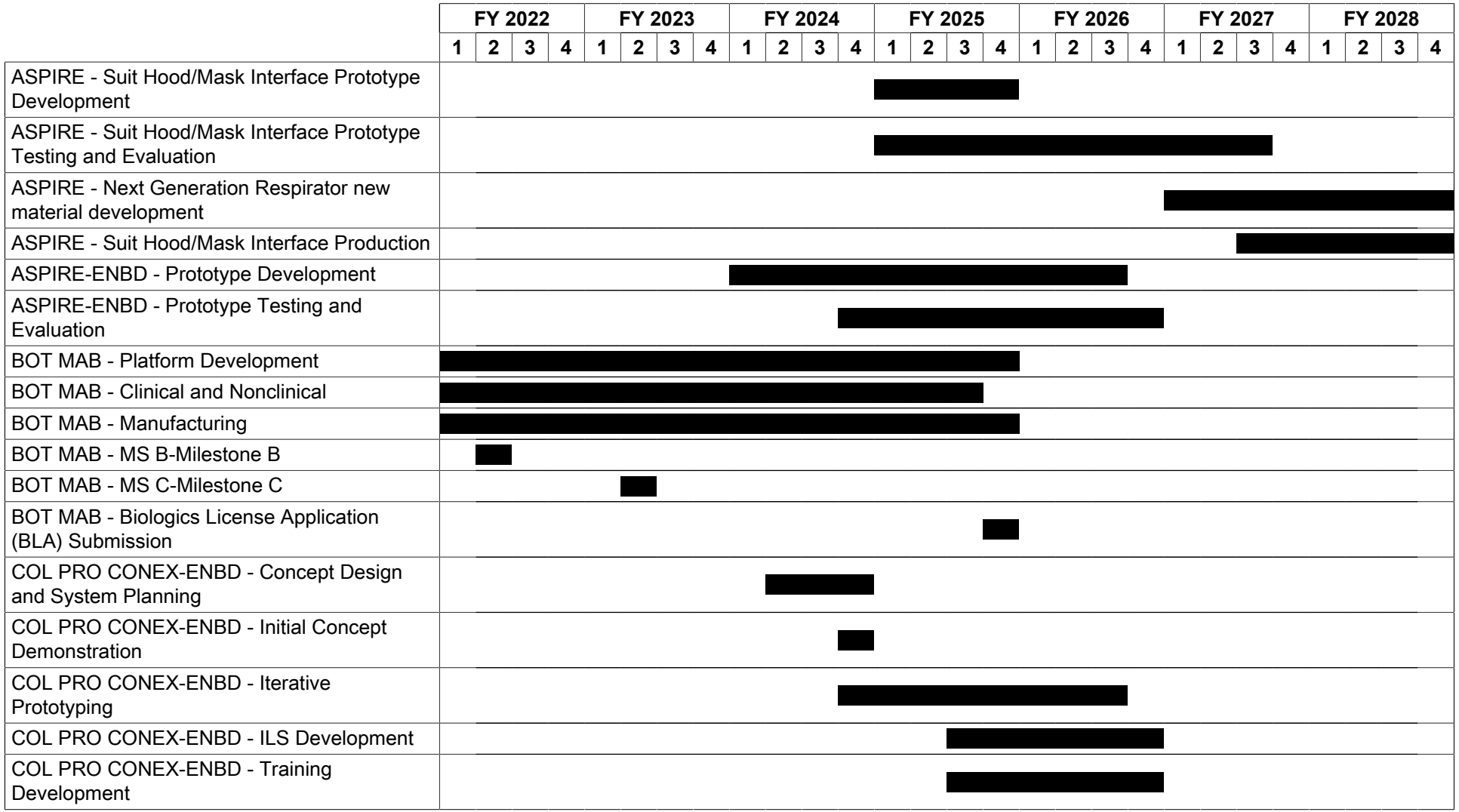

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Chemical and Biological Defense Program		Date: March 2023
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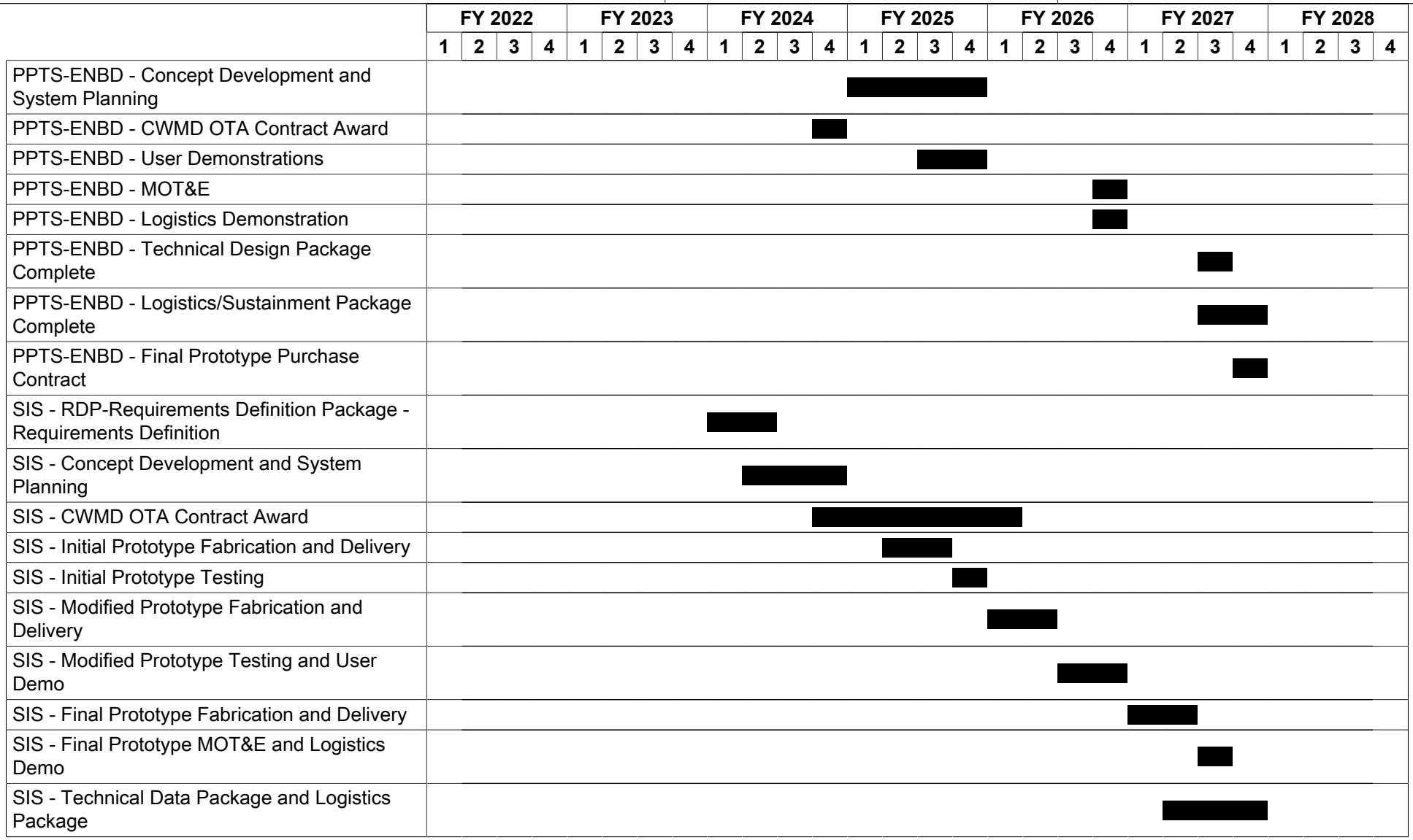

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** PT5 / *Protect (SDD)*

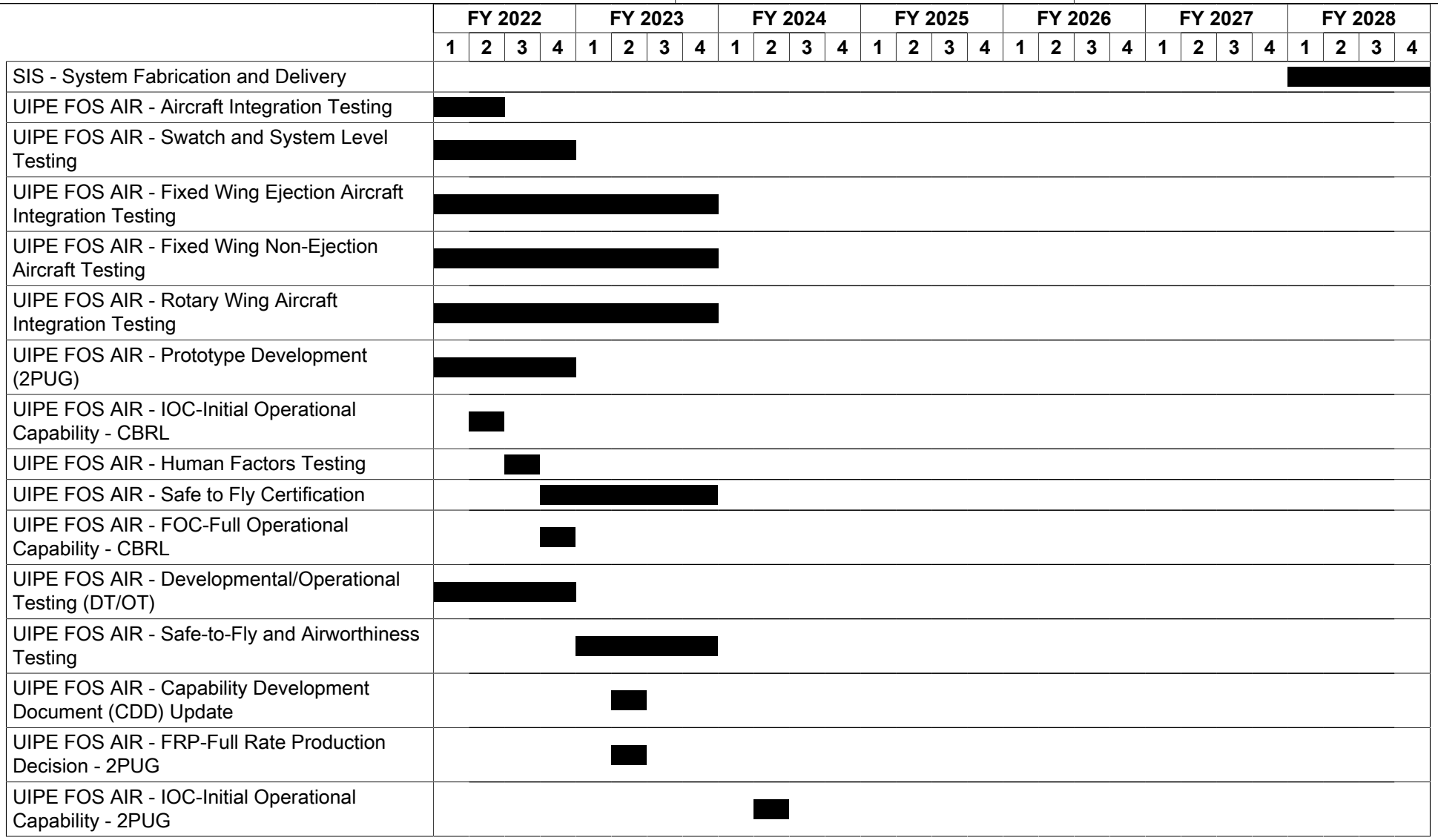

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** PT5 / *Protect (SDD)*

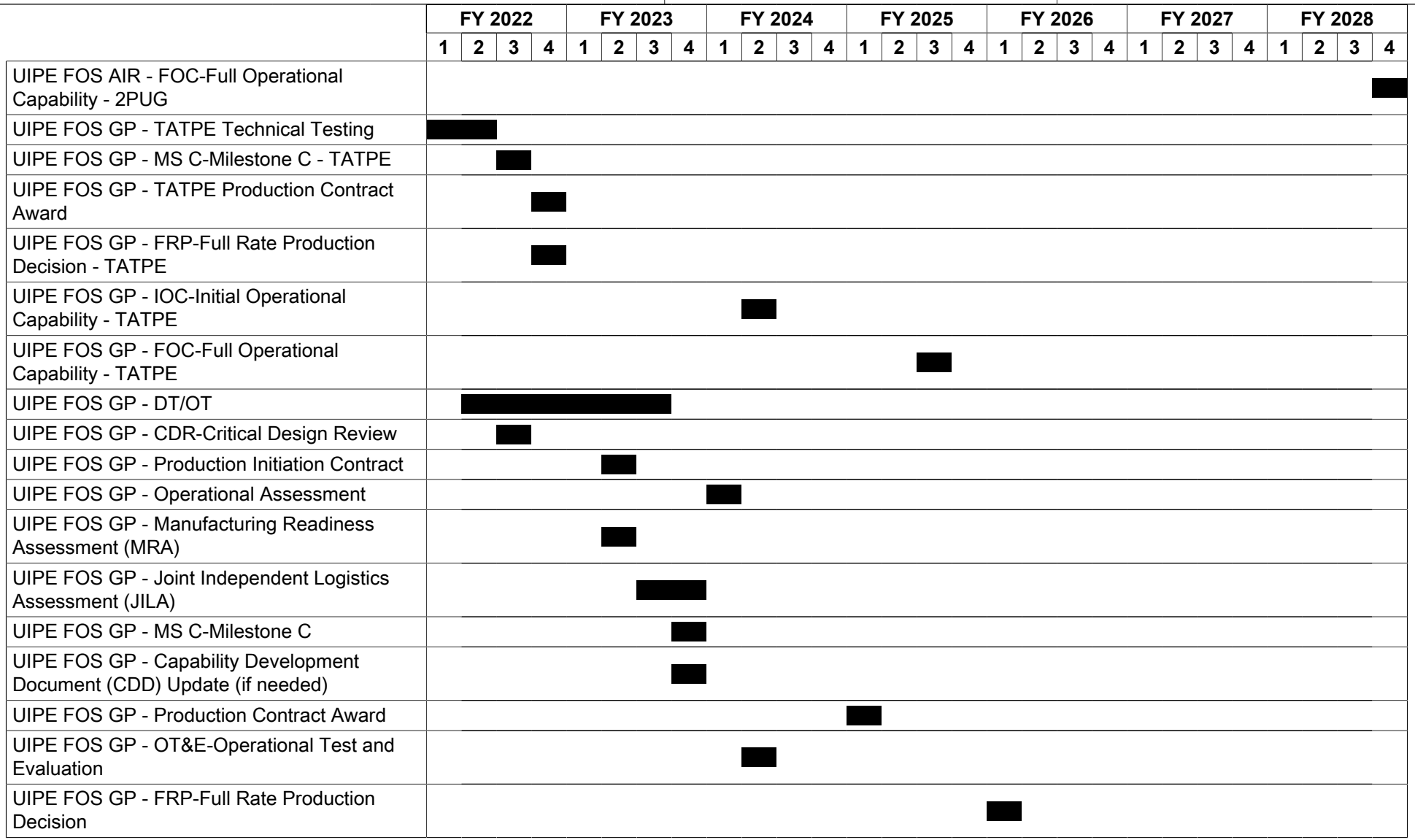

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Chemical and Biological Defense Program		Date: March 2023
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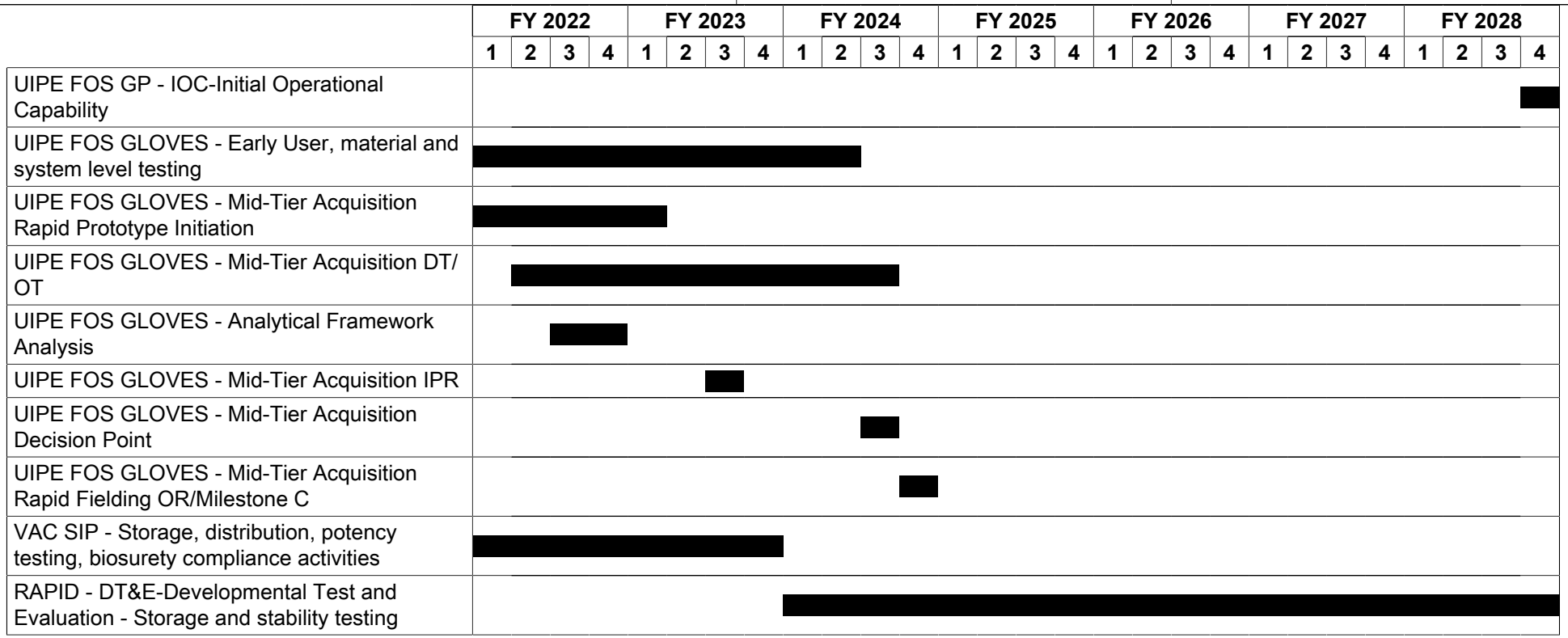

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** PT5 / *Protect (SDD)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
ASPIRE - Suit Hood/Mask Interface Prototype Development	1	2025	4	2025
ASPIRE - Suit Hood/Mask Interface Prototype Testing and Evaluation	1	2025	3	2027
ASPIRE - Next Generation Respirator new material development	1	2027	4	2028
ASPIRE - Suit Hood/Mask Interface Production	3	2027	4	2028
ASPIRE-ENBD - Prototype Development	1	2024	3	2026
ASPIRE-ENBD - Prototype Testing and Evaluation	4	2024	4	2026
BOT MAB - Platform Development	1	2022	4	2025
BOT MAB - Clinical and Nonclinical	1	2022	3	2025
BOT MAB - Manufacturing	1	2022	4	2025
BOT MAB - MS B-Milestone B	2	2022	2	2022
BOT MAB - MS C-Milestone C	2	2023	2	2023
BOT MAB - Biologics License Application (BLA) Submission	4	2025	4	2025
COL PRO CONEX-ENBD - Concept Design and System Planning	2	2024	4	2024
COL PRO CONEX-ENBD - Initial Concept Demonstration	4	2024	4	2024
COL PRO CONEX-ENBD - Iterative Prototyping	4	2024	3	2026
COL PRO CONEX-ENBD - ILS Development	3	2025	4	2026
COL PRO CONEX-ENBD - Training Development	3	2025	4	2026
PPTS-ENBD - Concept Development and System Planning	1	2025	4	2025
PPTS-ENBD - CWMD OTA Contract Award	4	2024	4	2024
PPTS-ENBD - User Demonstrations	3	2025	4	2025
PPTS-ENBD - MOT&E	4	2026	4	2026
PPTS-ENBD - Logistics Demonstration	4	2026	4	2026

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Chemical and Biological Defense Program		Date: March 2023
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	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
PPTS-ENBD - Technical Design Package Complete	3	2027	3	2027
PPTS-ENBD - Logistics/Sustainment Package Complete	3	2027	4	2027
PPTS-ENBD - Final Prototype Purchase Contract	4	2027	4	2027
SIS - RDP-Requirements Definition Package - Requirements Definition	1	2024	2	2024
SIS - Concept Development and System Planning	2	2024	4	2024
SIS - CWMD OTA Contract Award	4	2024	1	2026
SIS - Initial Prototype Fabrication and Delivery	2	2025	3	2025
SIS - Initial Prototype Testing	4	2025	4	2025
SIS - Modified Prototype Fabrication and Delivery	1	2026	2	2026
SIS - Modified Prototype Testing and User Demo	3	2026	4	2026
SIS - Final Prototype Fabrication and Delivery	1	2027	2	2027
SIS - Final Prototype MOT&E and Logistics Demo	3	2027	3	2027
SIS - Technical Data Package and Logistics Package	2	2027	4	2027
SIS - System Fabrication and Delivery	1	2028	4	2028
UIPE FOS AIR - Aircraft Integration Testing	1	2022	2	2022
UIPE FOS AIR - Swatch and System Level Testing	1	2022	4	2022
UIPE FOS AIR - Fixed Wing Ejection Aircraft Integration Testing	1	2022	4	2023
UIPE FOS AIR - Fixed Wing Non-Ejection Aircraft Testing	1	2022	4	2023
UIPE FOS AIR - Rotary Wing Aircraft Integration Testing	1	2022	4	2023
UIPE FOS AIR - Prototype Development (2PUG)	1	2022	4	2022
UIPE FOS AIR - IOC-Initial Operational Capability - CBRL	2	2022	2	2022
UIPE FOS AIR - Human Factors Testing	3	2022	3	2022
UIPE FOS AIR - Safe to Fly Certification	4	2022	4	2023
UIPE FOS AIR - FOC-Full Operational Capability - CBRL	4	2022	4	2022
UIPE FOS AIR - Developmental/Operational Testing (DT/OT)	1	2022	4	2022

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Chemical and Biological Defense Program		Date: March 2023
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	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
UIPE FOS AIR - Safe-to-Fly and Airworthiness Testing	1	2023	4	2023
UIPE FOS AIR - Capability Development Document (CDD) Update	2	2023	2	2023
UIPE FOS AIR - FRP-Full Rate Production Decision - 2PUG	2	2023	2	2023
UIPE FOS AIR - IOC-Initial Operational Capability - 2PUG	2	2024	2	2024
UIPE FOS AIR - FOC-Full Operational Capability - 2PUG	4	2028	4	2028
UIPE FOS GP - TATPE Technical Testing	1	2022	2	2022
UIPE FOS GP - MS C-Milestone C - TATPE	3	2022	3	2022
UIPE FOS GP - TATPE Production Contract Award	4	2022	4	2022
UIPE FOS GP - FRP-Full Rate Production Decision - TATPE	4	2022	4	2022
UIPE FOS GP - IOC-Initial Operational Capability - TATPE	2	2024	2	2024
UIPE FOS GP - FOC-Full Operational Capability - TATPE	3	2025	3	2025
UIPE FOS GP - DT/OT	2	2022	3	2023
UIPE FOS GP - CDR-Critical Design Review	3	2022	3	2022
UIPE FOS GP - Production Initiation Contract	2	2023	2	2023
UIPE FOS GP - Operational Assessment	1	2024	1	2024
UIPE FOS GP - Manufacturing Readiness Assessment (MRA)	2	2023	2	2023
UIPE FOS GP - Joint Independent Logistics Assessment (JILA)	3	2023	4	2023
UIPE FOS GP - MS C-Milestone C	4	2023	4	2023
UIPE FOS GP - Capability Development Document (CDD) Update (if needed)	4	2023	4	2023
UIPE FOS GP - Production Contract Award	1	2025	1	2025
UIPE FOS GP - OT&E-Operational Test and Evaluation	2	2024	2	2024
UIPE FOS GP - FRP-Full Rate Production Decision	1	2026	1	2026
UIPE FOS GP - IOC-Initial Operational Capability	4	2028	4	2028
UIPE FOS GLOVES - Early User, material and system level testing	1	2022	2	2024
UIPE FOS GLOVES - Mid-Tier Acquisition Rapid Prototype Initiation	1	2022	1	2023

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Chemical and Biological Defense Program		Date: March 2023
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	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
UIPE FOS GLOVES - Mid-Tier Acquisition DT/OT	2	2022	3	2024
UIPE FOS GLOVES - Analytical Framework Analysis	3	2022	4	2022
UIPE FOS GLOVES - Mid-Tier Acquisition IPR	3	2023	3	2023
UIPE FOS GLOVES - Mid-Tier Acquisition Decision Point	3	2024	3	2024
UIPE FOS GLOVES - Mid-Tier Acquisition Rapid Fielding OR/Milestone C	4	2024	4	2024
VAC SIP - Storage, distribution, potency testing, biosurety compliance activities	1	2022	4	2023
RAPID - DT&E-Developmental Test and Evaluation - Storage and stability testing	1	2024	4	2028

Exhibit R-2A, RDT&E Project Justification: PB 2024 Chemical and Biological Defense Program			Date: March 2023
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COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
MT5: *Mitigate (SDD)*	-	0.000	74.225	88.441	0.000	88.441	92.279	91.431	87.773	93.250	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Mitigate System Development & Demonstration (SDD) Project provides the Joint Force the ability to recover from exposure to chemical and biological hazards and quickly return to the fight. Efforts include development of U.S. Food & Drug Administration (FDA) approved medical countermeasures (MCMs) to protect the lives and maintain the battle readiness of the warfighter. Efforts also provide safe, effective MCMs to enable Warfighter recovery and return to duty after exposure to chemical threat agents, and reduce logistics needs of decontamination methods with operationally-relevant test methods and allows personnel to reduce Mission-Oriented Protective Posture (MOPP) levels as rapidly as possible. Activities in this project realize considerable efficiencies through cost sharing agreements. In FY 2023, the Chemical Biological Defense Program (CBDP) RDT&E Projects were restructured to align with the CBDP portfolio construct. MT5 efforts in FY 2022 remain in Projects DE5, MB5, and MC5. This restructuring provided standardization and alignment across CBDP research, development and acquisition efforts.

