Department of Defense
Fiscal Year (FY) 2020 Budget Estimates

March 2019

Chemical and Biological Defense Program

Defense-Wide Justification Book Volume 1 of 2

Procurement, Defense-Wide

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Chemical Biological Defense Program Overview

The threat from chemical, biological, radiological, and nuclear (CBRN) weapons is growing as state and non-state actors are increasingly willing to use these type of weapons of mass destruction (WMD) for assassinations (Russia and North Korea) or to achieve asymmetric advantage (Syria and ISIS in Iraq). The threat continues to evolve as barriers to acquiring WMD decrease due to rapid advances in biotechnology and the relative ease of sharing these technologies.

Recent Presidential guidance directs strengthening defenses against WMD at home and abroad. The National Defense Strategy (NDS) recognizes the threat of WMD and prioritizes efforts to prevent the proliferation of WMD materials, defend the homeland from WMD threats, and manage the consequences of WMD attacks. The Chemical and Biological Defense Program (CBDP) is a key enabler to the NDS pillar to "Build a more lethal force" and through its activities and collaborations with interdepartmental, interagency and international partners the program supports the NDS pillar to "Strengthen Alliances".

The lethality of the Joint Force and its ability to continue the mission depends on the warfighter's ability to prepare for, prevent, protect, respond to, mitigate, and recover from the effects of WMD use. The CBDP provides materiel solutions as part of an integrated and layered capability to enable Countering WMD (CWMD) missions ranging from combat operations to DoD support to domestic incident prevention and response. This Fiscal Year 2020 President's Budget Request includes $1.40 billion aligned against the highest CBRN-defense priorities for the Department, Joint Service, and Combatant Commands to improve near-term Joint Force readiness and modernize the force over the long term.

Budget Overview

This budget request supports the NDS and the DoD Strategy for CWMD and advances the following areas:

- Situational Awareness (NDS Pillar: Build a More Lethal Force) - Improving tactical and operational commanders' decisions by developing and fielding better detection and identification capabilities to conduct CBRN reconnaissance, surveillance, and site exploitation missions. Developmental efforts focus on increasing detector accuracy, range, effectiveness, ensuring that detector data integrates seamlessly with other non-CBRN sensor systems and relevant information systems, and integration of sensors onto Service-fielded unmanned platforms.
- Protection (NDS Pillar: Build a More Lethal Force) - Enhancing mission performance while providing effective protection against current and emerging threats by rapidly developing and fielding modernized protective capabilities. Developmental efforts focus on advances in materials and systems engineering to enhance protective properties against a broader array of threats while reducing

CWMD operational challenges and logistical burdens. Modular and customizable solutions will be effective against a broad range of challenges in varied environments.

- Hazard Mitigation (NDS Pillar: Build a More Lethal Force) - Preserving combat power by developing and fielding systems that mitigate exposure to CBRN hazards and restore combat readiness of critical personnel and platforms. Developmental efforts address personnel decontamination, to include handling mass casualties and human remains, along with materiel decontamination, which includes sensitive equipment and aircraft. Novel decontamination approaches focus on broad decontaminate applicability to CB hazards, while minimizing harm to individuals, equipment, and platforms.
- Medical Countermeasures (NDS Pillar: Build a More Lethal Force) - Improving delivery of medical countermeasures (MCMs) to the warfighter by enhancing development with a platform-based approach to enable cost effective and agile delivery of prophylactic, diagnostic, and therapeutic capabilities for known and emerging threats. Developmental efforts focus on advanced vaccines, therapeutic drugs, and diagnostic capabilities that provide safe and effective medical defenses against validated biological threat agents (bacteria, toxins, and viruses), emerging infectious disease, in addition to traditional and non-traditional chemical agents.
- Prevent Surprise (NDS Pillar: Build a More Lethal Force) - Reducing the risk from emerging threats resulting from advances in biotechnology and the increased proliferation of WMD and enablers. Efforts focus on accelerating characterization and early assessment of possible threats by leveraging advances in biotechnology and artificial intelligence.