Efforts included in this Project are:

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

The AUTOINJ effort provides for FDA approved alternative source(s) for autoinjectors that deliver DoD nerve agent antidote and treatment capabilities to the warfighter; thereby mitigating capability fielding and operational readiness risks. This program augments legacy autoinjectors, antidote treatment nerve agent autoinjector (ATNAA), 2-PAM, and Convulsant Antidote for Nerve Agents (CANA) by providing alternative commercial sources which includes Dual Drug Delivery Device (D4), the Atropine Auto-Injector, and an anticonvulsant autoinjector. In FY24, AUTOINJ will submit New Drug Application packages to the FDA for D4 and Alternative-Diazepam, initiate activities for a wet-dry atropine autoinjector that provides an extended shelf-life compared to the fielded FDA approved Atropine Auto-Injector.

The Anti-viral Therapeutics (AV TX) program will develop and deliver a Food and Drug Administration (FDA) approved antiviral therapeutics for the warfighter. Based on the current gap in defense to the Warfighter, the initial therapeutic candidate is a treatment against the Marburg virus. Developed broad spectrum antiviral therapeutics will be employed after suspected or confirmed exposure to the relevant threat agents and AV TX Medical Countermeasures (MCM) will ameliorate the effect of threat agents to the warfighter. In the event of a natural occurring outbreak, antiviral therapeutics can be provided to ensure freedom of operation.

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The Countering Emerging Threats Rapid Acquisition and Investigation of Drugs for Repurposing (CET RAIDR) program will develop repurposed drugs as medical countermeasures towards known, potential, and emerging threats, bridging the gap from when a threat is identified until targeted countermeasures are available. CET RAIDR will leverage lessons learned to repurpose U.S. Food & Drug Administration (FDA) approved therapeutics to reduce risk to the Warfighter by providing medical countermeasures to CBRN threat symptoms. CET RAIDR will evaluate FDA-approved and/or late stage products through nonclinical Non-Human Primate (NHP) studies to repurpose as a CBRN Medical Countermeasure. Studies will generate safety and efficacy data to support the use of these tested product against CBRN threats. Efforts include additional investments in enhanced biodefense and pandemic preparedness.

The Decontamination Family of Systems (DFoS) Contamination Indicator Decontamination Assurance System (CIDAS) Blister program addresses traditional blister agents, two separate threat scenarios that require different materiel solutions, modernizing a key capability to help build a more lethal force, as outlined in the National Defense Strategy. In FY24, the program will conduct a Manufacturing Readiness Assessment (MRA) and a Physical Configuration Audit (PCA) with Prime Contractor and complete Operational Testing in support of Full Rate Production (FRP)/Fielding Decision. FY24 is last year of BA5 funding, program is transitioning to Production.

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

The INATS CA program will develop the centrally-acting anticholinergic, scopolamine, to increase survivability and decrease morbidity following exposure to toxic nerve agents. When added to currently fielded nerve agent treatments, scopolamine will improve overall medical outcomes and will be available in both a vial for use at definitive care, and in an autoinjector for use in the field. In FY24, INATS CA will continue nonclinical work to refine the efficacious dose, complete functional and environmental testing for the autoinjector, and begin manufacture of current Good Manufacturing Practice (cGMP) registration lots. Interaction with the FDA under PL115-92 will occur during nonclinical testing and autoinjector development.

The Joint Service Equipment Decontamination System (SEDS) and SOF Critical Equipment Decontamination (CEDS) programs 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 both the Joint and Special Operations Forces by reducing logistical burdens in order to increase tactical agility and sustain a resilient force posture, and align with the National Defense Strategy (NDS). SEDS and CEDS 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 FY24, the Joint SEDS effort will continue through the EMD phase with Developmental Testing (DT) and a Critical Design Review (CDR).

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: 1) AUTOINJ - RAD-A	-	14.070	35.694

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Description: Reconstituting Autoinjector Development (RAD-A) ***FY 2023 Plans:*** Initiate development of a Wet/Dry atropine autoinjector. ***FY 2024 Plans:*** Initiate formulation and device development with two performers which includes the evaluation of three different formulation methods for atropine. Initiate human factors evaluation of the atropine autoinjector. Initiate technology transfer and batch production of atropine. Initiate equipment purchases and certification/qualification to good manufacturing practice (GMP) standards. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase due to change in program/project technical parameters. Funding from previously planned Alt Midazolam effort transferred to Wet/Dry atropine autoinjector to fund additional performer.			
Title: 2) AUTOINJ - Dual Drug Delivery Device (D4) ***Description:*** Food and Drug Administration (FDA) Coordination ***FY 2023 Plans:*** Submit FDA application for D4 and ALT- Diazepam. ***FY 2024 Plans:*** Continue FDA submission of FDA application for Dual Drug Delivery Device (D4) & ALT-Diazepam. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase due to change in program/project schedule. Schedule moved to right due to additional development activities in FY22.	-	0.656	0.776
Title: 3) AV TX ***Description:*** Enabling Technologies ***FY 2023 Plans:*** Complete efficacy studies and prepare Food and Drug Administration (FDA) approval package. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Program/project is entering completion and all activities will be closed.	-	10.506	-
Title: 4) CET RAIDR	-	7.871	13.703

Exhibit R-2A, RDT&E Project Justification: PB 2024 Chemical and Biological Defense Program		Date: March 2023
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Description: Advanced Development ***FY 2023 Plans:*** Continue advanced development of up to two (2) FDA-approved and/or late-stage products for repurposing against CBRN indications ***FY 2024 Plans:*** Continue nonclinical studies to evaluate up to two (2) FDA-approved and/or late-stage products to repurpose as a CBRN Medical Countermeasure. Studies will generate safety and efficacy data to support the use of the tested product against CBRN symptoms. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Additional investment in enhanced biodefense and pandemic preparedness. Increased investment provided to support further non-clinical studies to generate additional safety and efficacy data to support drug repurposing.			
Title: 5) CET RAIDR-ENBD ***Description:*** Advanced Development ***FY 2023 Plans:*** Initiate nonclinical studies to evaluate FDA-approved and/or late-stage products to repurpose as a CBRN Medical Countermeasure. Studies will generate safety and efficacy data to support the use of the tested product against a new CBRN threat. ***FY 2024 Plans:*** Continue Non-human primate (NHP) studies to evaluate FDA-approved therapeutics to repurpose as a CBRN Medical Countermeasure. These studies will generate data to support potential expansion of use against CBRN symptoms.	-	8.500	8.500
Title: 6) DFoS CIDAS BLISTER ***Description:*** Blister Indicator Kits and Large Scale Applicators (LSA) ***FY 2023 Plans:*** Award contract option with prime contractor to acquire 200 SSA Blister Kits and 45 LSA Blister Kits to complete developmental testing. Conduct System Verification Review (SVR), Production Readiness Review (PRR), Manufacturing Readiness Assessment (MRA) and Logistics Demonstration. Award Low-Rate Initial Production (LRIP) option for production representative kits for 25 SSA-B kits and 30 LSKB kits in support of Operational Test planned for 4QFY23. ***FY 2024 Plans:***	-	3.681	2.500

Exhibit R-2A, RDT&E Project Justification: PB 2024 Chemical and Biological Defense Program		Date: March 2023
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Conduct a Manufacturing Readiness Assessment (MRA) and a Physical Configuration Audit (PCA) with Prime Contractor and complete Operational Testing (OT) in support of Full Rate Production (FRP)/Fielding Decision. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Program/project transitioned to Production and Deployment Phase. FY24 is last year of BA5 funding, program is transitioning to Production.			
Title: 7) FAMS-S ***Description:*** Small and large variant prototype refinement and close out of remaining DT/OT activities. ***FY 2023 Plans:*** Complete engineering and manufacturability development for the man-portable FAMS-S variant; complete developmental and operational testing for the vehicle-mounted prototypes to include chemical and biological decontamination level assessment, systems engineering and integration with vehicle platforms, and operational suitability and safety testing. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Program/project transitioned to Production and Deployment Phase.	-	2.967	-
Title: 8) INATS CA - Clinical ***Description:*** Clinical Testing to support FDA approval ***FY 2023 Plans:*** Complete drug/drug interaction clinical safety study. ***FY 2024 Plans:*** Initiate Bioavailability/Bioequivalent (BA/BE) clinical trial with autoinjector. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Minor change due to routine program adjustments.	-	5.101	4.572
Title: 9) INATS CA - Manufacturing ***Description:*** Manufacture drug product and device development ***FY 2023 Plans:*** Continue Auto-Injector Development and manufacturing activities of the drug product and autoinjector device.	-	14.815	6.019

Exhibit R-2A, RDT&E Project Justification: PB 2024 Chemical and Biological Defense Program		Date: March 2023
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Initiate manufacture of GMP registration lots. Initiate stability studies. ***FY 2024 Plans:*** Continuing manufacturing of registration lots, and stability studies. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Minor change due to routine program adjustments. Decrease due to ramping down manufacturing activities.			
Title: 10) INATS CA - Non-Clinical ***Description:*** Non-Clinical ***FY 2023 Plans:*** Continuing Non-Clinical Animal Studies. Continuing Pivotal Animal Efficacy Studies. ***FY 2024 Plans:*** Continuing Non-Clinical Studies. Continue Pivotal Animal and Efficacy Studies. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase due to change in program/project schedule. Increase due to bulk of studies occurring in FY24.	-	3.063	5.652
Title: 11) SEDS ***Description:*** Engineering, Manufacturing and Development (EMD) activities and Product Development ***FY 2023 Plans:*** Conduct MS B activities for Special Operation Forces (SOF) and Other Services. Award contract to conduct EMD testing. Conduct Preliminary Design Review (PDR) for SOF. Prepare for Operational Assessment for SOF and EDT for Other Services. ***FY 2024 Plans:*** Continue through the Joint SEDS Engineering, Manufacturing and Development (EMD) phase with Developmental Testing (DT) and post MS B activities. Conduct a CDR and complete EMD phase for SOF. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Program/project funding transferred from another funding line.	-	2.995	11.025
Accomplishments/Planned Programs Subtotals	-	74.225	88.441

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C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• DE5: *Decontamination (SDD)*	7.485	-	-	-	-	-	-	-	-	0.000	7.485
• MB5: *Medical Biological Defense (SDD)*	138.156	-	-	-	-	-	-	-	-	0.000	138.156
• MC5: *Medical Chemical Defense (SDD)*	38.936	-	-	-	-	-	-	-	-	0.000	38.936
• MC7: *Medical Chemical Defense (Op Sys Dev)*	1.013	-	-	-	-	-	-	-	-	0.000	1.013
• MT4: *Mitigate (ACD&P)*	-	17.302	28.785	-	28.785	20.885	15.433	13.369	-	Continuing	Continuing
• MT7: *Mitigate (Op Sys Dev)*	-	5.098	3.074	-	3.074	1.987	1.819	1.845	1.862	Continuing	Continuing
• JD0050: *Decontamination Family Of Systems (DFoS)*	7.797	4.795	6.062	-	6.062	8.673	8.820	16.518	5.996	Continuing	Continuing
• PHM007: *Service Equipment Decontamination System (SEDS)*	-	-	-	-	-	14.028	22.531	24.920	13.050	Continuing	Continuing
• PHM025: *Forward Air Mobility Spray System (FAMS-S)*	-	4.607	4.824	-	4.824	4.724	4.724	4.724	4.889	Continuing	Continuing
• PHM040: *Improved Nerve Agent Treatment Centrally Acting (INATS CA)*	-	-	-	-	-	-	-	6.511	33.883	Continuing	Continuing

Remarks

D. Acquisition Strategy

ALTERNATE AUTOINJECTOR MANUFACTURER CAPABILITY (AUTOINJ)

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

ANTI-VIRAL THERAPEUTICS (AV TX)

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The Antiviral Therapeutics (AV TX) program acquisition strategy supports the development of therapeutics against Marburg virus bio-warfare threats. The overall regulatory approach of the program remains to pursue development for FDA approval und the Animal Rule. The acquisition strategy is for the Marburg indication and will leverage collected safety data and large-scale manufacturing from the COVID efforts. This product was transitioned from Science and Technology (S&T).

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

CET RAIDR: Countering Emerging Threats - Rapid Acquisition and Investigation of Drugs for Repurposing (CET RAIDR) is an investment program that leverages lessons learned and established manufacturing and safety databases to conduct studies to evaluate U.S. Food & Drug Administration (FDA) approved and late-stage development therapeutics against CBRN threats. Data generated from these efforts will be used to provide a solution to protect the Warfighter against CBRN threats that do not have any identified medical countermeasures. CET RAIDR utilizes multiple contracting and management strategies through existing service laboratory Interagency Agreements (IAAs), Cooperative Research and Development Agreements (CRADAs), flexible contracts, Broad Agency Announcements, and Other Transaction Authority (OTA) agreements.

COUNTERING EMERGING THREATS RAPID ACQUISITION AND INVESTIGATION OF DRUGS FOR REPURPOSING-ENHANCED BIODEFENSE (CET RAIDR-ENBD)

The Countering Emerging Threats - Rapid Acquisition and Investigation of Drugs for Repurposing Enhanced Biodefense (CET RAIDR ENBD) program will leverage lessons learned to conduct NHP studies to evaluate FDA-approved therapeutics against CBRN threats. Data generated from these efforts will be utilized to support potential expansion of use against CBRN symptoms. CET RAIDR ENBD utilizes multiple contracting and management strategies through existing service laboratory IAAs, Cooperative Research and Development Agreements (CRADAs), flexible contracts, Broad Agency Announcements, and Other Transaction Authority (OTA) agreements.

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

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

FORWARD AREA MOBILITY SPRAY SYSTEM (FAMS-S)

The FAMS-S will be developed using Middle Tier Acquisition (MTA) to advance decontamination technology and capability for Special Operations Forces (SOF) and Special Operations Task Forces (SOTF) application to tactical and strategic platforms in accordance with MTA authorities and regulations and the Capability Development Document (CDD). FAMS-S will reduce technological risk by reviewing existing materials and technologies as well as designs, configurations, and test data from mature legacy and commercial decontamination systems. The program will utilize the CWMD Other Transaction Authority (OTA) agreement to competitively

Exhibit R-2A, RDT&E Project Justification: PB 2024 Chemical and Biological Defense Program		Date: March 2023
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award projects to three vendors for the man-portable and three vendors for the vehicle-mounted variants followed by a prototype down-select. The program will perform technical evaluations, undergo developmental and operational testing, and early user assessments to inform the final prototype design across each variant in preparation for the man-portable variant production decision in FY23.

IMPROVED NERVE AGENT TREATMENT CENTRALLY ACTING (INATS CA)

The Improved Nerve Agent Treatment System Centrally Acting (INATS CA) consists of scopolamine in an autoinjector as adjunct therapy to current nerve agent medical countermeasure (MCM) treatments. Addition of scopolamine to existing treatments for nerve agent exposure increases survival of casualties compared to treatment without scopolamine. The contractors shall be the sponsor and conduct drug development activities to achieve Food and Drug Administration (FDA) approval of both a vialed product, and the drug-device combination product. Upon U.S. Food & Drug Administration (FDA) approval, a follow-on procurement contract will allow the contractor to manufacture and deliver sufficient quantities of the autoinjector to meet Full Operational Capability (FOC). Product sustainment will the responsibility of Defense Logistics Agency Troop Support. Post marketing commitments and requirements are anticipated as a result of FDA approval and will be the responsibility of the contractor and the government.

SERVICE EQUIPMENT DECONTAMINATION SYSTEM (SEDS)

The Joint Services Equipment Decontamination System (SEDS) and SOCOM Critical Equipment Decontamination System (CEDS) 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 will use the Request for Prototype Proposals (RPP), under the CWMD OTA, followed by awards of Prototype Agreement.
In FY24, the Program will conduct MS B activities for Joint Services/SEDS and Special Operation Forces (SOF) CEDS will conclude Engineering, Manufacturing and Development (EMD) testing, conduct operational testing and limited user evaluations, and conduct a Critical Design Review (CDR) for SOF.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Chemical and Biological Defense Program			Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** MT5 / *Mitigate (SDD)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AUTOINJ - HW C - RAD-A	C/CPFF	TBD : N/A	-	0.000		10.558	Mar 2023	30.372	Dec 2023	-		30.372	Continuing	Continuing	0.000
AUTOINJ - HW C - Program Management Labor	Various	JPM CBRN Medical, JPEO-CBRND : Fort Detrick, MD	-	0.000		1.119	Dec 2022	1.670	Nov 2023	-		1.670	Continuing	Continuing	0.000
AUTOINJ - HW C - Program Management	C/CPFF	JPM CBRN Medical, JPEO-CBRND : Fort Detrick, MD	-	0.000		1.347	Dec 2022	2.011	Nov 2023	-		2.011	Continuing	Continuing	0.000
AV TX - Nonclinical Trials - OTA	C/FP	Gilead Sciences : San Francisco, CA	-	0.000		10.506	Dec 2022	0.000		-		0.000	0.000	10.506	0.000
CET RAIDR - Direct Product Support	Various	Various : N/A	-	0.000		0.000		1.254	Dec 2023	-		1.254	Continuing	Continuing	0.000
CET RAIDR-ENBD - Nonclinical Studies	Various	Various : N/A	-	0.000		7.268	Dec 2022	6.787	Dec 2023	-		6.787	Continuing	Continuing	0.000
CET RAIDR-ENBD - Direct Program Support	Various	Various : N/A	-	0.000		0.000		0.778	Dec 2023	-		0.778	Continuing	Continuing	0.000
DFoS CIDAS BLISTER - HW S - Small and Large Scale Applicators/Kits	SS/ Various	FLIR Systems, Inc. : Stillwater, OK	-	0.000		1.280	Jan 2023	0.000		-		0.000	0.000	1.280	0.000
FAMS-S - HW S - System Development and Prototype Refinement	C/CPIF	ATI Solutions, Inc. : Tysons Corner, VA	-	0.000		1.500	May 2023	0.000		-		0.000	0.000	1.500	0.000
INATS CA - HW C - Program Management Labor	Allot	JPM CBRN Medical, JPEO-CBRND : Fort Detrick, MD	-	0.000		0.000		1.234	Nov 2023	-		1.234	Continuing	Continuing	0.000
INATS CA - HW C - Clinical	C/CPFF	Battelle Memorial Institute : Columbus, OH	-	0.000		2.143	Dec 2022	3.531	Dec 2023	-		3.531	Continuing	Continuing	0.000
INATS CA - HW C - Non-Clinical	C/CPFF	Battelle Memorial Institute : Columbus, OH	-	0.000		3.904	Nov 2022	4.290	Dec 2023	-		4.290	Continuing	Continuing	0.000
INATS CA - HW C - Manufacturing	C/FFP	Aktivax : Boulder, CO	-	0.000		11.008	Dec 2022	3.915	Dec 2023	-		3.915	Continuing	Continuing	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Chemical and Biological Defense Program			Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** MT5 / *Mitigate (SDD)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SEDS - HW S - SEDS - Prototypes	C/FFP	ATI Solutions, Inc. : Tysons Corner, VA	-	0.000		1.450	May 2023	3.453	Nov 2023	-		3.453	Continuing	Continuing	0.000
SEDS - HW S - CEDS	MIPR	Various : N/A	-	0.000		0.000		1.712	Jan 2024	-		1.712	Continuing	Continuing	0.000
		Subtotal	-	0.000		52.083		61.007		-		61.007	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DFoS CIDAS BLISTER - TD/D S - IPT and Technical Support	MIPR	Various : N/A	-	0.000		0.656	Nov 2022	0.375	Nov 2023	-		0.375	Continuing	Continuing	0.000
FAMS-S - ES S - Systems Engineer/Technical SME Support	MIPR	Various : N/A	-	0.000		0.750	Dec 2022	0.000		-		0.000	0.000	0.750	0.000
SEDS - ILS S - SEDS - Logistics, Engineering and IPT Support	MIPR	Various : N/A	-	0.000		0.900	Mar 2023	0.836	Nov 2023	-		0.836	Continuing	Continuing	0.000
SEDS - ILS S - CEDS	MIPR	Various : N/A	-	0.000		0.000		0.210	Nov 2023	-		0.210	Continuing	Continuing	0.000
		Subtotal	-	0.000		2.306		1.421		-		1.421	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CET RAIDR - DTE C - Continuing Repurposing Efforts	Various	Various : N/A	-	0.000		6.964	Dec 2022	10.942	Dec 2023	-		10.942	Continuing	Continuing	0.000
DFoS CIDAS BLISTER - OTHT S - OTHT S - DT/OT	MIPR	Various : N/A	-	0.000		1.462	Nov 2022	1.972	Nov 2023	-		1.972	Continuing	Continuing	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** MT5 / *Mitigate (SDD)*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
FAMS-S - DTE SB - Decon Solution Analysis	Various	TBD : N/A	-	0.000		0.288	Jan 2023	0.000		-		0.000	0.000	0.288	0.000
SEDS - OTHT S - SEDS - T&E IPR Test Planning	MIPR	Various : N/A	-	0.000		0.425	Mar 2023	0.944	Nov 2023	-		0.944	Continuing	Continuing	0.000
SEDS - OTHT S - CEDS T&E	MIPR	Various : N/A	-	0.000		0.000		3.177	Jan 2024	-		3.177	Continuing	Continuing	0.000
		Subtotal	-	0.000		9.139		17.035		-		17.035	Continuing	Continuing	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AUTOINJ - PM/MS C - Management Services	Various	Various : N/A	-	0.000		1.702	Dec 2022	2.417	Nov 2023	-		2.417	Continuing	Continuing	0.000
CET RAIDR - PM/MS S - Indirect Management Support	Various	Various : N/A	-	0.000		0.907	Dec 2022	1.507	Dec 2023	-		1.507	Continuing	Continuing	0.000
CET RAIDR-ENBD - PM/MS S - Indirect Management Support	Various	Various : N/A	-	0.000		1.232	Dec 2022	0.935	Dec 2023	-		0.935	Continuing	Continuing	0.000
DFoS CIDAS BLISTER - PM/MS S - Program Management Support	MIPR	Various : N/A	-	0.000		0.283	Nov 2022	0.153	Nov 2023	-		0.153	Continuing	Continuing	0.000
FAMS-S - PM/MS S - Indirect Program Management	MIPR	Various : N/A	-	0.000		0.429	Dec 2022	0.000		-		0.000	0.000	0.429	0.000
INATS CA - PM/MS C - Management Services Labor	Various	JPEO Chem, Bio, Rad, and Nuc Defense (JPEO-CBRND) : Aberdeen Proving Ground, MD	-	0.000		4.595	Dec 2022	1.787	Nov 2023	-		1.787	Continuing	Continuing	0.000
INATS CA - PM/MS C - Management Services	Various	JPEO Chem, Bio, Rad, and Nuc	-	0.000		1.329	Dec 2022	1.486	Nov 2023	-		1.486	Continuing	Continuing	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** MT5 / *Mitigate (SDD)*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Defense (JPEO-CBRND) : Aberdeen Proving Ground, MD													
SEDS - PM/MS C - SEDS - PM/MS S - Program Management Support	MIPR	Various : N/A	-	0.000		0.220	Mar 2023	0.341	Nov 2023	-		0.341	Continuing	Continuing	0.000
SEDS - PM/MS C - CEDS	MIPR	Various : N/A	-	0.000		0.000		0.352	Nov 2023	-		0.352	Continuing	Continuing	0.000
		Subtotal	-	0.000		10.697		8.978		-		8.978	Continuing	Continuing	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	0.000		74.225		88.441		-		88.441	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** MT5 / *Mitigate (SDD)*

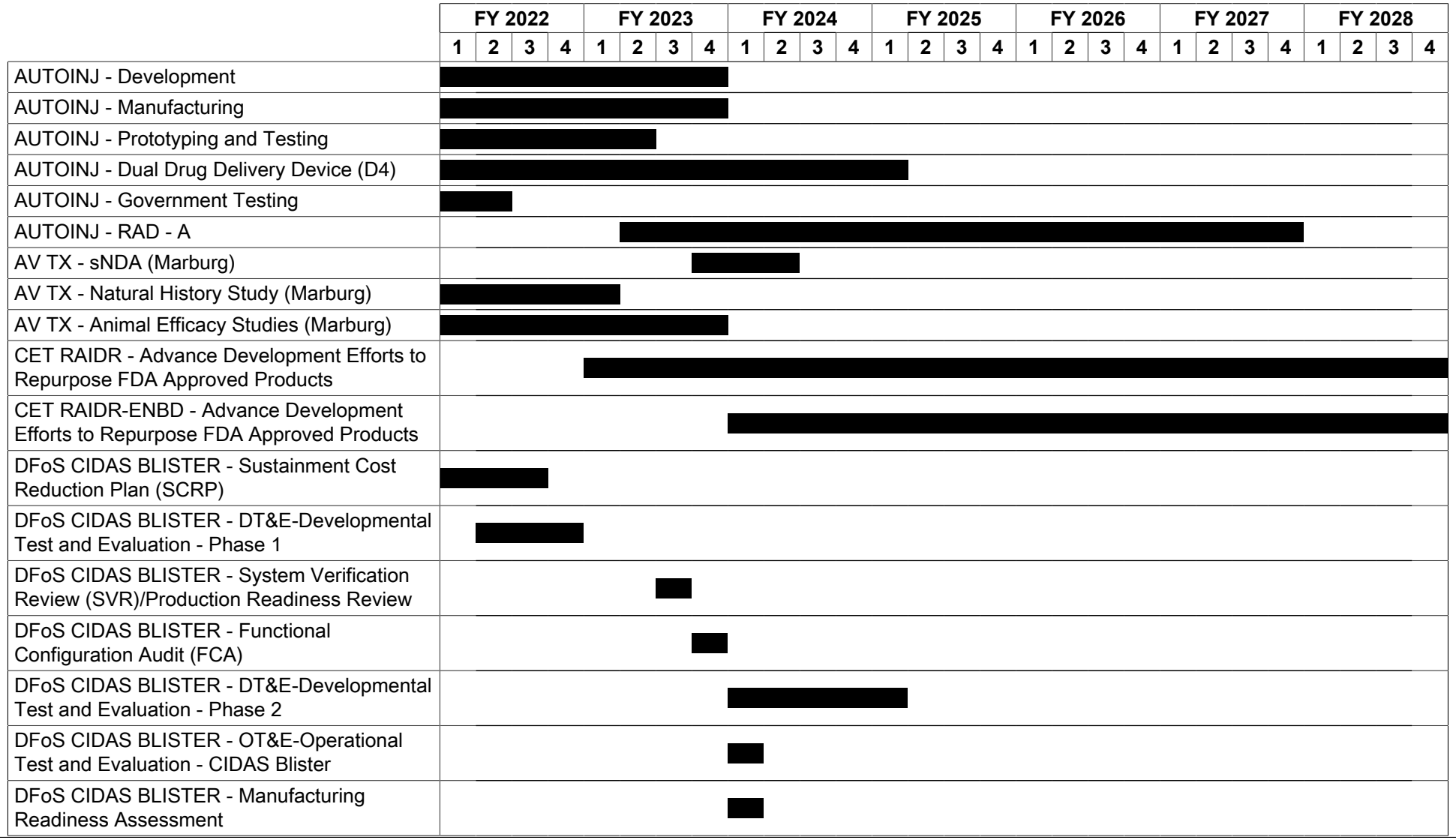

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** MT5 / *Mitigate (SDD)*

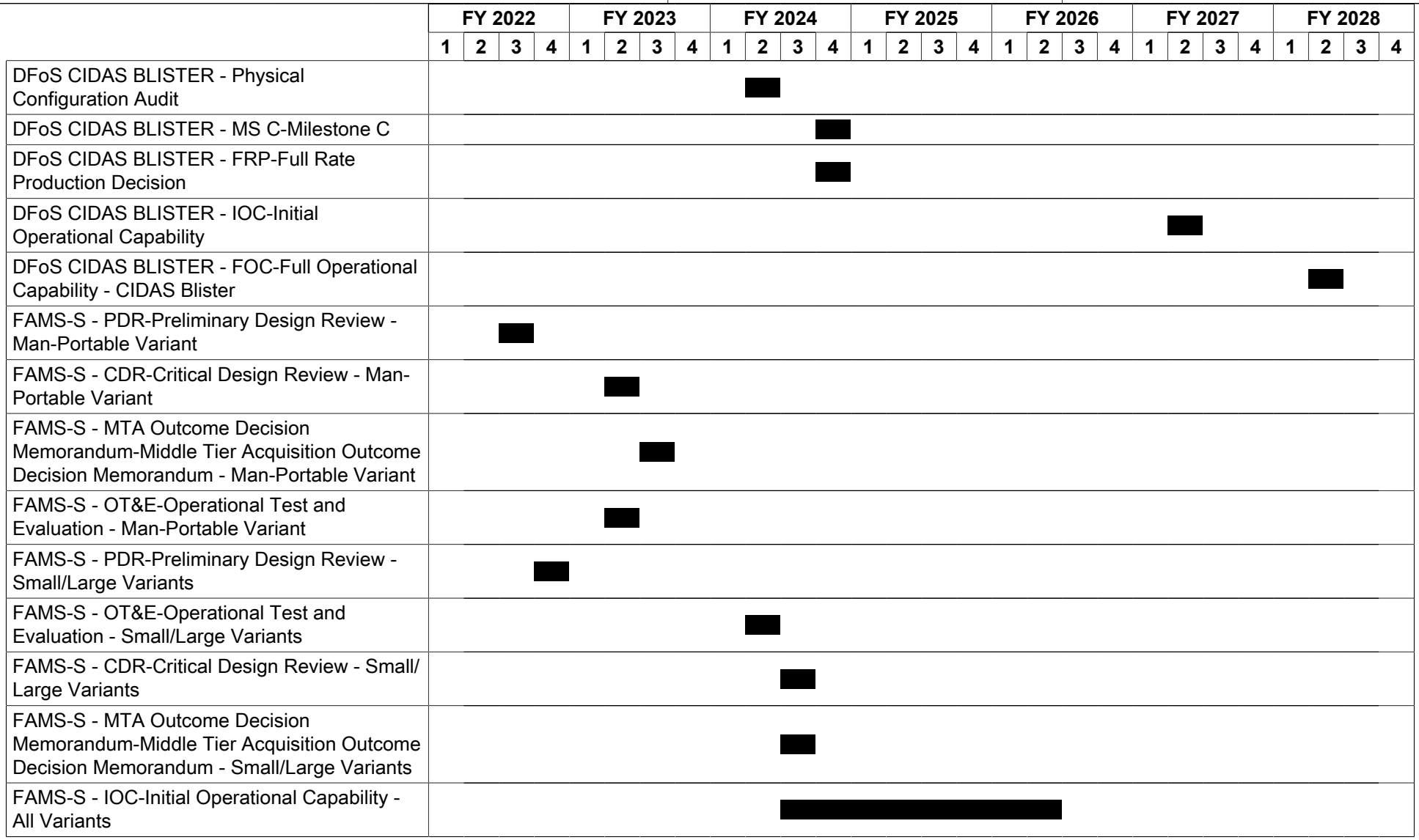

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** MT5 / *Mitigate (SDD)*

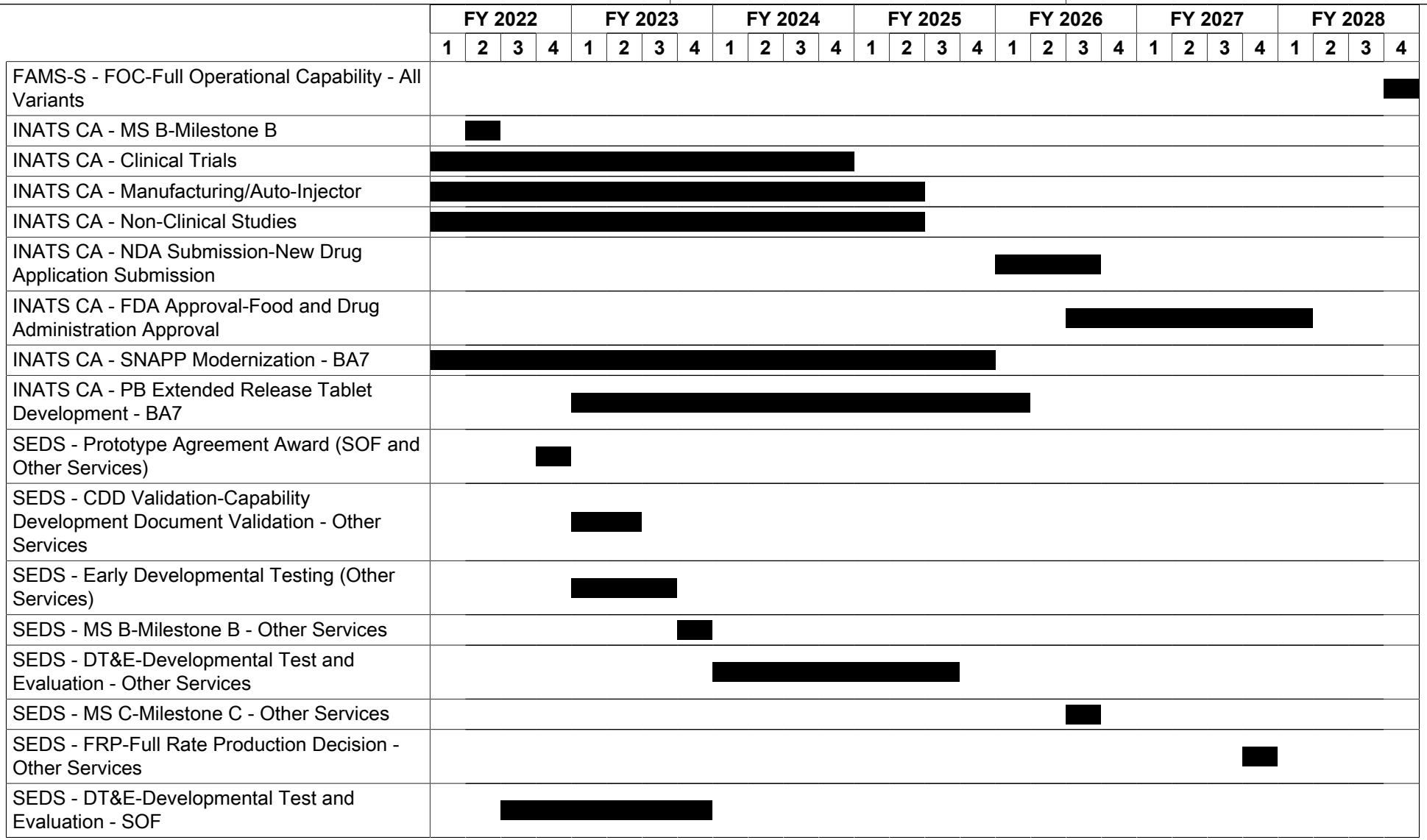

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** MT5 / *Mitigate (SDD)*

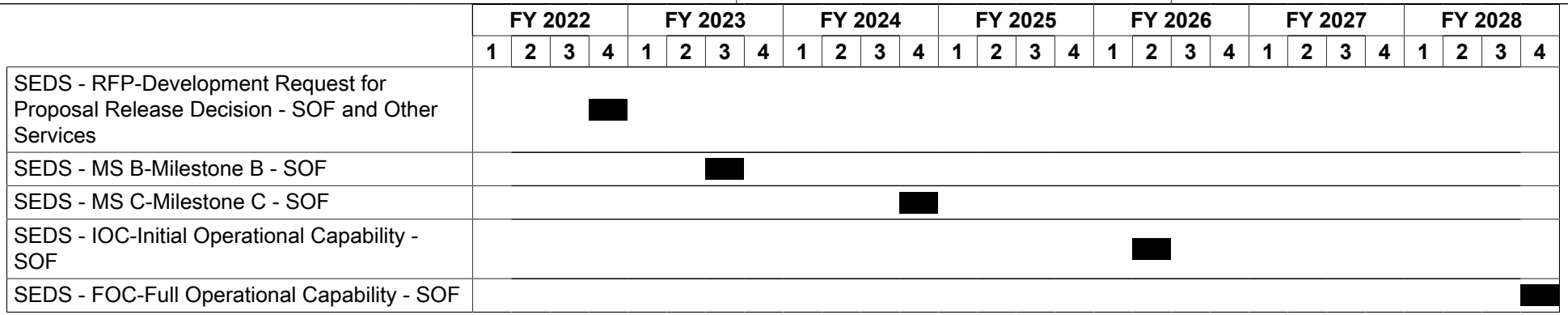

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** MT5 / *Mitigate (SDD)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
AUTOINJ - Development	1	2022	4	2023
AUTOINJ - Manufacturing	1	2022	4	2023
AUTOINJ - Prototyping and Testing	1	2022	2	2023
AUTOINJ - Dual Drug Delivery Device (D4)	1	2022	1	2025
AUTOINJ - Government Testing	1	2022	2	2022
AUTOINJ - RAD - A	2	2023	4	2027
AV TX - sNDA (Marburg)	4	2023	2	2024
AV TX - Natural History Study (Marburg)	1	2022	1	2023
AV TX - Animal Efficacy Studies (Marburg)	1	2022	4	2023
CET RAIDR - Advance Development Efforts to Repurpose FDA Approved Products	1	2023	4	2028
CET RAIDR-ENBD - Advance Development Efforts to Repurpose FDA Approved Products	1	2024	4	2028
DFoS CIDAS BLISTER - Sustainment Cost Reduction Plan (SCRP)	1	2022	3	2022
DFoS CIDAS BLISTER - DT&E-Developmental Test and Evaluation - Phase 1	2	2022	4	2022
DFoS CIDAS BLISTER - System Verification Review (SVR)/Production Readiness Review	3	2023	3	2023
DFoS CIDAS BLISTER - Functional Configuration Audit (FCA)	4	2023	4	2023
DFoS CIDAS BLISTER - DT&E-Developmental Test and Evaluation - Phase 2	1	2024	1	2025
DFoS CIDAS BLISTER - OT&E-Operational Test and Evaluation - CIDAS Blister	1	2024	1	2024
DFoS CIDAS BLISTER - Manufacturing Readiness Assessment	1	2024	1	2024
DFoS CIDAS BLISTER - Physical Configuration Audit	2	2024	2	2024
DFoS CIDAS BLISTER - MS C-Milestone C	4	2024	4	2024
DFoS CIDAS BLISTER - FRP-Full Rate Production Decision	4	2024	4	2024

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** MT5 / *Mitigate (SDD)*

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
DFoS CIDAS BLISTER - IOC-Initial Operational Capability	2	2027	2	2027
DFoS CIDAS BLISTER - FOC-Full Operational Capability - CIDAS Blister	2	2028	2	2028
FAMS-S - PDR-Preliminary Design Review - Man-Portable Variant	3	2022	3	2022
FAMS-S - CDR-Critical Design Review - Man-Portable Variant	2	2023	2	2023
FAMS-S - MTA Outcome Decision Memorandum-Middle Tier Acquisition Outcome Decision Memorandum - Man-Portable Variant	3	2023	3	2023
FAMS-S - OT&E-Operational Test and Evaluation - Man-Portable Variant	2	2023	2	2023
FAMS-S - PDR-Preliminary Design Review - Small/Large Variants	4	2022	4	2022
FAMS-S - OT&E-Operational Test and Evaluation - Small/Large Variants	2	2024	2	2024
FAMS-S - CDR-Critical Design Review - Small/Large Variants	3	2024	3	2024
FAMS-S - MTA Outcome Decision Memorandum-Middle Tier Acquisition Outcome Decision Memorandum - Small/Large Variants	3	2024	3	2024
FAMS-S - IOC-Initial Operational Capability - All Variants	3	2024	2	2026
FAMS-S - FOC-Full Operational Capability - All Variants	4	2028	4	2028
INATS CA - MS B-Milestone B	2	2022	2	2022
INATS CA - Clinical Trials	1	2022	4	2024
INATS CA - Manufacturing/Auto-Injector	1	2022	2	2025
INATS CA - Non-Clinical Studies	1	2022	2	2025
INATS CA - NDA Submission-New Drug Application Submission	1	2026	3	2026
INATS CA - FDA Approval-Food and Drug Administration Approval	3	2026	1	2028
INATS CA - SNAPP Modernization - BA7	1	2022	4	2025
INATS CA - PB Extended Release Tablet Development - BA7	1	2023	1	2026
SEDS - Prototype Agreement Award (SOF and Other Services)	4	2022	4	2022
SEDS - CDD Validation-Capability Development Document Validation - Other Services	1	2023	2	2023
SEDS - Early Developmental Testing (Other Services)	1	2023	3	2023
SEDS - MS B-Milestone B - Other Services	4	2023	4	2023

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** MT5 / *Mitigate (SDD)*

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
SEDS - DT&E-Developmental Test and Evaluation - Other Services	1	2024	3	2025
SEDS - MS C-Milestone C - Other Services	3	2026	3	2026
SEDS - FRP-Full Rate Production Decision - Other Services	4	2027	4	2027
SEDS - DT&E-Developmental Test and Evaluation - SOF	3	2022	4	2023
SEDS - RFP-Development Request for Proposal Release Decision - SOF and Other Services	4	2022	4	2022
SEDS - MS B-Milestone B - SOF	3	2023	3	2023
SEDS - MS C-Milestone C - SOF	4	2024	4	2024
SEDS - IOC-Initial Operational Capability - SOF	2	2026	2	2026
SEDS - FOC-Full Operational Capability - SOF	4	2028	4	2028

Exhibit R-2A, RDT&E Project Justification: PB 2024 Chemical and Biological Defense Program											Date: March 2023	
Appropriation/Budget Activity 0400 / 5					R-1 Program Element (Number/Name) PE 0604384BP / *Chemical and Biological Defense Program - EMD*				Project (Number/Name) EN5 / *Enabling Investments (SDD)*			
COST ($ in Millions)	**Prior Years**	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**Cost To Complete**	**Total Cost**
EN5: *Enabling Investments (SDD)*	-	0.000	13.392	13.835	0.000	13.835	13.884	14.179	14.197	14.261	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Enabling Investments System Development & Demonstration (SDD) Project provides the capability to rapidly develop, manufacture, and approve medical countermeasures through sustaining the Department of Defense advanced development manufacturing facility. Enabling efforts in this area support dedicated infrastructure capabilities, demonstrations, and overarching development support functions as portfolio enablers responding to emerging threats. Additional efforts facilitate incorporation of chemical and biological (CB) survivability equipment into Service major acquisition programs. In FY 2023, the Chemical Biological Defense Program (CBDP) RDT&E Projects were restructured to align with the CBDP portfolio construct. EN5 efforts in FY 2022 remain in Projects DE5 and MB5. This restructuring provided standardization and alignment across CBDP research, development and acquisition efforts.

Efforts included in this Project are:

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

The CBIPR-ADM ensures prioritization to domestic biopharmaceutical manufacturing capacities, capabilities, and infrastructure (e.g. the DoD-ADM Facility and other strategic partners) that are operationally ready to rapidly develop and manufacture medical countermeasures (MCMs) against current and emerging chemical and biological threats including pandemic response. Prioritization is achieved by establishing and enhancing proven biopharmaceutical manufacturing platform technologies and infrastructure at these facilities. Thus, these facilities 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 that benefit from 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 prioritization and 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 FY24, the CBIPR-ADM program continues to establish and enhance new manufacturing platform technologies and infrastructure that will enable the development of MCMs against chemical and biological threats.

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

Exhibit R-2A, RDT&E Project Justification: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** EN5 / *Enabling Investments (SDD)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: 1) CBIPR-ADM ***Description:*** ADM Infrastructure ***FY 2023 Plans:*** Continue activities to maintain the Department of Defense (DoD) ADM's capabilities in a state of readiness to support Medical Countermeasure (MCM) development and manufacturing. ***FY 2024 Plans:*** Continue activities to enhance and optimize known manufacturing platform technologies that will maintain the DoD ADM and other strategic partner facilities in a state of operational readiness to support the development and manufacture of medical countermeasure (MCMs). This approach ensures that the DoD's efforts are not limited to a single facility. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Minor change due to routine program adjustments.	-	10.974	11.465
Title: 2) MDAP ***Description:*** CBRN Survivability Support ***FY 2023 Plans:*** Continue to ensure CBRN survivability requirements are met for MDAP's by cross-walking requirements documents with program execution plans. Attend meetings to address integration needs and present CBRN system and hardware options. Provide subject matter expertise in the execution of CBRN survivability requirements for both materiel and non-material solutions. Review and assist in document preparation for milestones and programs reviews. Conduct CBRN survivability compliance reviews for Optionally Manned Fighting Vehicle, Robotic Combat Vehicle, Future Long Range Assault Aircraft, Future Attack Reconnaissance Aircraft, Synthetic Training Environment, Precision Navigation and Timing, multiple Soldier Lethality programs, and other CBRN survivability system integration in preparation for various program acquisition milestones, design reviews and low rate initial production reviews. ***FY 2024 Plans:*** Provide subject matter expertise in the execution of CBRN survivability requirements for both materiel and non-material solutions. Review and assist in document preparation for milestones and programs reviews. Conduct CBRN survivability compliance reviews for Optionally Manned Fighting Vehicle, Robotic Combat Vehicle, Future Long Range Assault Aircraft, Future Attack Reconnaissance Aircraft, Synthetic Training Environment, Precision Navigation and Timing, multiple Soldier Lethality programs,	-	2.418	2.370

Exhibit R-2A, RDT&E Project Justification: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** EN5 / *Enabling Investments (SDD)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
and other CBRN survivability system integration in preparation for various program acquisition milestones, design reviews and low rate initial production reviews. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Minor change due to routine program adjustments.			
Accomplishments/Planned Programs Subtotals	-	13.392	13.835

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• DE5: *Decontamination (SDD)*	7.485	-	-	-	-	-	-	-	-	0.000	7.485
• EN4: *Enabling Investments (ACD&P)*	-	6.781	47.272	-	47.272	51.579	9.792	9.840	9.840	Continuing	Continuing
• MB4: *Medical Biological Defense (ACD&P)*	46.791	-	-	-	-	-	-	-	-	0.000	46.791
• MB5: *Medical Biological Defense (SDD)*	138.156	-	-	-	-	-	-	-	-	0.000	138.156

Remarks

D. Acquisition Strategy

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

By establishing new capabilities at the DoD-ADM Facility and other strategic partners, the CBIPR-ADM line ensures that the DoD will have priority access to critical technologies and infrastructure that are operationally ready to support the rapid development and manufacture of MCMs. This approach ensures that the DoD's efforts are not limited to a single facility. In FY24, the CBIPR-ADM line will continue to establish, enhance, and optimize new manufacturing platform technologies and infrastructure to support the production of MCMs. These new manufacturing technologies can come from any government sources (including Joint Science & Technology Office for Chemical Biological Defense (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/or other external sources and targets of opportunity from industry.

MAJOR DEFENSE ACQUISITION PROGRAM (MDAP)

MDAP effort provides CBRN capability requirements integration support to Major Defense Acquisition Programs, Services, and Program Executive Offices. Cross-walk requirements with program execution plans, introduce new/existing materiel solutions, develop common integrated CBRN solutions, support Modernization and Readiness efforts.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Chemical and Biological Defense Program			Date: March 2023
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0604384BP / *Chemical and Biological Defense Program - EMD*	Project (Number/Name) EN5 / *Enabling Investments (SDD)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CBIPR-ADM - Capability Optimization (Vero Cell Platform, BSAT Surrogate Platform)	C/CPFF	Ology : Alachua, FL	-	0.000		9.944	Dec 2022	10.763	Dec 2023	-		10.763	Continuing	Continuing	0.000
		Subtotal	-	0.000		9.944		10.763		-		10.763	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MDAP - TD/D SB - IPT and Technical Support	MIPR	Various : N/A	-	0.000		2.081	Nov 2022	0.921	Jan 2024	-		0.921	Continuing	Continuing	0.000
		Subtotal	-	0.000		2.081		0.921		-		0.921	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MDAP - Robotic Sensors Testing	MIPR	Various : N/A	-	0.000		0.000		0.900	Mar 2024	-		0.900	Continuing	Continuing	0.000
		Subtotal	-	0.000		0.000		0.900		-		0.900	Continuing	Continuing	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CBIPR-ADM - PM/MS C - Program Management Support (SETA)	Various	JPL CBRND Enabling Biotechnologies, JPEO-CBRND : Fort Detrick, MD	-	0.000		1.030	Dec 2022	0.702	Dec 2023	-		0.702	Continuing	Continuing	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** EN5 / *Enabling Investments (SDD)*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MDAP - PM/MS S - Program Management Support	MIPR	Various : N/A	-	0.000		0.337	Nov 2022	0.549	Nov 2023	-		0.549	Continuing	Continuing	0.000
		Subtotal	-	0.000		1.367		1.251		-		1.251	Continuing	Continuing	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	0.000		13.392		13.835		-		13.835	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** EN5 / *Enabling Investments (SDD)*

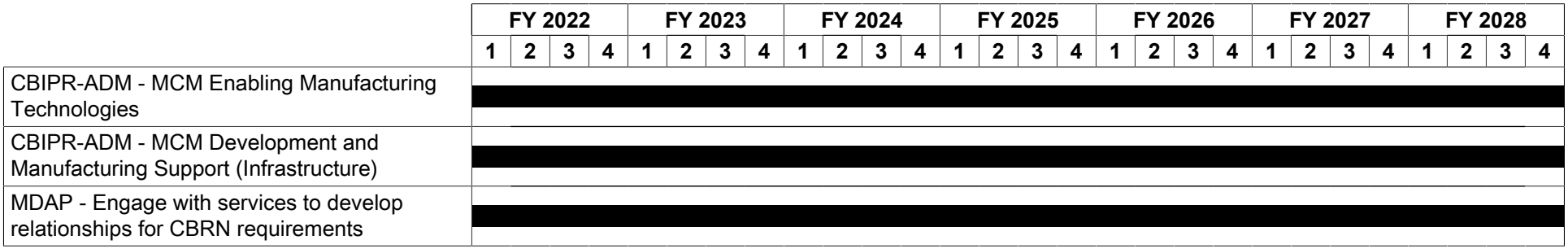

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** EN5 / *Enabling Investments (SDD)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
CBIPR-ADM - MCM Enabling Manufacturing Technologies	1	2022	4	2028
CBIPR-ADM - MCM Development and Manufacturing Support (Infrastructure)	1	2022	4	2028
MDAP - Engage with services to develop relationships for CBRN requirements	1	2022	4	2028

Exhibit R-2A, RDT&E Project Justification: PB 2024 Chemical and Biological Defense Program											Date: March 2023	
Appropriation/Budget Activity 0400 / 5					R-1 Program Element (Number/Name) PE 0604384BP / *Chemical and Biological Defense Program - EMD*				Project (Number/Name) CA5 / *Contamination Avoidance (SDD)*			
COST ($ in Millions)	**Prior Years**	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**Cost To Complete**	**Total Cost**
CA5: *Contamination Avoidance (SDD)*	-	84.967	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	84.967
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project supports Engineering and Manufacturing Development (EMD) and Low Rate Initial Production (LRIP) of an array of reconnaissance, detection and identification equipment, and warning systems. After FY 2022, the Chemical Biological Defense Program (CBDP) RDT&E Projects were restructured to align with the CBDP portfolio construct. CA5 efforts in FY 2022 progress to Project UN5. This restructuring provides standardization and alignment across CBDP research, development and acquisition efforts.