FY20 Budget Request Highlights

- The FY 2020 Research, Development, Test and Evaluation (RDT&E) budget request of $1,052 Million supports key efforts including:
  - $249 Million supporting RDT&E efforts advancing environmental (detectors) and medical diagnostic capabilities providing enhanced situational awareness of traditional and non-traditional chemical threats, as well as traditional and emerging biological threats.
  - $230 Million to continue support of research and development of medical countermeasures (MCMs) vaccines and therapeutics addressing high-priority biological threats.
  - $113 Million to continue support of research and development of medical countermeasures focused on protecting and treating against traditional and non-traditional chemical agents.
  - $103 Million to support critical chemical and biological defense research, development, and test infrastructure and operations.
  - $79 Million supporting basic research and threat agent sciences advancing fundamental knowledge and experimental research in the life and physical sciences.
  - $72 Million supporting biosurveillance, warning & reporting, decision support, and modeling and simulation capabilities.

- $50 Million supporting MCM platform and manufacturing technologies to streamline and accelerate MCM delivery by reducing developmental risk. Efforts center on leveraging and sustaining the DoD's Advanced Development and Manufacturing (ADM) capability.
- $63 Million supporting RDT&E for personnel protection, collective protection and hazard mitigation capabilities against traditional and non-traditional chemical threats as well as traditional and emerging biological threats.
- $24 Million supporting concepts development, technology demonstrations, and experimentation capability demonstrations of enhanced military operational capability for technologies and equipment.

- The FY 2020 Procurement budget request of $351 Million supports key efforts including:
  - $83 Million to procure modernized respiratory and ocular protection for ground and air forces.
  - $55 Million to procure modernized Analytical Laboratory Systems to enhance and sustain the National Guard – Weapons of Mass Destruction Civil Support Teams (WMD-CST) analytical capabilities for defense support to civil authorities.
  - $53 Million to procure CBRN Dismounted Reconnaissance Sets, Kits, and Outfits (DR SKO) which allows warfighters to perform CBRN dismounted reconnaissance, surveillance, and site assessment of WMD suspect areas not accessible by traditional CBRN reconnaissance-mounted platforms.
  - $36 Million to procure modernized Collective Protection capabilities (Joint Expeditionary Collective Protection, CB Protective Shelters and CB Aircraft Survivability Barrier).
  - $25 Million to procure Joint Biological Agent Decontamination Systems providing the capability to conduct biological agent decontamination of the interior and exterior of aircraft and vehicle platforms.
  - $17 Million to procure Enhanced Maritime Biological Detectors which provide the U.S. Navy improved detection/identification capabilities, decreased operational costs, and increased reliability and maintainability for detection of biological threats.
  - $13 Million to procure protective ensembles supporting enhanced protection for the Joint Force, to include Special Purpose Units.

Summary

The proliferation of WMD is among the greatest challenges facing the United States, and improving our ability to counter WMD is a top priority of the United States of America. Accordingly, the CBDP continues to develop capabilities as part of an integrated, layered defense to strengthen the Joint Force's ability to prevent, protect against, respond to, mitigate and recover from CBRN threats and effects. This budget enables the CBDP to support the Joint Force to ensure that they are equipped to complete missions in CBRN environments, preserving the security and freedom of our nation.

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Defense-Wide
FY 2020 President's Budget
Exhibit P-1 FY 2020 President's Budget
Total Obligational Authority
(Dollars in Thousands)

25 Feb 2019

Appropriation	FY 2018 (Base + OCO)	FY 2019 Base Enacted	FY 2019 OCO Enacted	FY 2019 Total Enacted
Procurement, Defense-Wide	249,133	311,437		311,437
Total Defense-Wide	249,133	311,437		311,437

Defense-Wide
FY 2020 President's Budget
Exhibit P-1 FY 2020 President's Budget
Total Obligational Authority
(Dollars in Thousands)

25 Feb 2019

Appropriation	FY 2020 Base	FY 2020 OCO for Base Requirements	FY 2020 OCO for Direct War and Enduring Costs	FY 2020 Total OCO
Procurement, Defense-Wide	350,594			
Total Defense-Wide	350,594			

Defense-Wide
FY 2020 President's Budget
Exhibit P-1 FY 2020 President's Budget
Total Obligational Authority
(Dollars in Thousands)