Efforts included in this Project are:

(1) Advanced Emerging Threat Defense (AET DEFENSE) **Progresses to UN5 in FY2023**,
(2) Aerosol & Vapor Chemical Agent Detector (AVCAD) **Progresses to UN5 in FY2023**,
(3) Multi-Phase Chemical Agent Detector (MPCAD) **Progresses to UN5 in FY2023**,
(4) Chemical Biological Radiological and Nuclear (CBRN) Sensor Integration on Robotics Platforms (CSIRP) **Progresses to UN5 in FY2023**,
(5) Joint Biological Tactical Detection System (JBTDS) **Progresses to UN5 in FY2023**,
(6) Nuclear Biological Chemical Reconnaissance Vehicle Sensor Suite Upgrade (NBCRV SSU) **Progresses to UN5 in FY2023**, and
(7) Reactive Chemistry Orthogonal Surface and Environmental Threat Ticket Array (ROSETTA)

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 chemical and biological (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 Non-Traditional Agents (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.

AVCAD is a man portable system to detect aerosol and vapor chemical agents. AVCAD fills critical gaps in current Joint Force chemical sensor capabilities, in the areas of liquid, solid and dusty aerosol Chemical Warfare Agent detection, and detection of specific advanced threats/Non-Traditional Agents. The AVCAD will also detect low-level off-gassing, or residual vapors, to prevent/mitigate health effects associated with low concentration exposures, and perform remote alarm warning and reporting. AVCAD will support chemical and biological defense missions, including monitoring, collective protection, base defense, decontamination, unmasking, reconnaissance, and shipboard and aviation platform chemical detection. In FY24, AVCAD will execute and complete production and deployment testing.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** CA5 / *Contamination Avoidance (SDD)*

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

CSIRP is a prototyping and fielding effort that will focus on repackaging and integrating of modular CBRN sensor and common interface solutions to enhance Unmanned Aircraft Systems (UAS), Unmanned Surface Vessels (USV) and Unmanned Ground Vehicles (UGV) to provide situational awareness across the echelons of command in order to enable freedom of maneuver and action on the battlefield. An integrated CSIRP capability will exploit advances in artificial intelligence, machine learning and autonomy, sensing and communication capabilities that enable timely and accurate detection, warning and reporting of CBRN hazards. CSIRP reduces risk to the maneuver forces and individual Warfighter in mounted and dismounted operations at the tactical and operational levels. Under Project UN5, in FY24 CSIRP will integrate standoff detection and provide upgrades to CBRN autonomy, mapping and obstacle avoidance for denied global positioning system (GPS) operations on UASs.

JBTDS is the first tactical lightweight, low-cost biological surveillance system to detect, collect, and identify Biological Warfare Agent (BWA) aerosols. JBTDS components are man-portable, battery operable and easy to employ by any military user. JBTDS provides notification of a hazard and enhances battle-space awareness to protect and preserve the forces and can archive a sample for follow up analysis. When networked, JBTDS augments existing biological detection systems providing a theater-wide array capable of biological detection, identification and warning to support time sensitive force protection decisions. The JBTDS provides surface sampling capability which interfaces with the JBTDS identifier to support sensitive site exploitation missions. In FY24, JBTDS will continue activities required to support the low rate initial production (LRIP) decision.

Nuclear Biological Chemical Reconnaissance Vehicle Sensor Suite Upgrade (NBCRV SSU) provides maneuver formations the ability to conduct mounted Chemical Biological Radiological and Nuclear (CBRN) reconnaissance and surveillance. The NBCRV SSU will answer the commander’s priority intelligence requirements & facilitate proactive risk-based decisions, to ensure freedom of action and maintain maneuver momentum in Large Scale Combat Operations. NBCRV SSU is an Acquisition Category (ACAT) II modification work order (MWO) effort to modernize the current NBCRV Sensor Suite to increase maintainability, reliability, maneuverability of the force, and standoff distance from the threat, via enhanced CBRN standoff capabilities & integrating onto robotics for manned unmanned teaming.

The ROSETTA is a modernization effort to provide a higher confidence chemical hazard detection tickets in the currently fielded M256A2 kit for the Warfighter to make timely decisions for the general forces. These decisions will reduce casualties and improve the combat effectiveness of troops engaged in conflicts involving the use of chemical threats. ROSETTA is based on colorimetric technologies and will be eye-readable and ease the Warfighter from current training and operational burden. In addition, the ROSETTA tickets will provide improved hazard detection performance with reduced false alarm rate, potential for increased number of chemicals detected, reduced detection time especially for compounds of interest (Chemical Warfare Agents (CWA), Pharmaceutical Based Agents (PBAs), Non-Traditional Agents (NTAs), and Toxic Industrial Chemicals (TICs)), and potential for integration onto unmanned platforms especially micro-sized unmanned aerial sensors. ROSETTA funding discontinues after FY23.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** CA5 / *Contamination Avoidance (SDD)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: 1) AET DEFENSE ***Description:*** Program Management, Product Development, Support, and Testing of technologies that have been demonstrated to be TRL 6 or higher in order to rapidly field solutions to combat emerging threats.	2.567	-	-
Title: 2) AVCAD ***Description:*** Product Development/Testing	12.640	-	-
Title: 3) AVCAD ***Description:*** Support Costs/Program Management	3.685	-	-
Title: 4) MPCAD - Product Development ***Description:*** Product Development	7.010	-	-
Title: 5) MPCAD - Testing ***Description:*** Testing	4.804	-	-
Title: 6) MPCAD - Program Support ***Description:*** Program Management Support	1.159	-	-
Title: 7) CSIRP ***Description:*** Product Development, Program Management, Test and Evaluation and Support.	15.653	-	-
Title: 8) JBTDS ***Description:*** Test & Evaluation	2.146	-	-
Title: 9) JBTDS ***Description:*** EMD Contract & Program Management	7.544	-	-
Title: 10) NBCRV SSU ***Description:*** CBRN Sensor Development and Integration	27.551	-	-
Title: 11) ROSETTA - M8	0.208	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** CA5 / *Contamination Avoidance (SDD)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Description: Product Development & Technical Assessment of the M256A2 Kit.			
Accomplishments/Planned Programs Subtotals	84.967	-	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• CA4: *Contamination Avoidance (ACD&P)*	37.189	-	-	-	-	-	-	-	-	0.000	37.189
• CA7: *Contamination Avoidance (Op Sys Dev)*	12.244	-	-	-	-	-	-	-	-	0.000	12.244
• UN5: *Understand (SDD)*	-	126.071	182.726	-	182.726	137.991	127.671	108.908	68.088	Continuing	Continuing
• UN7: *Understand (Op Sys Dev)*	-	40.414	50.603	-	50.603	58.881	71.869	68.839	50.628	Continuing	Continuing
• MC0100: *Joint NBC Reconnaissance System (JNBCRS)*	-	-	-	-	-	-	-	-	-	0.000	0.000
• MX0001: *Joint Bio Tactical Detection System (JBTDS)*	17.060	-	7.025	-	7.025	22.238	17.385	44.150	44.150	Continuing	Continuing
• SA0005: *CBRN Sensor Integration On Robotic Platforms (CSIRP)*	3.461	2.099	-	-	-	-	-	-	-	0.000	6.063
• SA0015: *Aerosol Vapor Chemical Agent Detector (AVCAD)*	-	-	2.458	-	2.458	43.262	55.762	66.237	43.029	Continuing	Continuing
• SA0017: *Multiphase Chemical Agent Detector (MPCAD)*	6.502	4.014	13.561	-	13.561	21.852	36.758	37.261	0.829	Continuing	Continuing

Remarks

D. Acquisition Strategy

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 Other Transaction Authority (OTA) agreements for system development and prototyping activities and Government Agencies and Federally Funded Research and Development Centers to provide development, testing and technical support.

AEROSOL VAPOR CHEMICAL AGENT DETECTOR (AVCAD)

Aerosol & Vapor Chemical Agent Detector (AVCAD) awarded two MS B Engineering and Manufacturing Development (EMD) contracts with production options. The AVCAD program is conducting full EMD Record Testing in support of the Milestone C decision. If supported by EMD Test Data and funding, the program will proceed forward with LRIP option award.

MULTI-PHASE CHEMICAL AGENT DETECTOR (MPCAD)

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

CBRN SENSOR INTEGRATION ON ROBOTIC PLATFORMS (CSIRP)

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

JOINT BIO TACTICAL DETECTION SYSTEM (JBTDS)

The JBTDS program utilizes a streamlined acquisition strategy leveraging a contract with Chemring Sensors and Electronic Systems (CSES). The contract includes options for Low Rate Initial Production (LRIP) and Full Rate Production (FRP). The JBTDS is moving towards a Milestone C decision in third quarter FY23, utilizing the current contract to award both the LRIP and FRP options. To support the National Guard requirement, the Joint Handheld Biological Identifier (JHBI) will award congruently with the JBDTS LRIP and FRP options. The JBTDS program uses an agile acquisition strategy which leverages current technologies, recognizing up front the need for potential technology insertion to provide more cost effective capabilities.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** CA5 / *Contamination Avoidance (SDD)*

Nuclear Biological Chemical Reconnaissance Vehicle Sensor Suite Upgrade

Nuclear Biological Chemical Reconnaissance Vehicle Sensor Suite Upgrade (NBCRV SSU) is an upgrade for the Stryker NBCRV. The Army Requirements Oversight Council (AROC) Review Board (ARB) decided on 1 FEB 2022 to continue a Modification Work Order (MWO) pathway for Capability Set 2.1 (CS2.1) (initial SSU capability) as a bridge to CS2.2 (full SSU capability). The NBCRV SSU program received prototype CS2.1 systems via Other Transaction Authority (OTA) in March 2022, and will continue testing through October 2023, to inform a Conditional Materiel Release Decision in FY24. An In Progress Review (IPR) will be held starting in FY23 to execute an MWO for CS2.1 production and fielding, starting in FY24. The NBCRV SSU program will receive prototype CS2.2 systems via another OTA in August 2024, followed by testing in FY24 through early FY26 to inform the CS2.2 MWO Full Materiel Release Decision in FY26.

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

ROSETTA will use a streamlined approach to rapidly field multiple components of the modernization of the M256A2 kit. These efforts will utilize multiple contract vehicles including Countering Weapons of Mass Destruction (CWMD) Other Transactional Authority (OTA). The ROSETTA funding will complete the acquisition of the M8 component to the M256 kit and will support the acquisition of a Pharmaceutical Based Agents ticket, the M256 vapor unmasking tool, and the other Non Traditional Agents and Toxic Industrial Chemicals.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** CA5 / *Contamination Avoidance (SDD)*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AET DEFENSE - SW C - Prototyping and Modification	Various	U.S. Army Combat Capabilities Development Command (DEVCOM) Chemical Biological Center (CBC) : Aberdeen Proving Ground, MD	-	0.931	Jan 2022	0.000		0.000		-		0.000	0.000	0.931	0.000
AET DEFENSE - HW S - System Prototyping and Modification	Various	Various : N/A	-	0.369	Dec 2021	0.000		0.000		-		0.000	0.197	0.566	0.000
AVCAD - Government Product Development Team Labor	MIPR	Various : N/A	4.520	2.001	May 2022	0.000		0.000		-		0.000	0.000	6.521	0.000
AVCAD - HW S - EMD Contract- Smiths Detection	C/CPIF	Smiths Detection : Edgewood, MD	20.975	8.193	Nov 2021	0.000		0.000		-		0.000	0.000	29.168	0.000
MPCAD - HW S - EMD Contract	C/CPFF	FLIR Systems, Inc. : West Lafayette, IN	22.520	2.475	Dec 2021	0.000		0.000		-		0.000	0.000	24.995	0.000
MPCAD - HW C - Contractor Product Development Team Labor	C/FFP	Kalman & Company Inc. : Virginia Beach, VA	0.408	0.385	Dec 2021	0.000		0.000		-		0.000	0.000	0.793	0.000
MPCAD - PM/MS S - Government Product Development Team Labor	MIPR	U.S. Army Combat Capabilities Development Command (DEVCOM) Chemical Biological Center (CBC) : Aberdeen Proving Ground, MD	5.962	1.932	Nov 2021	0.000		0.000		-		0.000	0.000	7.894	0.000
MPCAD - HW S - EMD Contract	C/CPFF	Signature Science : Austin, TX	32.314	2.218	Dec 2021	0.000		0.000		-		0.000	0.000	34.532	0.000
CSIRP - HW C - Contractor Product Development Labor	C/FFP	Various : N/A	0.318	0.558	Feb 2022	0.000		0.000		-		0.000	0.000	0.876	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** CA5 / *Contamination Avoidance (SDD)*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CSIRP - HW C - Development and Integration	MIPR	U.S. Army Combat Capabilities Development Command (DEVCOM) Chemical Biological Center (CBC) : Aberdeen Proving Ground, MD	0.679	1.493	Dec 2021	0.000		0.000		-		0.000	0.000	2.172	0.000
CSIRP - HW C - Government Product Development Team Labor	MIPR	U.S. Army Combat Capabilities Development Command (DEVCOM) Chemical Biological Center (CBC) : Aberdeen Proving Ground, MD	1.383	1.239	Dec 2021	0.000		0.000		-		0.000	0.000	2.622	0.000
CSIRP - SW C - Sensor Integration	C/CPFF	FLIR Systems Inc. : Elkridge, MD	-	2.976	Jun 2022	0.000		0.000		-		0.000	0.000	2.976	0.000
CSIRP - HW C - RN Sensor Prototype and Integration	C/FFP	Radiation Monitoring Devices, Inc : Boston, MA	0.615	0.030	May 2022	0.000		0.000		-		0.000	0.000	0.645	0.000
CSIRP - SW C - Sensor Integration	C/CPFF	Charles Stark Draper Laboratories, Inc. : Cambridge, MA	1.500	2.624	Nov 2021	0.000		0.000		-		0.000	0.000	4.124	0.000
CSIRP - HW C - Chemical Sensor Prototype and Integration	C/FFP	Intelligent Optical Systems (IOS) : Torrance, CA	0.485	0.239	Nov 2021	0.000		0.000		-		0.000	0.000	0.724	0.000
CSIRP - SW C - UAS and Sensor Manufacturing and Design	C/CPFF	T2S Solutions (T2S, LLC) : Belcamp, MD	1.687	1.600	Dec 2021	0.000		0.000		-		0.000	0.000	3.287	0.000
JBTDS - HW C - EMD Contract Award	C/CPIF	Chemring Detection Systems, Inc. : Charlotte, NC	37.021	3.898	Dec 2021	0.000		0.000		-		0.000	0.000	40.919	0.000
JBTDS - HW C - Program Team Labor	MIPR	Various : N/A	28.547	1.659	Nov 2021	0.000		0.000		-		0.000	0.000	30.206	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** CA5 / *Contamination Avoidance (SDD)*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
JBTDS - HW C - JHBI	C/CPFF	Biomeme : Philadelphia, PA	1.752	0.562	Mar 2022	0.000		0.000		-		0.000	0.000	2.314	0.000
NBCRV SSU - HW C - Government Product Development Team Labor	MIPR	U.S. Army Combat Capabilities Development Command (DEVCOM) Chemical Biological Center (CBC) : Aberdeen Proving Ground, MD	-	2.590	Dec 2021	0.000		0.000		-		0.000	0.000	2.590	0.000
NBCRV SSU - SW C - Integration	C/FFP	FLIR Systems Inc. : Elkridge, MD	-	2.830	Dec 2021	0.000		0.000		-		0.000	0.000	2.830	0.000
NBCRV SSU - HW C - Chemical Surface Detector Development	C/CPFF	FLIR Systems Inc. : Elkridge, MD	-	2.733	Jan 2022	0.000		0.000		-		0.000	0.000	2.733	0.000
NBCRV SSU - HW C - Contractor Team Labor	C/FFP	Various : N/A	-	0.896	Feb 2022	0.000		0.000		-		0.000	0.000	0.896	0.000
NBCRV SSU - SW C - Virtual Un-manned Platform Trainer	C/FFP	Various : N/A	-	0.898	Aug 2022	0.000		0.000		-		0.000	0.000	0.898	0.000
NBCRV SSU - HW C - cSDS On the Move	C/FFP	Various : N/A	-	2.774	Sep 2022	0.000		0.000		-		0.000	0.000	2.774	0.000
ROSETTA - HW C - Government Product Development Core Team Labor	MIPR	JPM CBRN Sensors, JPEO-CBRND : Aberdeen Proving Ground, MD	0.573	0.054	Nov 2022	0.000		0.000		-		0.000	0.000	0.627	0.000
		Subtotal	161.259	48.157		0.000		0.000		-		0.000	0.197	209.613	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** CA5 / *Contamination Avoidance (SDD)*

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AVCAD - ES C - OGA support (IPTs)	MIPR	Various : N/A	2.132	2.011	May 2022	0.000		0.000		-		0.000	0.000	4.143	0.000
CSIRP - ES C - Engineering Support	Various	Various : N/A	1.421	0.981	Dec 2021	0.000		0.000		-		0.000	0.000	2.402	0.000
JBTDS - Engineering Support	MIPR	Various : N/A	1.602	0.414	Jun 2022	0.000		0.000		-		0.000	0.000	2.016	0.000
JBTDS - OTA/OGA Service Representation	MIPR	Various : N/A	14.749	0.678	Mar 2022	0.000		0.000		-		0.000	0.000	15.427	0.000
NBCRV SSU - ILS C - Logistic Support	C/FFP	Various : N/A	-	0.938	Feb 2022	0.000		0.000		-		0.000	0.000	0.938	0.000
NBCRV SSU - ES C - Engineering Support	MIPR	Various : N/A	-	1.020	Apr 2022	0.000		0.000		-		0.000	0.000	1.020	0.000
NBCRV SSU - Stryker NBCRV Maintenance	C/FFP	General Dynamics Land Systems : Detroit, MI	-	2.154	Mar 2022	0.000		0.000		-		0.000	0.000	2.154	0.000
NBCRV SSU - ES C - Contract and Product Support	Various	Various : N/A	-	0.313	Dec 2021	0.000		0.000		-		0.000	0.000	0.313	0.000
		Subtotal	19.904	8.509		0.000		0.000		-		0.000	0.000	28.413	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AET DEFENSE - OTHT C - Product Demonstration Events for Users	MIPR	Various : N/A	-	0.441	Feb 2022	0.000		0.000		-		0.000	0.000	0.441	0.000
AET DEFENSE - DTE S - Technology Assessments	Various	Various : N/A	-	0.745	Dec 2021	0.000		0.000		-		0.000	0.000	0.745	0.000
AVCAD - OTE C - DT/OT Chemical Chamber & Chemical Purchase for Chamber	MIPR	U.S. Army Combat Capabilities Development Command	5.833	2.092	Nov 2021	0.000		0.000		-		0.000	0.000	7.925	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** CA5 / *Contamination Avoidance (SDD)*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		(DEVCOM) Chemical Biological Center (CBC) : Aberdeen Proving Ground, MD													
AVCAD - OTE C - DT/OT Test Activities	MIPR	Various : N/A	7.595	0.354	Jul 2022	0.000		0.000		-		0.000	0.000	7.949	0.000
MPCAD - DTE C - DT/OT Chemical Chamber Event	MIPR	West Desert Test Center : Dugway, UT	6.350	2.460	Jan 2022	0.000		0.000		-		0.000	0.000	8.810	0.000
MPCAD - DTE C - Various	MIPR	Various : N/A	3.312	1.887	Jan 2022	0.000		0.000		-		0.000	0.000	5.199	0.000
MPCAD - DTE C - Support	MIPR	Aberdeen Test Center (ATC) : Aberdeen Proving Ground, MD	2.264	0.457	Nov 2021	0.000		0.000		-		0.000	0.000	2.721	0.000
CSIRP - DTE C - JHU-APL	MIPR	Johns Hopkins University - Applied Physics Lab : Laurel, MD	0.400	1.367	May 2022	0.000		0.000		-		0.000	0.000	1.767	0.000
CSIRP - DTE C - Environmental Testing	Various	Various : N/A	0.574	1.177	Jun 2022	0.000		0.000		-		0.000	0.000	1.751	0.000
JBTDS - DTE SB - V&V of JBTDS Military Utility Model	Various	Institute for Defense Analysis (IDA) : Alexandria, VA	0.875	0.285	Mar 2022	0.000		0.000		-		0.000	0.000	1.160	0.000
JBTDS - DTE SB - ARCA Chamber and Record Test Support	C/FFP	Battelle Memorial Institute : Columbus, OH	1.564	0.380	Nov 2021	0.000		0.000		-		0.000	0.000	1.944	0.000
JBTDS - DTE SB - Identifier Live Agent Trials / Developmental Testing	MIPR	Various : N/A	9.265	1.401	Nov 2021	0.000		0.000		-		0.000	14.788	25.454	0.000
JBTDS - OTE S - Operational Assessment	MIPR	Various : N/A	1.799	0.080	Nov 2021	0.000		0.000		-		0.000	0.000	1.879	0.000
NBCRV SSU - DTE C - Test and Evaluation	Various	Various : N/A	-	2.869	Mar 2022	0.000		0.000		-		0.000	0.000	2.869	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** CA5 / *Contamination Avoidance (SDD)*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
NBCRV SSU - DTE C - Component Level Testing	MIPR	Various : N/A	-	3.789	Jan 2022	0.000		0.000		-		0.000	0.000	3.789	0.000
NBCRV SSU - DTE S - System Level Testing	MIPR	Various : N/A	-	1.472	Feb 2022	0.000		0.000		-		0.000	0.000	1.472	0.000
		Subtotal	39.831	21.256		0.000		0.000		-		0.000	14.788	75.875	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AET DEFENSE - PM/MS S - IPT Support/Program Management	MIPR	JPEO Chem, Bio, Rad, and Nuc Defense (JPEO-CBRND) : Aberdeen Proving Ground, MD	-	0.081	Dec 2021	0.000		0.000		-		0.000	0.000	0.081	0.000
AVCAD - PM/MS S - Management Services	MIPR	Various : N/A	6.312	1.674	Nov 2021	0.000		0.000		-		0.000	0.000	7.986	0.000
MPCAD - PM/MS S - Program Management Support	MIPR	Various : N/A	10.492	1.159	Dec 2021	0.000		0.000		-		0.000	0.000	11.651	0.000
CSIRP - PM/MS C - PM/MS S Program Management Support	Various	Various : N/A	1.262	1.369	Oct 2021	0.000		0.000		-		0.000	0.000	2.631	0.000
JBTDS - PM/MS S - Program Management Support	MIPR	Various : N/A	21.756	0.333	Nov 2021	0.000		0.000		-		0.000	0.000	22.089	0.000
NBCRV SSU - PM/MS C - Program Management Support	MIPR	Various : N/A	-	2.275	Oct 2021	0.000		0.000		-		0.000	0.000	2.275	0.000
ROSETTA - PM/MS S - Program Management Support	MIPR	Various : N/A	0.870	0.154	Oct 2021	0.000		0.000		-		0.000	0.000	1.024	0.000
		Subtotal	40.692	7.045		0.000		0.000		-		0.000	0.000	47.737	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Chemical and Biological Defense Program			Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** CA5 / *Contamination Avoidance (SDD)*	

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	261.686	84.967		0.000		0.000		-		0.000	14.985	361.638	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** CA5 / *Contamination Avoidance (SDD)*

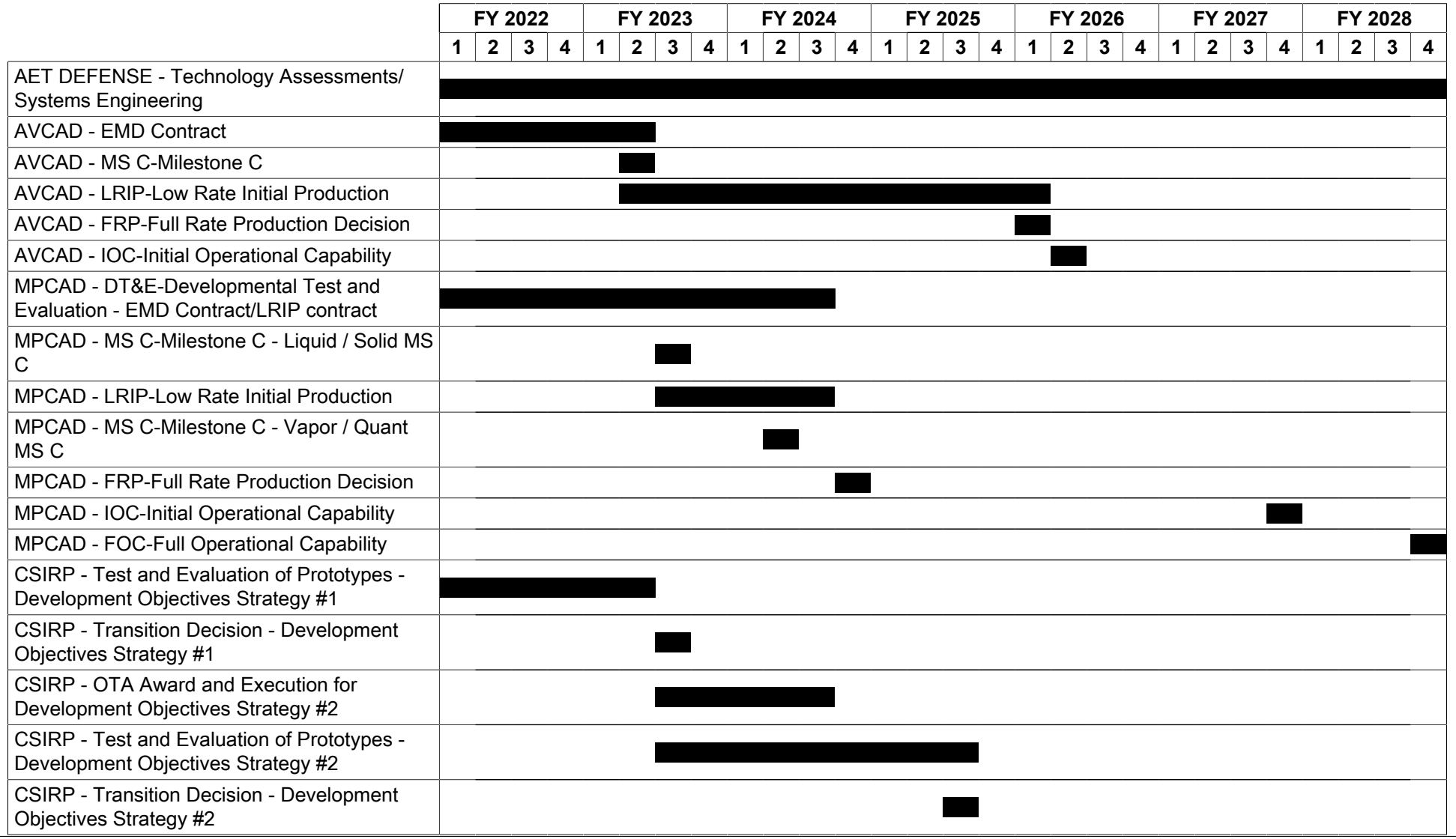

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** CA5 / *Contamination Avoidance (SDD)*

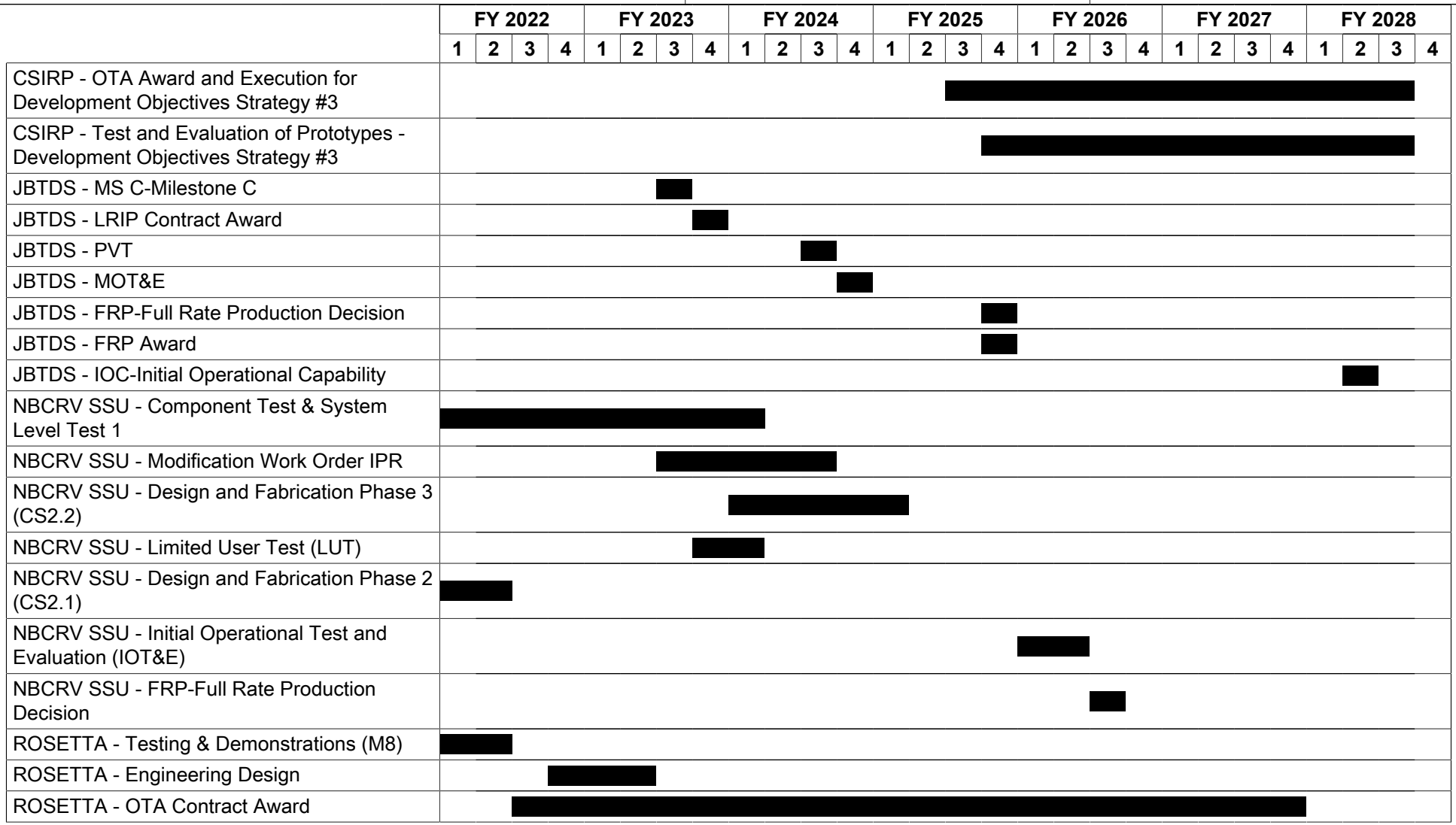

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** CA5 / *Contamination Avoidance (SDD)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
AET DEFENSE - Technology Assessments/Systems Engineering	1	2022	4	2028
AVCAD - EMD Contract	1	2022	2	2023
AVCAD - MS C-Milestone C	2	2023	2	2023
AVCAD - LRIP-Low Rate Initial Production	2	2023	1	2026
AVCAD - FRP-Full Rate Production Decision	1	2026	1	2026
AVCAD - IOC-Initial Operational Capability	2	2026	2	2026
MPCAD - DT&E-Developmental Test and Evaluation - EMD Contract/LRIP contract	1	2022	3	2024
MPCAD - MS C-Milestone C - Liquid / Solid MS C	3	2023	3	2023
MPCAD - LRIP-Low Rate Initial Production	3	2023	3	2024
MPCAD - MS C-Milestone C - Vapor / Quant MS C	2	2024	2	2024
MPCAD - FRP-Full Rate Production Decision	4	2024	4	2024
MPCAD - IOC-Initial Operational Capability	4	2027	4	2027
MPCAD - FOC-Full Operational Capability	4	2028	4	2028
CSIRP - Test and Evaluation of Prototypes - Development Objectives Strategy #1	1	2022	2	2023
CSIRP - Transition Decision - Development Objectives Strategy #1	3	2023	3	2023
CSIRP - OTA Award and Execution for Development Objectives Strategy #2	3	2023	3	2024
CSIRP - Test and Evaluation of Prototypes - Development Objectives Strategy #2	3	2023	3	2025
CSIRP - Transition Decision - Development Objectives Strategy #2	3	2025	3	2025
CSIRP - OTA Award and Execution for Development Objectives Strategy #3	3	2025	3	2028
CSIRP - Test and Evaluation of Prototypes -Development Objectives Strategy #3	4	2025	3	2028
JBTDS - MS C-Milestone C	3	2023	3	2023
JBTDS - LRIP Contract Award	4	2023	4	2023

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** CA5 / *Contamination Avoidance (SDD)*

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
JBTDS - PVT	3	2024	3	2024
JBTDS - MOT&E	4	2024	4	2024
JBTDS - FRP-Full Rate Production Decision	4	2025	4	2025
JBTDS - FRP Award	4	2025	4	2025
JBTDS - IOC-Initial Operational Capability	2	2028	2	2028
NBCRV SSU - Component Test & System Level Test 1	1	2022	1	2024
NBCRV SSU - Modification Work Order IPR	3	2023	3	2024
NBCRV SSU - Design and Fabrication Phase 3 (CS2.2)	1	2024	1	2025
NBCRV SSU - Limited User Test (LUT)	4	2023	1	2024
NBCRV SSU - Design and Fabrication Phase 2 (CS2.1)	1	2022	2	2022
NBCRV SSU - Initial Operational Test and Evaluation (IOT&E)	1	2026	2	2026
NBCRV SSU - FRP-Full Rate Production Decision	3	2026	3	2026
ROSETTA - Testing & Demonstrations (M8)	1	2022	2	2022
ROSETTA - Engineering Design	4	2022	2	2023
ROSETTA - OTA Contract Award	3	2022	4	2027

Exhibit R-2A, RDT&E Project Justification: PB 2024 Chemical and Biological Defense Program			Date: March 2023
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0604384BP / *Chemical and Biological Defense Program - EMD*	Project (Number/Name) CO5 / *Collective Protection (SDD)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
CO5: *Collective Protection (SDD)*	-	2.888	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.888
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

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

Efforts included in this Project are:

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

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

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: 1) JECP ***Description:*** Phase 2 system Development and Demonstration Events	2.888	-	-
Accomplishments/Planned Programs Subtotals	2.888	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** CO5 / *Collective Protection (SDD)*

D. Acquisition Strategy

JOINT EXPEDITIONARY COLLECTIVE PROTECTION (JECP)

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

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** CO5 / *Collective Protection (SDD)*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
JECP - HW S - Phase 2 System Product Development/Phase 2 Prototype Manufacturing	C/Various	Leidos : Abingdon, MD	8.819	0.854	Nov 2021	0.000		0.000		-		0.000	0.000	9.673	0.000
		Subtotal	8.819	0.854		0.000		0.000		-		0.000	0.000	9.673	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
JECP - DTE C - ES S/ILS S - Engineering, Logistics, Technical, IPT Support	MIPR	Various : N/A	6.451	1.119	Nov 2021	0.000		0.000		-		0.000	0.000	7.570	0.000
		Subtotal	6.451	1.119		0.000		0.000		-		0.000	0.000	7.570	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
JECP - OTHT SB - Test & Evaluation IPT/OTE S - Operational Testing/DTE S - Phase 2 Developmental testing	MIPR	Various : N/A	12.442	0.700	Dec 2021	0.000		0.000		-		0.000	0.000	13.142	0.000
		Subtotal	12.442	0.700		0.000		0.000		-		0.000	0.000	13.142	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** CO5 / *Collective Protection (SDD)*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
JECP - PM/MS S - Program Management Support	MIPR	Various : N/A	14.799	0.215	Nov 2021	0.000		0.000		-		0.000	0.000	15.014	0.000
		Subtotal	14.799	0.215		0.000		0.000		-		0.000	0.000	15.014	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	42.511	2.888		0.000		0.000		-		0.000	0.000	45.399	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** CO5 / *Collective Protection (SDD)*

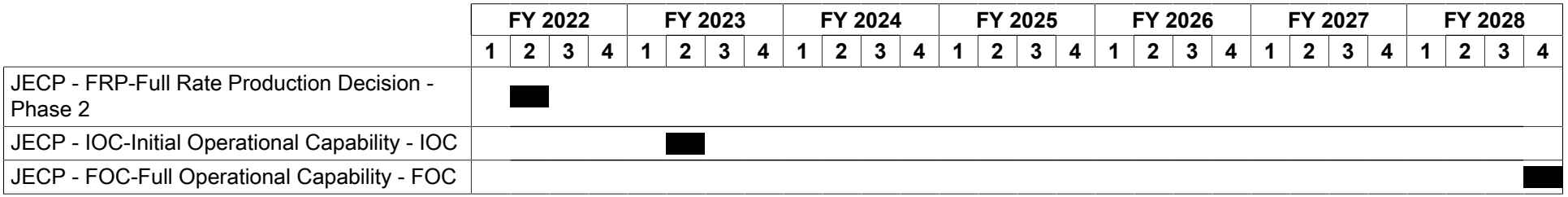

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** CO5 / *Collective Protection (SDD)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
JECP - FRP-Full Rate Production Decision - Phase 2	2	2022	2	2022
JECP - IOC-Initial Operational Capability - IOC	2	2023	2	2023
JECP - FOC-Full Operational Capability - FOC	4	2028	4	2028

Exhibit R-2A, RDT&E Project Justification: PB 2024 Chemical and Biological Defense Program			Date: March 2023
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0604384BP / *Chemical and Biological Defense Program - EMD*	Project (Number/Name) DE5 / *Decontamination (SDD)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
DE5: *Decontamination (SDD)*	-	7.485	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	7.485
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project supports the development of Contamination Mitigation (ConMit) systems utilizing solutions that remove and/or detoxify contaminated material without damaging combat equipment, platforms, personnel, or the environment, helping sustain a resilient force posture, one of the efforts outlined in the National Defense Strategy. ConMit systems provide a force restoration capability for units that become contaminated. Development efforts will provide systems that reduce operational impact and logistics burden, reduce sustainment costs, increase safety, and minimize environmental effects associated with decontamination and contamination mitigation operations. Experimentation and demonstration will be used in this phase to reduce risk and inform supporting materiel solutions, Concept of Operations and Tactics, Techniques & Procedures. After FY 2022, the Chemical Biological Defense Program (CBDP) RDT&E Projects were restructured to align with the CBDP portfolio construct. DE5 efforts in FY 2022 progress to Projects EN5 and MT5. This restructuring provides standardization and alignment across CBDP research, development and acquisition efforts.

Efforts included in this Project are:

(1) Decontamination Family of Systems (DFoS) Contamination Indicator Decontamination Assurance System (CIDAS) Blister **Progresses to MT5 in FY2023**,
(2) Forward Area Mobility Spray - System (FAMS-S) **Progresses to MT5 in FY2023**, and
(3) Major Defense Acquisition Program (MDAP) **Progresses to EN5 in FY2023**

The Decontamination Family of Systems Contamination Indicator Decontamination Assurance System (DFoS CIDAS) Blister program addresses traditional blister agents, two separate threat scenarios that require different materiel solutions, modernizing a key capability to help build a more lethal force, as outlined in the National Defense Strategy. In FY24, the program will conduct a Manufacturing Readiness Assessment (MRA) and a Physical Configuration Audit (PCA) with the Prime Contractor and complete Operational Testing in support of Full Rate Production (FRP)/Fielding Decision.

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

The MDAP Chemical Biological Radiological and Nuclear (CBRN) Survivability Initiative ensures weapon system programs at all Acquisition Category (ACAT) levels, as well as non-DoD agency programs such as those at the Department of Homeland Security (DHS), meet their CBRN defense requirements. In FY24, this effort continues

Exhibit R-2A, RDT&E Project Justification: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** DE5 / *Decontamination (SDD)*

to facilitate and coordinate the research, development, test and evaluation, procurement, delivery, and life cycle sustainment of affordable CBRN defense materiel solutions for each program's documented CBRN requirements.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: 1) DFoS CIDAS BLISTER ***Description:*** Blister Indicator Kits and Large Scale Applicators (LSA)	2.564	-	-
Title: 2) FAMS-S ***Description:*** Small and large variant prototype development and close out of remaining DT/OT activities will complete.	2.681	-	-
Title: 3) MDAP ***Description:*** CBRN Survivability Support	2.240	-	-
Accomplishments/Planned Programs Subtotals	7.485	-	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• DE4: *Decontamination (ACD&P)*	14.747	-	-	-	-	-	-	-	-	0.000	14.747
• EN5: *Enabling Investments (SDD)*	-	13.392	13.835	-	13.835	13.884	14.179	14.197	14.261	Continuing	Continuing
• MT5: *Mitigate (SDD)*	-	74.225	88.441	-	88.441	92.279	91.431	87.773	93.250	Continuing	Continuing
• JD0050: *Decontamination Family Of Systems (DFoS)*	7.797	4.795	6.062	-	6.062	8.673	8.820	16.518	5.996	Continuing	Continuing
• PHM025: *Forward Air Mobility Spray System (FAMS-S)*	-	4.607	4.824	-	4.824	4.724	4.724	4.724	4.889	Continuing	Continuing

Remarks

D. Acquisition Strategy

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

The Decontamination Family of Systems Contamination Indicator Detection Assurance System (DFoS CIDAS) Blister program will follow an evolutionary acquisition strategy. The program office coordinated with Science and Technology efforts to identify blister technologies that met Service requirements. After further development, in 4QFY19 a sole-source performance based indefinite delivery indefinite quantity contract was awarded to develop blister indicator and small scale applicator systems with options for production. The program will leverage the contract to procure blister indicator kits and conduct test and evaluation events for the Engineering & Manufacturing Development (EMD) phase in preparation of Milestone C/Full Rate Production (FRP).

Exhibit R-2A, RDT&E Project Justification: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** DE5 / *Decontamination (SDD)*

FORWARD AREA MOBILITY SPRAY SYSTEM (FAMS-S)

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

MAJOR DEFENSE ACQUISITION PROGRAM (MDAP)

The MDAP program will leverage JPEO-CBRN expertise and product portfolios to provide non-CBD programs with CBRN Survivability and Force Protection capabilities

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** DE5 / *Decontamination (SDD)*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DFoS CIDAS BLISTER - HW S - Small Scale / Large Scale Applicators/ Kits	SS/ Various	FLIR Systems, Inc. : Stillwater, OK	2.269	0.624	Nov 2021	0.000		0.000		-		0.000	0.000	2.893	0.000
FAMS-S - HW S - System Development and Prototype Refinement	C/CPIF	ATI Solutions, Inc. : Tysons Corner, VA	0.876	0.686	Jan 2022	0.000		0.000		-		0.000	0.000	1.562	0.000
		Subtotal	3.145	1.310		0.000		0.000		-		0.000	0.000	4.455	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DFoS CIDAS BLISTER - ES S - IPT and Technical Support	MIPR	Various : N/A	0.980	0.385	Dec 2021	0.000		0.000		-		0.000	0.000	1.365	0.000
FAMS-S - ES S - Systems Engineer/Technical SME Support	MIPR	Various : N/A	0.272	0.686	Jan 2022	0.000		0.000		-		0.000	0.000	0.958	0.000
MDAP - TD/D SB - IPT and Technical Support	MIPR	Various : N/A	2.480	2.081	Nov 2021	0.000		0.000		-		0.000	0.000	4.561	0.000
		Subtotal	3.732	3.152		0.000		0.000		-		0.000	0.000	6.884	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DFoS CIDAS BLISTER - OTHT S - OTHT S - DT/ OT	MIPR	Various : N/A	1.003	1.363	Dec 2021	0.000		0.000		-		0.000	0.000	2.366	0.000
FAMS-S - DTE SB - Decon Solution Analysis	Various	TBD : N/A	0.100	1.042	Feb 2022	0.000		0.000		-		0.000	0.000	1.142	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** DE5 / *Decontamination (SDD)*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	1.103	2.405		0.000		0.000		-		0.000	0.000	3.508	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DFoS CIDAS BLISTER - PM/MS S - Program Management Support	MIPR	Various : N/A	0.369	0.192	Dec 2021	0.000		0.000		-		0.000	0.000	0.561	0.000
FAMS-S - PM/MS S - Program Management	MIPR	Various : N/A	0.016	0.267	Dec 2021	0.000		0.000		-		0.000	0.000	0.283	0.000
MDAP - PM/MS S - Program Management Support	MIPR	Various : N/A	0.488	0.159	Nov 2021	0.000		0.000		-		0.000	0.000	0.647	0.000
		Subtotal	0.873	0.618		0.000		0.000		-		0.000	0.000	1.491	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	8.853	7.485		0.000		0.000		-		0.000	0.000	16.338	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** DE5 / *Decontamination (SDD)*

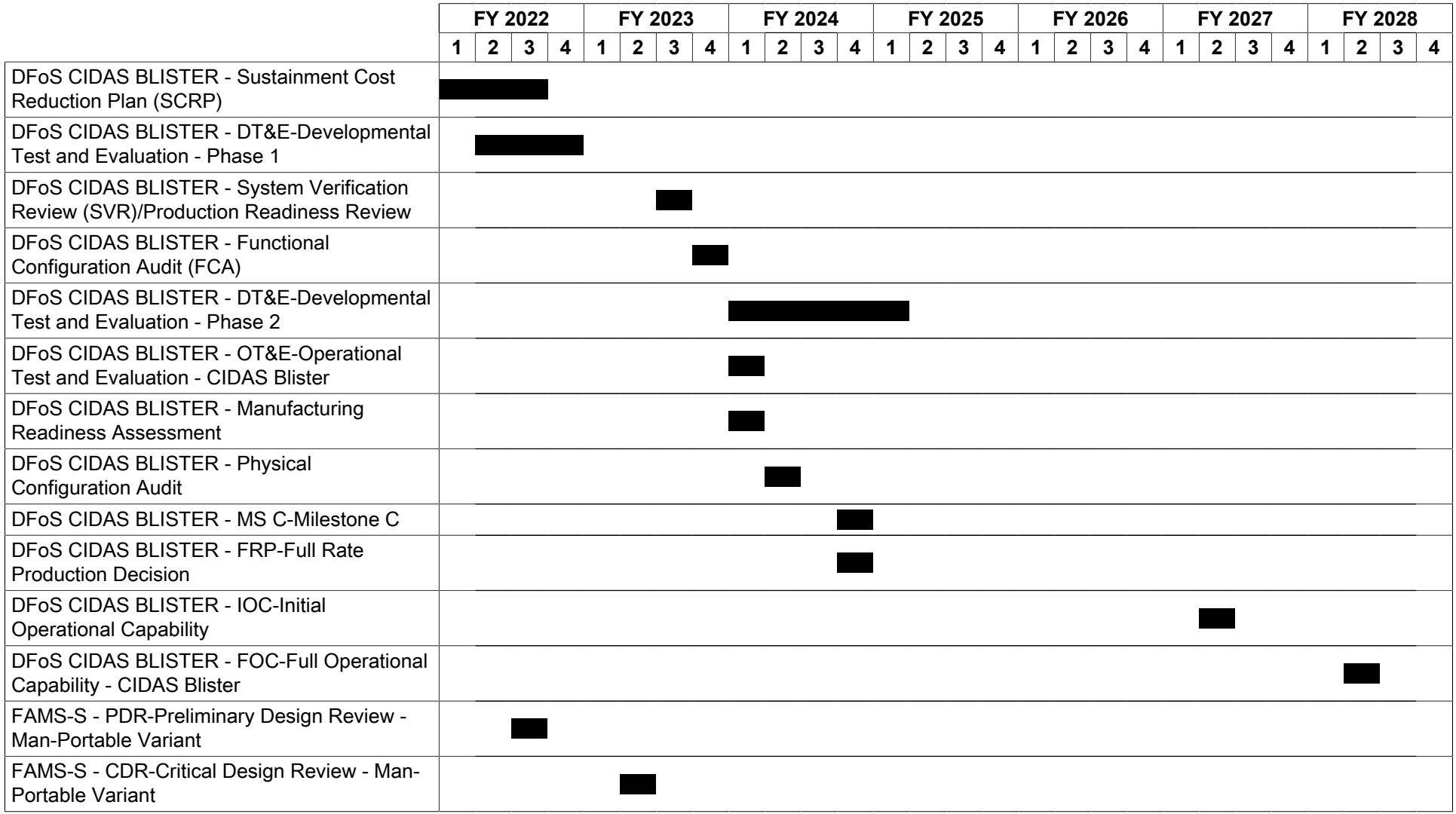

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** DE5 / *Decontamination (SDD)*

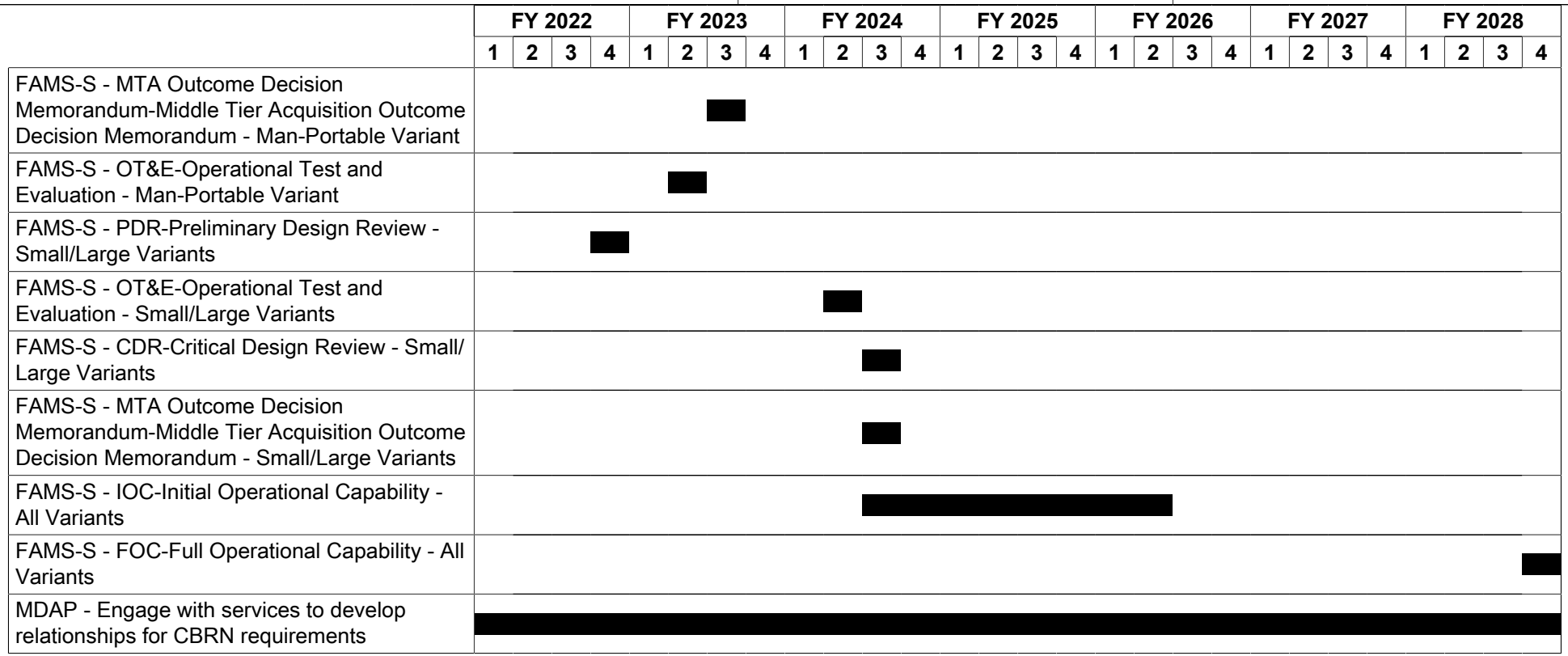

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** DE5 / *Decontamination (SDD)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
DFoS CIDAS BLISTER - Sustainment Cost Reduction Plan (SCRP)	1	2022	3	2022
DFoS CIDAS BLISTER - DT&E-Developmental Test and Evaluation - Phase 1	2	2022	4	2022
DFoS CIDAS BLISTER - System Verification Review (SVR)/Production Readiness Review	3	2023	3	2023
DFoS CIDAS BLISTER - Functional Configuration Audit (FCA)	4	2023	4	2023
DFoS CIDAS BLISTER - DT&E-Developmental Test and Evaluation - Phase 2	1	2024	1	2025
DFoS CIDAS BLISTER - OT&E-Operational Test and Evaluation - CIDAS Blister	1	2024	1	2024
DFoS CIDAS BLISTER - Manufacturing Readiness Assessment	1	2024	1	2024
DFoS CIDAS BLISTER - Physical Configuration Audit	2	2024	2	2024
DFoS CIDAS BLISTER - MS C-Milestone C	4	2024	4	2024
DFoS CIDAS BLISTER - FRP-Full Rate Production Decision	4	2024	4	2024
DFoS CIDAS BLISTER - IOC-Initial Operational Capability	2	2027	2	2027
DFoS CIDAS BLISTER - FOC-Full Operational Capability - CIDAS Blister	2	2028	2	2028
FAMS-S - PDR-Preliminary Design Review - Man-Portable Variant	3	2022	3	2022
FAMS-S - CDR-Critical Design Review - Man-Portable Variant	2	2023	2	2023
FAMS-S - MTA Outcome Decision Memorandum-Middle Tier Acquisition Outcome Decision Memorandum - Man-Portable Variant	3	2023	3	2023
FAMS-S - OT&E-Operational Test and Evaluation - Man-Portable Variant	2	2023	2	2023
FAMS-S - PDR-Preliminary Design Review - Small/Large Variants	4	2022	4	2022
FAMS-S - OT&E-Operational Test and Evaluation - Small/Large Variants	2	2024	2	2024
FAMS-S - CDR-Critical Design Review - Small/Large Variants	3	2024	3	2024
FAMS-S - MTA Outcome Decision Memorandum-Middle Tier Acquisition Outcome Decision Memorandum - Small/Large Variants	3	2024	3	2024

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** DE5 / *Decontamination (SDD)*

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
FAMS-S - IOC-Initial Operational Capability - All Variants	3	2024	2	2026
FAMS-S - FOC-Full Operational Capability - All Variants	4	2028	4	2028
MDAP - Engage with services to develop relationships for CBRN requirements	1	2022	4	2028

Exhibit R-2A, RDT&E Project Justification: PB 2024 Chemical and Biological Defense Program			Date: March 2023
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0604384BP / *Chemical and Biological Defense Program - EMD*	Project (Number/Name) IP5 / *Individual Protection (SDD)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
IP5: *Individual Protection (SDD)*	-	18.690	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	18.690
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project provides Engineering & Manufacturing Development Phase and Low Rate Initial Production (EMD/LRIP) for individual protection equipment, with the goal of providing equipment that allows the individual Soldier, Sailor, Airman, or Marine to operate in a contaminated Nuclear, Biological and Chemical (NBC) environment with little or no degradation of his/her performance. After FY 2022, the Chemical Biological Defense Program (CBDP) RDT&E Projects were restructured to align with the CBDP portfolio construct. IP5 efforts in FY 2022 progress to Projects PT5 and UN5. This restructuring provides standardization and alignment across CBDP research, development and acquisition efforts.

Efforts included in this Project are:

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

Joint Service Aircrew Mask (JSAM) Strategic Aircraft (SA) will provide individual respiratory, ocular, and percutaneous protection of chemical and biological warfare agents, and select toxic industrial chemicals for United States Air Force (USAF), Aeromedical personnel, United States Navy (USN), United States Marine Corps (USMC), and United States Army (USA) strategic aircrew. The mask components will be optimized to minimize their impact on the wearer's performance to continue lethality in a chemical biological (CB) environment and maximize its ability to interface with aircrew protective clothing. JSAM SA will provide pressure breathing for altitude for aircraft that do not require pressure breathing for gravity. JSAM SA will integrate with aircraft subsystems which include aviation life support equipment, aircrew flight equipment, aircraft seating, portable aircrew systems, communications systems, and aircraft oxygen systems. FY22 is the last year of BA5 funding for this program as they approach FOC in FY25.

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

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

The Uniform Integrated Protective Ensemble Family of Systems General Purpose (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 Chemical, Biological, Radiological and Nuclear (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 FY24, the program will conduct a Multi Service Operational Test and Evaluation (MOT&E) and continue low rate production.

The Tactical All-Hazards Threat Protective Ensemble (TATPE) will provide high risk Special Operations Forces (SOF) and Explosive Ordnance Disposal (EOD) personnel with increased protection against non-traditional and advanced threat agents during CWMD crisis and response missions in a more athletic fit combining a level of protection and performance not previously available together. TATPE will capitalize on the protection factor of commercial Level A with design modifications to align with the necessary operational requirements. The TATPE is a system consisting of a protective garment that integrates with a Self-Contained Breathing Apparatus (SCBA), M53 protective mask, and cooling and hydration systems. The TATPE serves as an additional tool in the arsenal until technology matures to the point of delivering a similar capability applied against the range of military operations in all environments under all conditions. In FY22, the TATPE obtained a MS C Low Rate Initial Production/Full Rate Production decision and expects to achieve an Initial Operations Capability (IOC) for SOF, EOD, and Special Mission Units within SOCOM.

Uniform Integrated Protection Ensemble (UIPE) Family of Systems (FoS) Air program will provide the Warfighter percutaneous protection from operationally relevant traditional and non-traditional Chemical, Biological, Radiological, Nuclear (CBRN) threats. UIPE FoS Air will improve aircrew performance and survivability under CBRN conditions by reducing thermal burden and bulk, while increasing mobility and resulting in an increase operational effectiveness. The UIPE FoS Air program is composed of two variants. The UIPE FoS Air Chemical, Biological, Radiological Layer (CBRL) to address the specific requirements of the United States Air Force (USAF) tactical/ejection fixed wing platforms and the Two Piece Undergarment (2PUG) to address the remaining USAF and United States Navy / United States Marine Corps tactical/ejection seat (rotary wing) and non-ejection (fixed wing) platforms. FY23 is last year of BA5 funding, program is transitioning to production.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: 1) JSAM SA ***Description:*** Completed Operational Testing and Evaluation (OT&E)	1.005	-	-
Title: 2) SPU RCDD - Advanced Development ***Description:*** This line includes Product Development, Test and Evaluation, Management Services, and Support to mature technology across multiple commodity areas in order to rapidly field solutions in response to emergent threats.	4.478	-	-
Title: 3) UIPE FOS GP	9.349	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** IP5 / *Individual Protection (SDD)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Description: Development of the next generation protective ensembles.			
Title: 4) UIPE FOS AIR	3.858	-	-
Description: Design, Test, and Integration of the Two Piece Undergarment (2PUG)			
Accomplishments/Planned Programs Subtotals	18.690	-	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• IP7: *Individual Protection (Op Sys Dev)*	11.659	-	-	-	-	-	-	-	-	0.000	11.659
• PT5: *Protect (SDD)*	-	87.923	97.975	-	97.975	69.858	66.259	52.871	67.776	Continuing	Continuing
• UN5: *Understand (SDD)*	-	126.071	182.726	-	182.726	137.991	127.671	108.908	68.088	Continuing	Continuing
• UN7: *Understand (Op Sys Dev)*	-	40.414	50.603	-	50.603	58.881	71.869	68.839	50.628	Continuing	Continuing
• JI0002: *JS Aircrew Mask (JSAM)*	29.744	20.823	-	-	-	-	-	-	-	0.000	105.077
• PHM018: *SPU Rapid Capability Development And Demo (SPU RCDD)*	10.834	9.914	49.455	-	49.455	20.689	20.180	24.216	26.638	Continuing	Continuing
• PHM032: *Uniform Integrated Protective Ensemble FOS Gloves (UIPE FOS GLOVES)*	-	-	4.978	-	4.978	6.215	7.974	8.328	8.926	Continuing	Continuing
• PHM033: *Uniform Integrated Protective Ensemble General Purpose (UIPE FOS GP)*	4.456	30.145	55.100	-	55.100	111.350	111.783	112.106	113.401	Continuing	Continuing
• PHM034: *Uniform Integrated Protection Ensemble FOS Air (UIPE FOS AIR)*	47.798	23.407	25.794	-	25.794	26.195	26.403	17.586	0.492	Continuing	Continuing

Remarks

D. Acquisition Strategy

JOINT SERVICE AIRCREW MASK STRATEGIC AIRCRAFT (JSAM SA)

Exhibit R-2A, RDT&E Project Justification: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** IP5 / *Individual Protection (SDD)*

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

SPU RAPID CAPABILITY DEVELOPMENT AND DEPLOYMENT (SPU RCDD)

The SPU RCDD overall acquisition strategy allows for rapid prototyping and testing of novel and modified COTS or GOTS systems against mission critical capabilities to enhance mission success. The SPU RCDD will use technical and functional evaluations of currently fielded items to identify materiel that requires modernization and incorporate operationally-relevant system developments. This will be accomplished through competitive contracting vehicles such as Multiple Award Indefinite Delivery Indefinite Quantify Task Order and the Countering Weapons of Mass Destruction Other Transaction Authority (CWMD OTA) for the development of prototype test assets. The SPU RCDD will use Government Agencies for prototype development, test and evaluation, and technical support.

UNIFORM INTEGRATED PROTECTIVE ENSEMBLE GENERAL PURPOSE (UIPE FOS GP)

The Uniform Integrated Protective Ensemble Family of Systems General Purpose (UIPE FoS GP) program 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 two variants. During 3QFY22, one variant will be selected to enter the Operational Assessment and Developmental/Operational Testing. 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.

TATPE completed all EMD activities with FY21 RDT&E and transitioned to procurement in FY22.

UNIFORM INTEGRATED PROTECTION ENSEMBLE FOS AIR (UIPE FOS AIR)

The Uniform Integrated Protection Ensemble (UIPE) Family of Systems (FoS) Air utilizes a streamlined acquisition strategy that identifies mature technology and capitalizes on work accomplished by the United States Air Force (USAF) Integrated Aircrew Ensemble (IAE) and UIPE FoS General Purpose programs. The UIPE FoS Air will utilize an Milestone A-C acquisition strategy that will accelerate fielding to the Warfighter. The contract strategy leverages the USAF IAE Small Business Innovation Research (SBIR) Phase III contract to procure UIPE FoS Air Chemical, Biological, Radiological Layer (CBRL). The UIPE FoS Air Two Piece Undergarment (2PUG) will be procured utilizing a Government design on a separate contract.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** IP5 / *Individual Protection (SDD)*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SPU RCDD - HW C - Assault Respirator	Various	Various : N/A	0.564	0.046	Nov 2021	0.000		0.000		-		0.000	0.000	0.610	0.000
SPU RCDD - HW C - Prototype Procurement	Various	Various : N/A	4.239	1.780	Dec 2021	0.000		0.000		-		0.000	0.000	6.019	0.000
SPU RCDD - HW S - Low Temperature Plasma Mass Spectrometer (LTPMS)	C/CPFF	Advanced Technologies International : Summerville, SC	-	0.821	Jan 2022	0.000		0.000		-		0.000	0.000	0.821	0.000
		Subtotal	4.803	2.647		0.000		0.000		-		0.000	0.000	7.450	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
JSAM SA - TD/D S - Logistics, Engineering, and IPT Support	MIPR	Various : N/A	1.030	0.768	Nov 2021	0.000		0.000		-		0.000	0.000	1.798	0.000
SPU RCDD - ES C - Engineering Support	Various	Various : N/A	0.672	0.311	Dec 2021	0.000		0.000		-		0.000	0.000	0.983	0.000
UIPE FOS GP - ES C - Engineering & Technical IPT Support / SME Support	Various	Various : N/A	1.049	0.807	Nov 2021	0.000		0.000		-		0.000	0.000	1.856	0.000
UIPE FOS GP - ILS S - Integrated Log Support-System	Various	Various : N/A	-	0.595	Nov 2021	0.000		0.000		-		0.000	0.000	0.595	0.000
UIPE FOS AIR - ES S - Engineering and IPT Support	Various	Various : N/A	-	0.578	Nov 2021	0.000		0.000		-		0.000	0.000	0.578	0.000
		Subtotal	2.751	3.059		0.000		0.000		-		0.000	0.000	5.810	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** IP5 / *Individual Protection (SDD)*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
JSAM SA - DTE S - DT/OT	MIPR	Various : N/A	4.197	0.167	Nov 2021	0.000		0.000		-		0.000	0.000	4.364	0.000
SPU RCDD - DTE C - Testing and Evaluation	MIPR	U.S. Army Combat Capabilities Development Command (DEVCOM) Chemical Biological Center (CBC) : Aberdeen Proving Ground, MD	0.218	0.753	Dec 2021	0.000		0.000		-		0.000	0.000	0.971	0.000
UIPE FOS GP - DTE C - DT/OT	Various	Various : N/A	2.816	7.247	Nov 2021	0.000		0.000		-		0.000	0.000	10.063	0.000
UIPE FOS AIR - DTE C - System Level Testing	Various	Various : N/A	3.043	2.991	Nov 2021	0.000		0.000		-		0.000	0.000	6.034	0.000
		Subtotal	10.274	11.158		0.000		0.000		-		0.000	0.000	21.432	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
JSAM SA - PM/MS S - Program Management Support	MIPR	Various : N/A	1.846	0.070	Nov 2021	0.000		0.000		-		0.000	0.000	1.916	0.000
SPU RCDD - PM/MS C - Program Management Support	Various	Various : N/A	0.979	0.767	Nov 2021	0.000		0.000		-		0.000	0.000	1.746	0.000
UIPE FOS GP - PM/MS C - Program Management Support	Various	Various : N/A	0.673	0.700	Nov 2021	0.000		0.000		-		0.000	0.000	1.373	0.000
UIPE FOS AIR - PM/MS C - Program Management Services	MIPR	Various : N/A	0.269	0.289	Nov 2021	0.000		0.000		-		0.000	0.000	0.558	0.000
		Subtotal	3.767	1.826		0.000		0.000		-		0.000	0.000	5.593	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Chemical and Biological Defense Program			Date: March 2023
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0604384BP / *Chemical and Biological Defense Program - EMD*	Project (Number/Name) IP5 / *Individual Protection (SDD)*	

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	21.595	18.690		0.000		0.000		-		0.000	0.000	40.285	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** IP5 / *Individual Protection (SDD)*

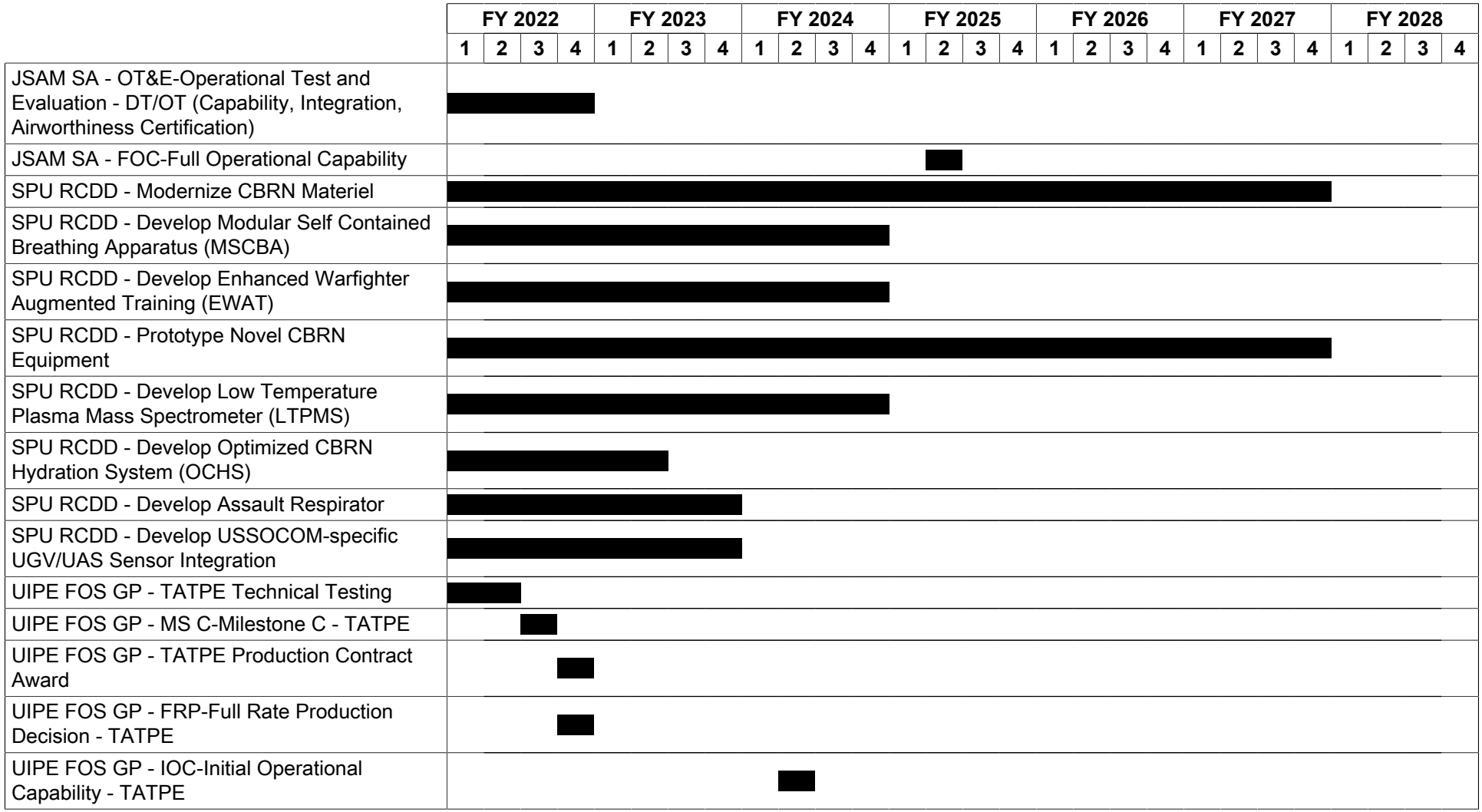

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** IP5 / *Individual Protection (SDD)*

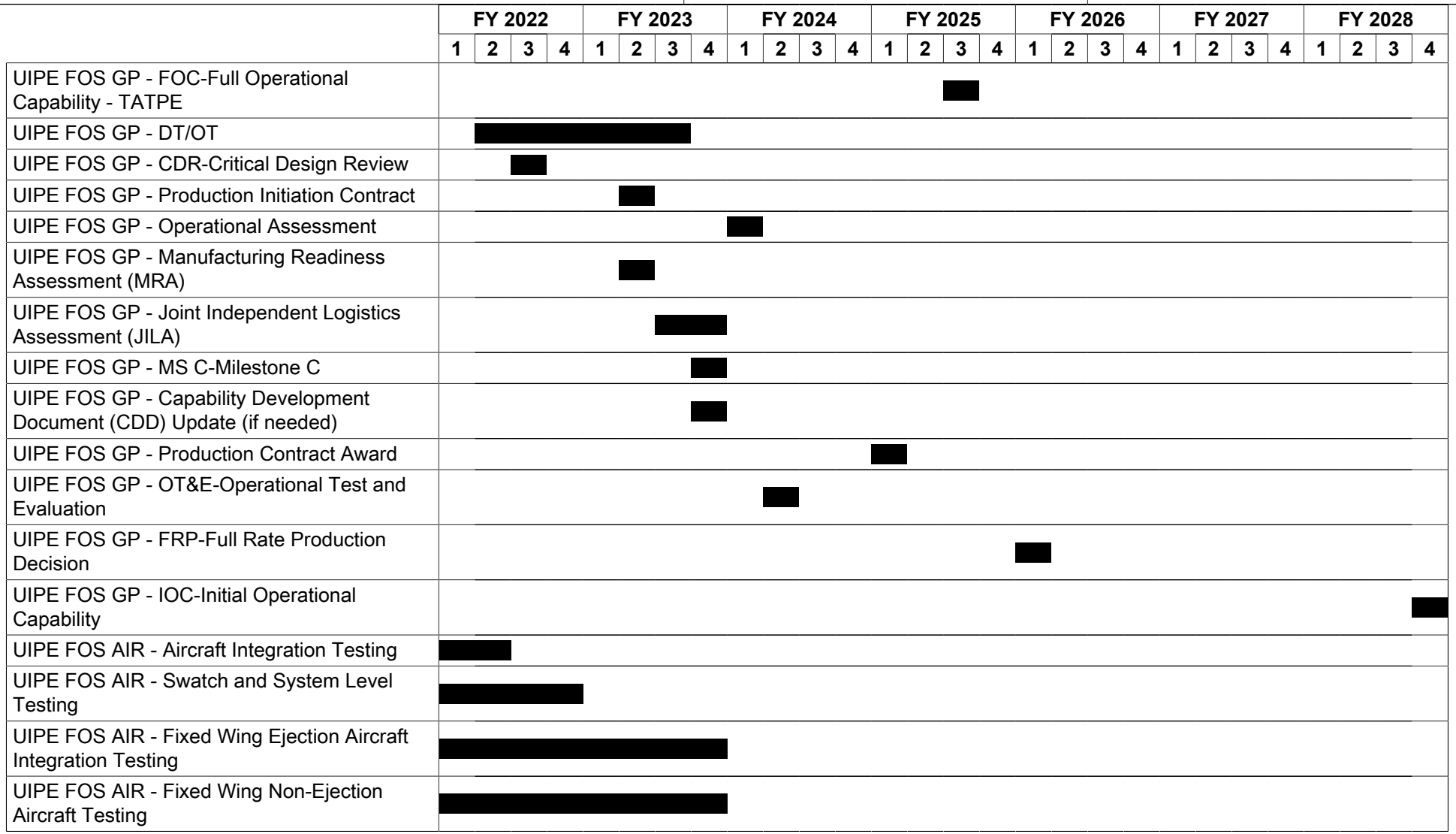

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** IP5 / *Individual Protection (SDD)*

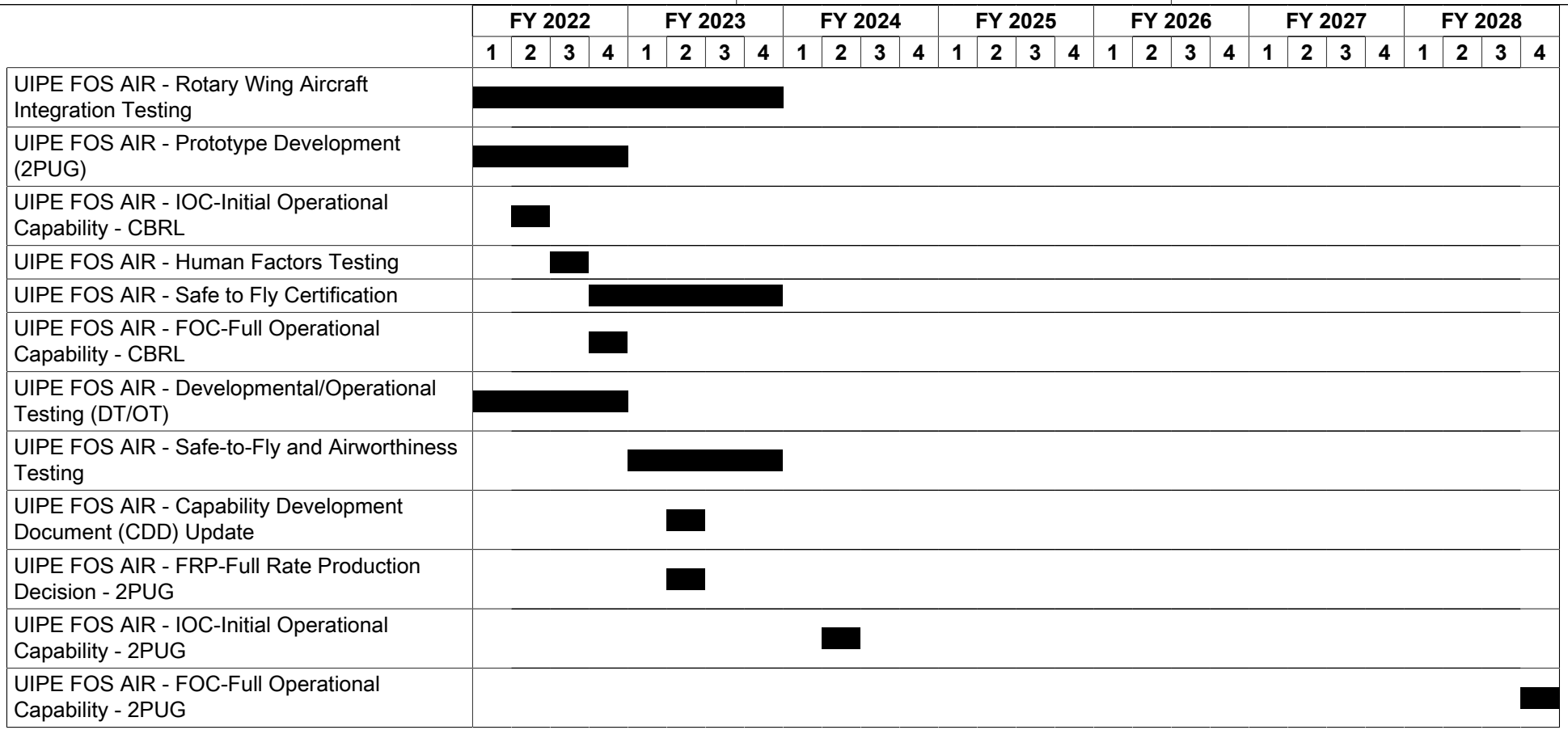

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** IP5 / *Individual Protection (SDD)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
JSAM SA - OT&E-Operational Test and Evaluation - DT/OT (Capability, Integration, Airworthiness Certification)	1	2022	4	2022
JSAM SA - FOC-Full Operational Capability	2	2025	2	2025
SPU RCDD - Modernize CBRN Materiel	1	2022	4	2027
SPU RCDD - Develop Modular Self Contained Breathing Apparatus (MSCBA)	1	2022	4	2024
SPU RCDD - Develop Enhanced Warfighter Augmented Training (EWAT)	1	2022	4	2024
SPU RCDD - Prototype Novel CBRN Equipment	1	2022	4	2027
SPU RCDD - Develop Low Temperature Plasma Mass Spectrometer (LTPMS)	1	2022	4	2024
SPU RCDD - Develop Optimized CBRN Hydration System (OCHS)	1	2022	2	2023
SPU RCDD - Develop Assault Respirator	1	2022	4	2023
SPU RCDD - Develop USSOCOM-specific UGV/UAS Sensor Integration	1	2022	4	2023
UIPE FOS GP - TATPE Technical Testing	1	2022	2	2022
UIPE FOS GP - MS C-Milestone C - TATPE	3	2022	3	2022
UIPE FOS GP - TATPE Production Contract Award	4	2022	4	2022
UIPE FOS GP - FRP-Full Rate Production Decision - TATPE	4	2022	4	2022
UIPE FOS GP - IOC-Initial Operational Capability - TATPE	2	2024	2	2024
UIPE FOS GP - FOC-Full Operational Capability - TATPE	3	2025	3	2025
UIPE FOS GP - DT/OT	2	2022	3	2023
UIPE FOS GP - CDR-Critical Design Review	3	2022	3	2022
UIPE FOS GP - Production Initiation Contract	2	2023	2	2023
UIPE FOS GP - Operational Assessment	1	2024	1	2024
UIPE FOS GP - Manufacturing Readiness Assessment (MRA)	2	2023	2	2023

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** IP5 / *Individual Protection (SDD)*

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
UIPE FOS GP - Joint Independent Logistics Assessment (JILA)	3	2023	4	2023
UIPE FOS GP - MS C-Milestone C	4	2023	4	2023
UIPE FOS GP - Capability Development Document (CDD) Update (if needed)	4	2023	4	2023
UIPE FOS GP - Production Contract Award	1	2025	1	2025
UIPE FOS GP - OT&E-Operational Test and Evaluation	2	2024	2	2024
UIPE FOS GP - FRP-Full Rate Production Decision	1	2026	1	2026
UIPE FOS GP - IOC-Initial Operational Capability	4	2028	4	2028
UIPE FOS AIR - Aircraft Integration Testing	1	2022	2	2022
UIPE FOS AIR - Swatch and System Level Testing	1	2022	4	2022
UIPE FOS AIR - Fixed Wing Ejection Aircraft Integration Testing	1	2022	4	2023
UIPE FOS AIR - Fixed Wing Non-Ejection Aircraft Testing	1	2022	4	2023
UIPE FOS AIR - Rotary Wing Aircraft Integration Testing	1	2022	4	2023
UIPE FOS AIR - Prototype Development (2PUG)	1	2022	4	2022
UIPE FOS AIR - IOC-Initial Operational Capability - CBRL	2	2022	2	2022
UIPE FOS AIR - Human Factors Testing	3	2022	3	2022
UIPE FOS AIR - Safe to Fly Certification	4	2022	4	2023
UIPE FOS AIR - FOC-Full Operational Capability - CBRL	4	2022	4	2022
UIPE FOS AIR - Developmental/Operational Testing (DT/OT)	1	2022	4	2022
UIPE FOS AIR - Safe-to-Fly and Airworthiness Testing	1	2023	4	2023
UIPE FOS AIR - Capability Development Document (CDD) Update	2	2023	2	2023
UIPE FOS AIR - FRP-Full Rate Production Decision - 2PUG	2	2023	2	2023
UIPE FOS AIR - IOC-Initial Operational Capability - 2PUG	2	2024	2	2024
UIPE FOS AIR - FOC-Full Operational Capability - 2PUG	4	2028	4	2028

Exhibit R-2A, RDT&E Project Justification: PB 2024 Chemical and Biological Defense Program											Date: March 2023	
Appropriation/Budget Activity 0400 / 5					R-1 Program Element (Number/Name) PE 0604384BP / *Chemical and Biological Defense Program - EMD*				Project (Number/Name) MB5 / *Medical Biological Defense (SDD)*			
COST ($ in Millions)	**Prior Years**	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**Cost To Complete**	**Total Cost**
MB5: *Medical Biological Defense (SDD)*	-	138.156	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	138.156
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This Project supports Engineering and Manufacturing Development and Low Rate Initial Production (EMD/LRIP) of medical countermeasures, development of reagents, assays, diagnostic equipment, Biosurveillance and supporting efforts. After FY 2022, the Chemical Biological Defense Program (CBDP) RDT&E Projects were restructured to align with the CBDP portfolio construct. MB5 efforts in FY 2022 progress to Projects UN5, PT5, MT5 and EN5. This restructuring provides standardization and alignment across CBDP research, development and acquisition efforts.

Efforts included in this Project are:

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

The Antiviral Therapeutics (AV TX) program will develop and deliver U.S. Food & Drug Administration (FDA) approved antiviral therapeutics for the warfighter. Based on the current gap in defense to the warfighter, the initial therapeutic candidate is now for a treatment against the Marburg virus in lieu of Ebola Zaire to follow for approval of a PanFilo therapeutic. Other pathogens on the biological warfare threat lists, include viruses of interest from Filoviridae, Arenaviridae, Bunyaviridae, and Flaviviridae. Developed broad spectrum antiviral therapeutics will be employed after suspected or confirmed exposure to the relevant threat agents and AV TX Medical Countermeasures (MCMs) will ameliorate the effect of threat agents to the warfighter. In the event of a natural occurring outbreak, antiviral therapeutics can be provided to ensure freedom of operation.

The Botulinum Monoclonal Antibodies (BOT MAB) program will provide protection from Botulinum neurotoxin (BoNT) which is classified by the Centers for Disease Control and Prevention (CDC)as a category A threat, one that poses the highest risk to the public and national security. This Medical Countermeasure (MCM) will prevent (pre-exposure) and reduce the incidence or progression of botulism disease, following exposure to BoNT serotypes A/B. The drug product contains a total of six monoclonal antibodies, three for BoNT type A and three for BoNT type B, and the planned route of administration is Intra-Muscular (IM) injection.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** MB5 / *Medical Biological Defense (SDD)*

The CBIPR-ADM program ensures prioritization to domestic biopharmaceutical manufacturing capacities, capabilities, and infrastructure (e.g. the DoD-ADM Facility and other strategic partners) that are operationally ready to rapidly develop and manufacture medical countermeasures (MCMs) against current and emerging chemical and biological threats including pandemic response. Prioritization is achieved by establishing and enhancing proven biopharmaceutical manufacturing platform technologies and infrastructure at these facilities. Thus, these facilities 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 that benefit from 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 prioritization and 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 FY24, the CBIPR-ADM program continues to establish and enhance new manufacturing platform technologies and infrastructure that will enable the development of MCMs against chemical and biological threats.

The Countering Emerging Threats Rapid Acquisition and Investigation of Drugs for Repurposing (CET RAIDR) program will develop repurposed drugs as medical countermeasures towards known, potential, and emerging threats, bridging the gap from when a threat is identified until targeted countermeasures such as vaccines are available. CET RAIDR will leverage lessons learned in Coronavirus Aid, Relief, and Economic Security (CARES) Act funded efforts under Coronavirus Disease (COVID) Repurposed Therapeutics (CR TX) to address repurposing of therapeutics. This effort will also use Enhanced Biodefense (ENBD) funding starting in FY23 to evaluate additional drugs candidates for repurposing.

The Defense Biological Product Assurance Program (DBPAP) serves as the principal resource of high quality, validated, and standardized biological detection assays and reagents that meet the requirements of the warfighter and Joint biological defense systems. DBPAP pursues an array of analytical tools to verify assay performance and predict effective medical countermeasure solutions that are critical to preparedness. The DBPAP enables an Ordering System for Critical Assays and Reagents (OSCAR), where multiple government agencies and customers can place orders, track order status, and monitor ordering history. In FY24 DBPAP will continue to support optimization and expansion of biological threat agents reference materials and assays to known and emerging threats.

The NGDS 2 ChemDx program will provide a rapid, hand-held, point-of-care device, for the quantitative detection of acetyl cholinesterase (AChE) levels in blood samples, an indicator of possible Nerve Agent exposure in individuals. NGDS 2 ChemDx will be employed by the Army, Air Force, Navy, Marines and SOCOM at multiple echelons of healthcare. NGDS 2 ChemDx test results are to be used to aid in the diagnosis and treatment of individuals suspected of having exposure to chemical nerve agents.

The NGDS 2 MPDS program will provide a simple-to-use, portable diagnostic device capability that can be used in austere battlefield environments to assist in the diagnosis of infectious diseases and biological warfare agents. The MPDS will enable earlier patient diagnosis, improve decision support for treatment, evacuation and command situational awareness, and mitigate the effects of exposure to unknown infectious disease and biological agents.

The SIP continually manages, updates, and executes the Investigational New Drugs (INDs) of selected prophylaxis, treatments and diagnostics development products which provide additional protection to individuals that are at high risk of exposure to CBRN agents. DoD has the mission to maintain IND vaccines in Good

Exhibit R-2A, RDT&E Project Justification: PB 2024 Chemical and Biological Defense Program		Date: March 2023
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Manufacturing Practice (GMP) storage and to conduct the periodic potency and stability testing of these materials to support submissions to the FDA. In FY23 SIP continues storage of product until destruction. VAC SIP restructures to the Rapid Access to Products in Development (RAPID) program in FY24.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: 1) AV TX ***Description:*** Enabling Technologies	14.152	-	-
Title: 2) BOT MAB ***Description:*** Clinical and Nonclinical Studies	26.364	-	-
Title: 3) BOT MAB ***Description:*** Manufacturing	33.000	-	-
Title: 4) CBIPR-ADM ***Description:*** ADM Infrastructure	10.131	-	-
Title: 5) CET RAIDR ***Description:*** Advance Development	7.708	-	-
Title: 6) CET RAIDR ***Description:*** Pandemic Preparedness	11.500	-	-
Title: 7) DBPAP ***Description:*** Development	7.588	-	-
Title: 8) NGDS 2 CHEMDX ***Description:*** Engineering & Manufacturing Development	2.693	-	-
Title: 9) NGDS 2 CHEMDX ***Description:*** Product Management	2.126	-	-
Title: 10) NGDS 2 MPDS ***Description:*** Product Development	13.437	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2024 Chemical and Biological Defense Program		Date: March 2023
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: 11) NGDS 2 MPDS ***Description:*** Program Management and Support	2.974	-	-
Title: 12) VAC SIP ***Description:*** Storage, Distribution, Potency Testing	6.483	-	-
Accomplishments/Planned Programs Subtotals	138.156	-	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• EN4: *Enabling Investments (ACD&P)*	-	6.781	47.272	-	47.272	51.579	9.792	9.840	9.840	Continuing	Continuing
• EN5: *Enabling Investments (SDD)*	-	13.392	13.835	-	13.835	13.884	14.179	14.197	14.261	Continuing	Continuing
• MT5: *Mitigate (SDD)*	-	74.225	88.441	-	88.441	92.279	91.431	87.773	93.250	Continuing	Continuing
• PT4: *Protect (ACD&P)*	-	175.219	179.158	-	179.158	135.096	107.341	123.538	139.376	Continuing	Continuing
• PT5: *Protect (SDD)*	-	87.923	97.975	-	97.975	69.858	66.259	52.871	67.776	Continuing	Continuing
• UN5: *Understand (SDD)*	-	126.071	182.726	-	182.726	137.991	127.671	108.908	68.088	Continuing	Continuing
• JX0210: *Defense Biological Products Assurance Program (DBPAP)*	2.760	2.736	2.736	-	2.736	2.736	2.736	2.736	2.736	Continuing	Continuing
• PHM039: *Botulinum Monoclonal Antibodies (BOT MAB)*	-	-	-	-	-	-	33.601	-	-	Continuing	Continuing
• SA0043: *Next Gen Diag 2 Chemical Diagnostics (NGDS 2 CHEM DX)*	-	-	1.881	-	1.881	9.579	10.982	11.898	11.861	Continuing	Continuing
• SA0044: *Next Gen Diag 2 Man Portable Diagnostic System (NGDS 2 MPDS)*	0.336	-	-	-	-	7.949	7.291	4.752	2.290	Continuing	Continuing

Remarks

D. Acquisition Strategy

ANTI-VIRAL THERAPEUTICS (AV TX)

Exhibit R-2A, RDT&E Project Justification: PB 2024 Chemical and Biological Defense Program		Date: March 2023
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The Antiviral Therapeutics (AV TX) program acquisition strategy supports the development of therapeutics against Marburg virus bio-warfare threats. The overall regulatory approach of the program remains to pursue development for Food and Drug Administration (FDA) approval under the Animal Rule. The acquisition strategy is for the Marburg indication and will leverage collected safety data and large-scale manufacturing from the COVID efforts. This product was transitioned from Science and Technology (S&T).

BOTULINUM MONOCLONAL ANTIBODIES (BOT MAB)

The BOT MAB program was initiated by the Medical Countermeasure Platform Technologies (MCMPT). The regulatory approach of the program is to pursue development of products for U.S. Food & 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 in order to accelerate the schedule activities for the prophylactic indication.

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

By establishing new capabilities at the DoD-ADM Facility and other strategic partners, the CBIPR-ADM line ensures that the DoD will have priority access to critical technologies and infrastructure that are operationally ready to support the rapid development and manufacture of Medical Countermeasures (MCMs). This approach ensures that the DoD's efforts are not limited to a single facility. In FY24, the CBIPR-ADM line will continue to establish, enhance, and optimize new manufacturing platform technologies and infrastructure to support the production of MCMs. These new manufacturing technologies can come from any government sources (including Joint Science & Technology Office for Chemical Biological Defense (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/or other external sources and targets of opportunity from industry.

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

The Countering Emerging Threats - Rapid Acquisition and Investigation of Drugs for Repurposing (CET RAIDR) program will leverage lessons learned from the COVID-19 response to conduct studies to evaluate U.S. Food & Drug Administration (FDA) approved and late-stage development products against CBRN threats. Data generated from these efforts will be used to support interim capabilities.

DEFENSE BIOLOGICAL PRODUCTS ASSURANCE PROGRAM (DBPAP)

DBPAP utilizes best buying principles and acquisition rigor for alignment to requirements to perform an "enabling" function for certain programs of record (e.g., Analytical Lab System (ALS), Common Analytical Lab System (CALS), Next Generation Diagnostic System (NGDS)) and other enterprise partners. The DBPAP uses better buying

power to consolidate requirements for “commodity-like” biological detection products. The DBPAP coordinates closely with the Joint, Science and Technology Office to enhance the DBPAP reference material holdings in the Unified Culture Collection (UCC); improve antibodies and expand the portfolio of DBPAP immunoassays and reagents; and develop new molecular assays. The DBPAP uses a mix of competitive commercial contracts and funding of government laboratories to produce high quality assays and reagents.

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, leveraging commercial technology to develop a capability for the diagnosis of nerve agent exposure in individuals. The OTA agreement holder is conducting system development, clinical trials and pre-developmental testing. ChemDx will use Department of Defense (DoD) test agencies to conduct Development Testing and operational user evaluations. Clinical trials will inform approval of the ChemDx system by the U.S. Food and Drug Administration for Prescription Home Use.

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

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

SPECIAL IMMUNIZATION PROGRAM (VAC SIP)

The SIP program manages the continual storage, testing, compliance, and distribution activities associated with Investigational New Drugs (INDs) for legacy prophylactic medical countermeasures, as well as the recent Bot and Plague vaccine candidates. Additionally, the SIP maintains interagency agreements with US Army Medical Research and Development Command to support testing and compliance requirements. This Department of Defense program supports the Federal interagency with this effort, as well as academic and industry partners.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Chemical and Biological Defense Program		Date: March 2023
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AV TX - Nonclinical Trials - OTA	C/FP	Gilead Sciences : San Francisco, CA	18.903	5.223	Nov 2021	0.000		0.000		-		0.000	0.000	24.126	0.000
AV TX - Product Development	Various	Various : N/A	-	2.175	Jun 2022	0.000		0.000		-		0.000	0.000	2.175	0.000
CBIPR-ADM - Infrastructure	C/CPFF	Ology Bioservices, Inc. : Alachua, FL	-	9.553	Mar 2022	0.000		0.000		-		0.000	0.000	9.553	0.000
CET RAIDR - Direct Product Support	Various	Various : N/A	-	1.927	Nov 2021	0.000		0.000		-		0.000	0.000	1.927	0.000
DBPAP - HW C - Development of Select Biological Threat Agent Reference Materials and Assays	MIPR	Various : N/A	6.761	1.698	Mar 2022	0.000		0.000		-		0.000	0.000	8.459	0.000
NGDS 2 CHEMDX - HW C - Product Management	Various	Various : N/A	-	1.485	Jan 2022	0.000		0.000		-		0.000	0.000	1.485	0.000
NGDS 2 CHEMDX - HW C - Product Development	C/CPFF	MRIGlobal : Kansas City, MO	1.849	2.860	Jan 2022	0.000		0.000		-		0.000	0.000	4.709	0.000
NGDS 2 MPDS - HW C - Product Management	Various	Various : N/A	2.505	2.627	Nov 2021	0.000		0.000		-		0.000	0.000	5.132	0.000
NGDS 2 MPDS - HW C - Man Portable Diagnostic System (MPDS)	C/CPFF	Cepheid : Sunnyvale, CA	21.112	10.942	Jan 2022	0.000		0.000		-		0.000	0.000	32.054	0.000
		Subtotal	51.130	38.490		0.000		0.000		-		0.000	0.000	89.620	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AV TX - PM/MS - Sustainment	Various	US Army Medical Research Institute of Infectious Disease (USAMRIID) : Fort Detrick, MD	4.627	2.175	Dec 2022	0.000		0.000		-		0.000	0.000	6.802	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** MB5 / *Medical Biological Defense (SDD)*

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DBPAP - Select Biological Threat Agent Reference Material Support	MIPR	Various : N/A	6.807	1.732	Mar 2022	0.000		0.000		-		0.000	0.000	8.539	0.000
DBPAP - Select Biological Threat Agent Reference Material Regulatory/Quality Assurance (QA) Support	MIPR	U.S. Army Combat Capabilities Development Command (DEVCOM) Chemical Biological Center (CBC) : Aberdeen Proving Ground, MD	6.350	1.747	Mar 2022	0.000		0.000		-		0.000	0.000	8.097	0.000
NGDS 2 CHEMDX - ES C - Studies and Support	Various	Various : N/A	-	0.042	Mar 2022	0.000		0.000		-		0.000	0.000	0.042	0.000
NGDS 2 MPDS - ES C - Studies and Support	Various	Various : N/A	0.129	0.256	Jan 2022	0.000		0.000		-		0.000	0.000	0.385	0.000
		Subtotal	17.913	5.952		0.000		0.000		-		0.000	0.000	23.865	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
BOT MAB - DTE C - BOT MONO	C/CPFF	Resilience Government Services, Inc. : Alachua, Florida	14.437	50.799	Apr 2022	0.000		0.000		-		0.000	52.034	117.270	0.000
CET RAIDR - DTE C - Screening of Drugs for Repurposing	Various	Various : N/A	-	15.550	Dec 2021	0.000		0.000		-		0.000	0.000	15.550	0.000
NGDS 2 MPDS - OTHT S - Analytical/Clinical Testing	MIPR	US Army Medical Research and Development Command (USAMRDC) : Fort Detrick, MD	0.364	1.093	Feb 2022	0.000		0.000		-		0.000	0.000	1.457	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** MB5 / *Medical Biological Defense (SDD)*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
NGDS 2 MPDS - DTE S - System Test & Evaluation	MIPR	Various : N/A	1.454	0.067	Feb 2022	0.000		0.000		-		0.000	0.000	1.521	0.000
VAC SIP - OTHT C - Storage and Distribution of Vaccines	SS/FP	Fisher BioServices : Rockville, MD	3.154	0.593	Jan 2022	0.000		0.000		-		0.000	0.000	3.747	0.000
VAC SIP - OTHT C - Potency Testing of Vaccines	C/CPFF	Battelle Memorial Institute : Columbus, OH	1.112	4.210	Jan 2022	0.000		0.000		-		0.000	0.000	5.322	0.000
VAC SIP - OTHT C - Potency Testing of Vaccines	MIPR	US Army Medical Research Institute of Infectious Disease (USAMRIID) : Fort Detrick, MD	17.501	1.680	Jan 2022	0.000		0.000		-		0.000	0.000	19.181	0.000
		Subtotal	38.022	73.992		0.000		0.000		-		0.000	52.034	164.048	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AV TX - PM/MS - SB - Program Management	Various	JPEO Chem, Bio, Rad, and Nuc Defense (JPEO-CBRND) : Aberdeen Proving Ground, MD	10.445	1.074	Dec 2021	0.000		0.000		-		0.000	0.000	11.519	0.000
AV TX - PM/MS - SB - Management Support (Biological Therapeutics)	Various	JPM CBRN Medical : Ft. Detrick, MD	3.287	3.505	Feb 2022	0.000		0.000		-		0.000	0.000	6.792	0.000
BOT MAB - Program Management Support	Various	JPM CBRN Medical, JPEO-CBRND : Fort Detrick, MD	4.338	4.060	Dec 2021	0.000		0.000		-		0.000	4.765	13.163	0.000
BOT MAB - CBRN Medical Support	Various	JPEO Chem, Bio, Rad, and Nuc Defense (JPEO-	1.700	4.505	Apr 2022	0.000		0.000		-		0.000	5.577	11.782	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Chemical and Biological Defense Program		Date: March 2023
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Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		CBRND) : Aberdeen Proving Ground, MD													
CBIPR-ADM - Program Management Support	Various	JPL CBRND Enabling Biotechnologies, JPEO-CBRND : Fort Detrick, MD	-	0.578	Feb 2022	0.000		0.000		-		0.000	0.000	0.578	0.000
CET RAIDR - PM/MS SB - Indirect Management Support	Various	Various : N/A	-	1.731	Nov 2021	0.000		0.000		-		0.000	0.000	1.731	0.000
DBPAP - PM/MS C - Product Management Contractor Support	SS/FFP	Various : N/A	3.907	0.975	Feb 2022	0.000		0.000		-		0.000	0.000	4.882	0.000
DBPAP - PM/MS C - Product Management Support	Various	Various : N/A	7.776	1.436	Jan 2022	0.000		0.000		-		0.000	0.000	9.212	0.000
NGDS 2 CHEMDX - PM/MS S - Management Services	Various	Various : N/A	0.167	0.432	Nov 2021	0.000		0.000		-		0.000	0.000	0.599	0.000
NGDS 2 MPDS - PM/MS S - Management Services	Various	Various : N/A	5.040	1.426	Nov 2021	0.000		0.000		-		0.000	0.000	6.466	0.000
		Subtotal	36.660	19.722		0.000		0.000		-		0.000	10.342	66.724	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	143.725	138.156		0.000		0.000		-		0.000	62.376	344.257	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** MB5 / *Medical Biological Defense (SDD)*

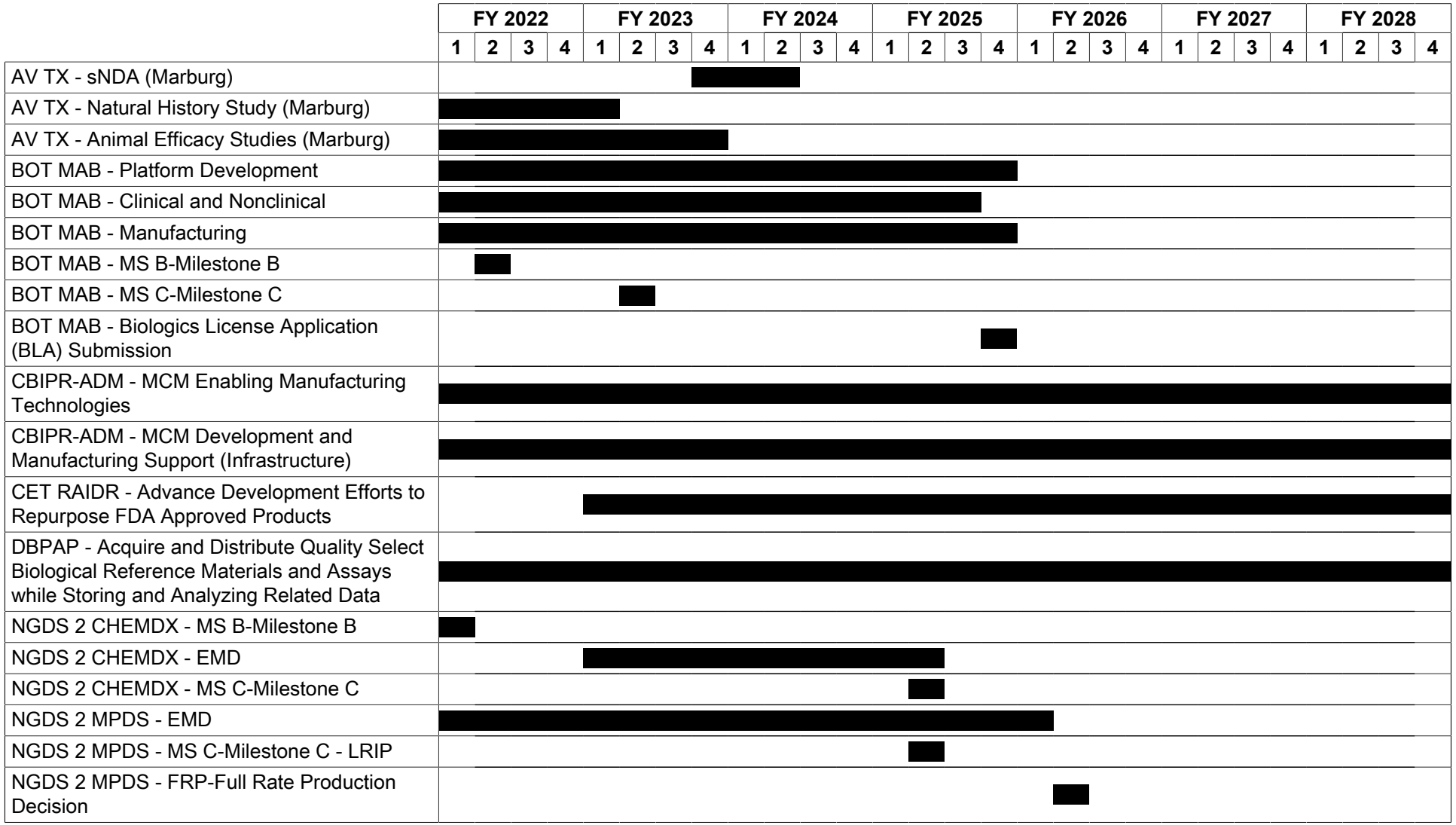

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** MB5 / *Medical Biological Defense (SDD)*

	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
VAC SIP - Storage, distribution, potency testing, biosurety compliance activities	[redacted]																											

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** MB5 / *Medical Biological Defense (SDD)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
AV TX - sNDA (Marburg)	4	2023	2	2024
AV TX - Natural History Study (Marburg)	1	2022	1	2023
AV TX - Animal Efficacy Studies (Marburg)	1	2022	4	2023
BOT MAB - Platform Development	1	2022	4	2025
BOT MAB - Clinical and Nonclinical	1	2022	3	2025
BOT MAB - Manufacturing	1	2022	4	2025
BOT MAB - MS B-Milestone B	2	2022	2	2022
BOT MAB - MS C-Milestone C	2	2023	2	2023
BOT MAB - Biologics License Application (BLA) Submission	4	2025	4	2025
CBIPR-ADM - MCM Enabling Manufacturing Technologies	1	2022	4	2028
CBIPR-ADM - MCM Development and Manufacturing Support (Infrastructure)	1	2022	4	2028
CET RAIDR - Advance Development Efforts to Repurpose FDA Approved Products	1	2023	4	2028
DBPAP - Acquire and Distribute Quality Select Biological Reference Materials and Assays while Storing and Analyzing Related Data	1	2022	4	2028
NGDS 2 CHEMDX - MS B-Milestone B	1	2022	1	2022
NGDS 2 CHEMDX - EMD	1	2023	2	2025
NGDS 2 CHEMDX - MS C-Milestone C	2	2025	2	2025
NGDS 2 MPDS - EMD	1	2022	1	2026
NGDS 2 MPDS - MS C-Milestone C - LRIP	2	2025	2	2025
NGDS 2 MPDS - FRP-Full Rate Production Decision	2	2026	2	2026
VAC SIP - Storage, distribution, potency testing, biosurety compliance activities	1	2022	4	2023

Exhibit R-2A, RDT&E Project Justification: PB 2024 Chemical and Biological Defense Program			Date: March 2023
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COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
MC5: *Medical Chemical Defense (SDD)*	-	38.936	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	38.936
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

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

Efforts included in this Project are:

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

The AAS program provides for midazolam in an autoinjector for treatment of nerve agent induced seizures. Midazolam, injected intramuscularly, will treat traditional nerve agent and non-traditional agent-induced seizures and prevent subsequent neurological damage. Midazolam is more water-soluble than diazepam (the currently fielded medication to control nerve agent-induced seizures) and terminates nerve agent-induced seizures more quickly than diazepam. AAS will not eliminate the need for other protective and therapeutic systems. FY22 is the last year of RDT&E funding and completes a Phase 1 clinical study from a new manufacturer and submits a New Drug Application (NDA).

The INATS CA program provides a centrally-acting anticholinergic agent to increase survivability and decrease morbidity after exposure to toxic nerve agent threats. Scopolamine was selected for development after an extensive analysis of alternatives and review of data by the Science and Technology community. Added to the currently fielded system, the INATS CA program will improve overall medical outcomes and will be utilized as both a vial for use at definitive care and a stand-alone auto-injector for use in the field. INATS CA continues autoinjector development and manufacturing activities of the drug product and autoinjector device, as well as continues non-clinical animal studies.

The ROCS program supports the discovery, characterization, development, and fielding of FDA-approved therapeutic Medical Countermeasures (MCMs) to protect the Joint Service warfighter against operational exposures to the opioid class of pharmaceutical-based agents (PBAs), a high priority. The ROCS program will

Exhibit R-2A, RDT&E Project Justification: PB 2024 Chemical and Biological Defense Program		Date: March 2023
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develop a naloxone autoinjector as a rescue treatment that will counteract the adverse effects from exposure to opioids. The ROCS will be developed using a Middle Tier Acquisition (MTA) approach. FY22 is the last year of RDT&E funding and completes manufacturing activities, including manufacturing of the drug product and autoinjector device, and completes regulatory activities such as preparation and submission of the New Drug Application (NDA) for approval.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: 1) AAS - NDA Submission ***Description:*** New Drug Application (NDA) Submission Activities	3.157	-	-
Title: 2) AUTOINJ - Manufacturing ***Description:*** Manufacturing	3.000	-	-
Title: 3) AUTOINJ - Prototyping and Testing ***Description:*** Prototyping and Testing	1.000	-	-
Title: 4) AUTOINJ - Development ***Description:*** Development	2.000	-	-
Title: 5) AUTOINJ - Government Testing ***Description:*** Government Testing	0.188	-	-
Title: 6) AUTOINJ - FDA Coordination ***Description:*** FDA Coordination	1.093	-	-
Title: 7) AUTOINJ - Reconstituted Drug Autoinjector ***Description:*** Reconstituted Drug Autoinjector Development for Improved Stability	6.577	-	-
Title: 8) INATS CA - Clinical ***Description:*** Clinical	0.400	-	-
Title: 9) INATS CA - Manufacturing ***Description:*** Manufacture drug product and device development	4.237	-	-
Title: 10) INATS CA - Non-Clinical	8.659	-	-

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Description: Non-Clinical Testing to support FDA approval			
Title: 11) ROCS - Manufacturing ***Description:*** Manufacturing	7.471	-	-
Title: 12) ROCS - Regulatory ***Description:*** FDA & Regulatory activities	1.154	-	-
Accomplishments/Planned Programs Subtotals	38.936	-	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• MC7: *Medical Chemical Defense (Op Sys Dev)*	1.013	-	-	-	-	-	-	-	-	0.000	1.013
• MT5: *Mitigate (SDD)*	-	74.225	88.441	-	88.441	92.279	91.431	87.773	93.250	Continuing	Continuing
• MT7: *Mitigate (Op Sys Dev)*	-	5.098	3.074	-	3.074	1.987	1.819	1.845	1.862	Continuing	Continuing
• JM6677: *Advanced Anticonvulsant System (AAS)*	4.243	18.147	24.101	-	24.101	15.301	-	-	-	Continuing	Continuing
• PHM015: *Rapid Opioid Countermeasure System (ROCS)*	4.349	-	-	-	-	-	-	-	-	0.000	4.349
• PHM040: *Improved Nerve Agent Treatment Centrally Acting (INATS CA)*	-	-	-	-	-	-	-	6.511	33.883	Continuing	Continuing

Remarks

D. Acquisition Strategy

ADVANCED ANTICONVULSANT SYSTEM (AAS)

The Advanced Anticonvulsant System (AAS), consists of Midazolam in an autoinjector for treatment of seizures, to include those caused by nerve agent. A contractor shall be responsible for conducting activities associated with drug development in a manner consistent with eventual approval by the Food and Drug Administration (FDA). The contractor shall sponsor the drug to the FDA and hold all approvals and/or licenses. The Contractor will need to initiate and complete studies that comply with new FDA requirements for manufacturing and quality for autoinjector products, ultimately leading to FDA approval. Upon FDA approval, sufficient quantities of

Exhibit R-2A, RDT&E Project Justification: PB 2024 Chemical and Biological Defense Program		Date: March 2023
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product to meet Initial Operational Capability (IOC) and Full Operational Capability (FOC) will be purchased through a follow-on sole source procurement contract. Subsequent purchases for product sustainment will be made by the Defense Logistics Agency. Post marketing commitments and requirements are anticipated as a result of the FDA approval and will be the responsibility of the contractor and the government.

ALTERNATE AUTOINJECTOR MANUFACTURER CAPABILITY (AUTOINJ)

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

IMPROVED NERVE AGENT TREATMENT CENTRALLY ACTING (INATS CA)

In the Engineering and Manufacturing Development (EMD) phase, the Government will engage with commercial partner(s) to ensure that development and manufacture is in accordance with Food and Drug Administration (FDA) regulations. For scopolamine autoinjector development INATS CA uses contracts and Other Transactional Agreements (OTAs) in which the performer shall be responsible for conducting development and testing activities consistent with current FDA regulations. The contractor shall sponsor the combination product to the FDA and hold all approvals and/or licenses. Upon FDA approval, a follow-on procurement agreement will be used to procure initial operational capability (IOC) / full operational capability (FOC).

RAPID OPIOID COUNTERMEASURE SYSTEM (ROCS)

The ROCS program is a Joint Acquisition Category (ACAT) III Medical Countermeasure (MCM) Middle Tier Acquisition Program of Record (POR). ROCS utilized existing naloxone autoinjector capabilities identified from focused Market Research and developed an FDA approved product under Other Transaction Authority (OTA) agreement. The program is currently in the procurement phase and will transition to the Primary Pharmaceutical Vendor (PPV) program.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Chemical and Biological Defense Program		Date: March 2023
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AAS - NDA Submission Activities	C/CPFF	RAFA Laboratories : N/A	3.345	2.221	Dec 2021	0.000		0.000		-		0.000	0.000	5.566	0.000
AAS - Product Management	C/CPFF	JPM CBRN Medical, JPEO-CBRND : Fort Detrick, MD	0.944	0.362	Nov 2021	0.000		0.000		-		0.000	0.000	1.306	0.000
AUTOINJ - Program Management	C/FFP	JPM CBRN Medical, JPEO-CBRND : Fort Detrick, MD	3.060	1.737	Nov 2021	0.000		0.000		-		0.000	0.000	4.797	0.000
AUTOINJ - HW C - Diazepam Autoinjector	C/CPFF	Emergent Biosolutions : Gaithersburg/ Rockville, MD	18.045	3.725	Nov 2021	0.000		0.000		-		0.000	0.000	21.770	0.000
AUTOINJ - HW C - Dual Drug Delivery Device (D4) Prototype	C/CPFF	Emergent Biosolutions : Gaithersburg/ Rockville, MD	1.785	0.300	Dec 2021	0.000		0.000		-		0.000	0.000	2.085	0.000
AUTOINJ - HW C - RAD-A	C/CPFF	Various : N/A	-	6.577	Nov 2022	0.000		0.000		-		0.000	0.000	6.577	0.000
INATS CA - Product Management	C/CPFF	JPM CBRN Medical, JPEO-CBRND : Fort Detrick, MD	2.602	1.674	Mar 2022	0.000		0.000		-		0.000	0.000	4.276	0.000
INATS CA - HW C - Clinical	C/CPFF	Battelle Memorial Institute : Columbus, OH	3.198	0.400	Apr 2022	0.000		0.000		-		0.000	0.000	3.598	0.000
INATS CA - HW C - Manufacturing	C/FFP	Aktivax : Boulder, CO	4.716	4.237	Dec 2021	0.000		0.000		-		0.000	0.000	8.953	0.000
INATS CA - HW C - Non-Clinical	C/CPFF	Battelle Memorial Institute : Columbus, OH	9.397	2.132	Nov 2021	0.000		0.000		-		0.000	0.000	11.529	0.000
ROCS - Product Management	Various	JPM CBRN Medical, JPEO-CBRND : Fort Detrick, MD	0.711	0.357	Feb 2022	0.000		0.000		-		0.000	0.000	1.068	0.000
ROCS - HW C - Manufacturing	C/CPFF	kaleo : Richmond, VA	8.026	4.798	Nov 2021	0.000		0.000		-		0.000	0.000	12.824	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Chemical and Biological Defense Program			Date: March 2023
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ROCS - HW C - Regulatory	C/CPFF	kaleo : Richmond, VA	-	1.154	Oct 2021	0.000		0.000		-		0.000	0.000	1.154	0.000
		Subtotal	55.829	29.674		0.000		0.000		-		0.000	0.000	85.503	N/A

Support ($ in Millions)

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

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AAS - Management Services	Various	JPEO Chem, Bio, Rad, and Nuc Defense (JPEO-CBRND) : Aberdeen Proving Ground, MD	0.389	0.574	Dec 2021	0.000		0.000		-		0.000	0.000	0.963	0.000
AUTOINJ - Management Services	Various	JPEO Chem, Bio, Rad, and Nuc Defense (JPEO-CBRND) : Aberdeen Proving Ground, MD	6.766	1.519	Dec 2021	0.000		0.000		-		0.000	0.000	8.285	0.000
INATS CA - Management Services	Various	JPM CBRN Medical, JPEO-CBRND : Fort Detrick, MD	4.322	1.061	Dec 2021	0.000		0.000		-		0.000	0.000	5.383	0.000
INATS CA - Management Services	Various	JPEO Chem, Bio, Rad, and Nuc Defense (JPEO-CBRND) : Aberdeen Proving Ground, MD	-	3.792	Dec 2021	0.000		0.000		-		0.000	0.000	3.792	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Chemical and Biological Defense Program		Date: March 2023
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Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ROCS - Management Services	Various	JPEO Chem, Bio, Rad, and Nuc Defense (JPEO-CBRND) : Aberdeen Proving Ground, MD	2.627	1.163	Dec 2021	0.000		0.000		-		0.000	0.000	3.790	0.000
ROCS - Management Services	Various	JPM CBRN Medical, JPEO-CBRND : Fort Detrick, MD	-	1.153	Dec 2021	0.000		0.000		-		0.000	0.000	1.153	0.000
		Subtotal	14.104	9.262		0.000		0.000		-		0.000	0.000	23.366	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	69.933	38.936		0.000		0.000		-		0.000	0.000	108.869	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** MC5 / *Medical Chemical Defense (SDD)*

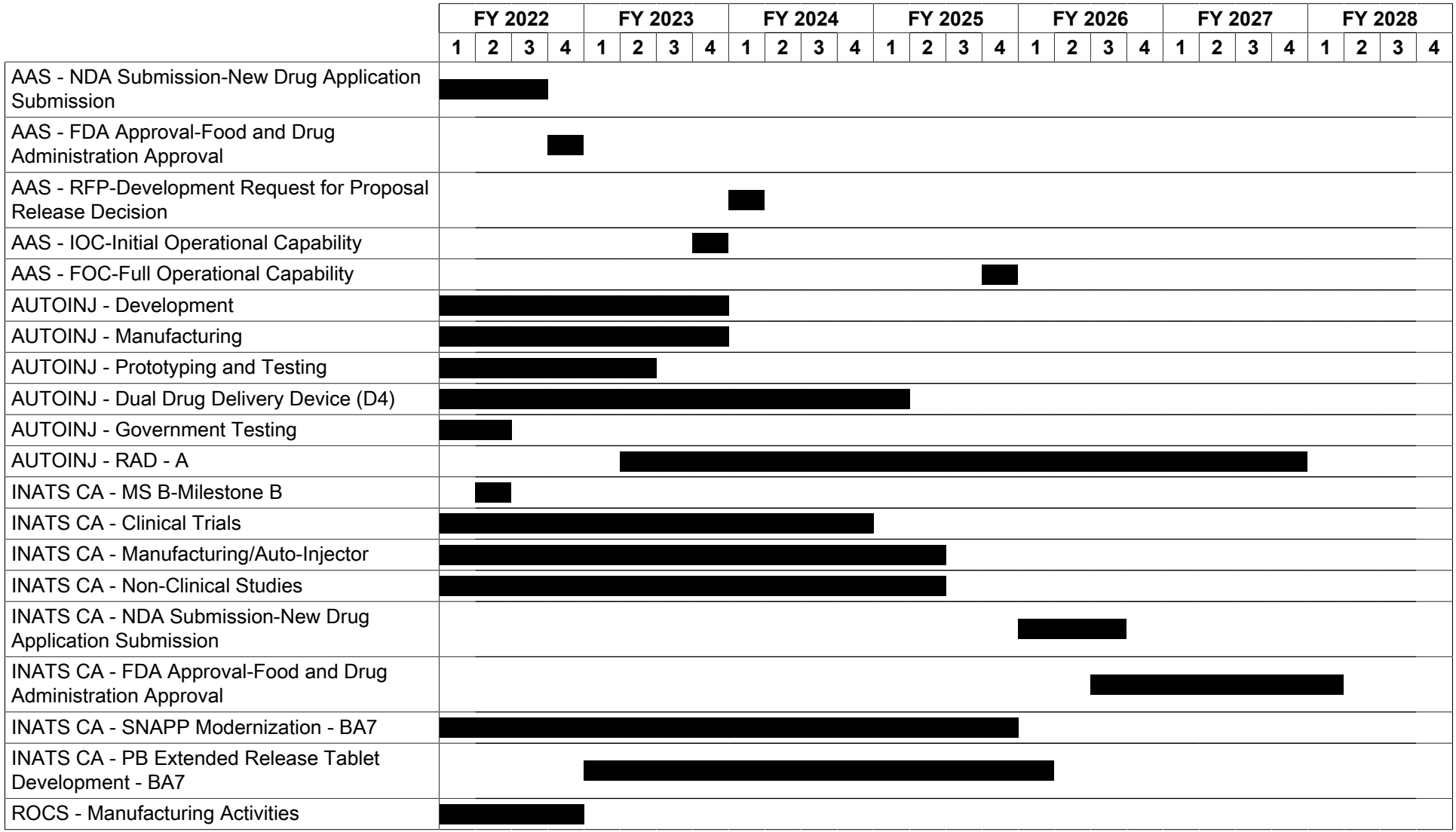

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** MC5 / *Medical Chemical Defense (SDD)*

	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
ROCS - FDA Approval-Food and Drug Administration Approval - FDA Approval & PMRs	[redacted]																											

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Chemical and Biological Defense Program		Date: March 2023
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *Chemical and Biological Defense Program - EMD*	**Project (Number/Name)** MC5 / *Medical Chemical Defense (SDD)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
AAS - NDA Submission-New Drug Application Submission	1	2022	3	2022
AAS - FDA Approval-Food and Drug Administration Approval	4	2022	4	2022
AAS - RFP-Development Request for Proposal Release Decision	1	2024	1	2024
AAS - IOC-Initial Operational Capability	4	2023	4	2023
AAS - FOC-Full Operational Capability	4	2025	4	2025
AUTOINJ - Development	1	2022	4	2023
AUTOINJ - Manufacturing	1	2022	4	2023
AUTOINJ - Prototyping and Testing	1	2022	2	2023
AUTOINJ - Dual Drug Delivery Device (D4)	1	2022	1	2025
AUTOINJ - Government Testing	1	2022	2	2022
AUTOINJ - RAD - A	2	2023	4	2027
INATS CA - MS B-Milestone B	2	2022	2	2022
INATS CA - Clinical Trials	1	2022	4	2024
INATS CA - Manufacturing/Auto-Injector	1	2022	2	2025
INATS CA - Non-Clinical Studies	1	2022	2	2025
INATS CA - NDA Submission-New Drug Application Submission	1	2026	3	2026
INATS CA - FDA Approval-Food and Drug Administration Approval	3	2026	1	2028
INATS CA - SNAPP Modernization - BA7	1	2022	4	2025
INATS CA - PB Extended Release Tablet Development - BA7	1	2023	1	2026
ROCS - Manufacturing Activities	1	2022	4	2022
ROCS - FDA Approval-Food and Drug Administration Approval - FDA Approval & PMRs	1	2022	4	2022