25 Feb 2019

Appropriation	FY 2020 Total (Base + OCO)
Procurement, Defense-Wide	350,594
Total Defense-Wide	350,594

Defense-Wide
FY 2020 President's Budget
Exhibit P-1 FY 2020 President's Budget
Total Obligational Authority
(Dollars in Thousands)

25 Feb 2019

Organization: Procurement, Defense-Wide	FY 2018 (Base + OCO)	FY 2019 Base Enacted	FY 2019 OCO Enacted	FY 2019 Total Enacted
Chemical and Biological Defense Program, CBDP	249,133	311,437		311,437
Total	249,133	311,437		311,437

Defense-Wide
FY 2020 President's Budget
Exhibit P-1 FY 2020 President's Budget
Total Obligational Authority
(Dollars in Thousands)

25 Feb 2019

Organization: Procurement, Defense-Wide	FY 2020 Base	FY 2020 OCO for Base Requirements	FY 2020 OCO for Direct War and Enduring Costs	FY 2020 Total OCO
Chemical and Biological Defense Program, CBDP	350,594			
Total	350,594			

Defense-Wide
FY 2020 President's Budget
Exhibit P-1 FY 2020 President's Budget
Total Obligational Authority
(Dollars in Thousands)

25 Feb 2019

Organization: Procurement, Defense-Wide	FY 2020 Total (Base + OCO)
Chemical and Biological Defense Program, CBDP	350,594
Total	350,594

Defense-Wide
FY 2020 President's Budget
Exhibit P-1 FY 2020 President's Budget
Total Obligational Authority
(Dollars in Thousands)

25 Feb 2019

Appropriation: Procurement, Defense-Wide

Budget Activity	FY 2018 (Base + OCO)	FY 2019 Base Enacted	FY 2019 OCO Enacted	FY 2019 Total Enacted
03. Chemical/Biological Defense	249,133	311,437		311,437
Total Procurement, Defense-Wide	249,133	311,437		311,437

P-120PB: FY 2020 President's Budget (Published Version), as of February 25, 2019 at 12:57:56

Defense-Wide
FY 2020 President's Budget
Exhibit P-1 FY 2020 President's Budget
Total Obligational Authority
(Dollars in Thousands)

25 Feb 2019

Appropriation: Procurement, Defense-Wide

Budget Activity	FY 2020 Base	FY 2020 OCO for Base Requirements	FY 2020 OCO for Direct War and Enduring Costs	FY 2020 Total OCO
03. Chemical/Biological Defense	350,594			
Total Procurement, Defense-Wide	350,594			

P-120PB: FY 2020 President's Budget (Published Version), as of February 25, 2019 at 12:57:56

Defense-Wide
FY 2020 President's Budget
Exhibit P-1 FY 2020 President's Budget
Total Obligational Authority
(Dollars in Thousands)

25 Feb 2019

Appropriation: Procurement, Defense-Wide

Budget Activity	FY 2020 Total (Base + OCO)
03. Chemical/Biological Defense	350,594
Total Procurement, Defense-Wide	350,594

Defense-Wide
FY 2020 President's Budget
Exhibit P-1 FY 2020 President's Budget
Total Obligational Authority
(Dollars in Thousands)

25 Feb 2019

Appropriation: 0300D Procurement, Defense-Wide

Line No	Item Nomenclature	Ident Code	FY 2018 (Base + OCO) Quantity	FY 2018 (Base + OCO) Cost	FY 2019 Base Enacted Quantity	FY 2019 Base Enacted Cost	FY 2019 OCO Enacted Quantity	FY 2019 OCO Enacted Cost	FY 2019 Total Enacted Quantity	FY 2019 Total Enacted Cost	Sec
Budget Activity 03: Chemical/Biological Defense											
CBDP											
76	Chemical Biological Situational Awareness	A		124,969		168,918				168,918	U
77	CB Protection & Hazard Mitigation	A		124,164		142,519				142,519	U
Total Chemical/Biological Defense				249,133		311,437				311,437	
Total Procurement, Defense-Wide				249,133		311,437				311,437	

P-120PB: FY 2020 President's Budget (Published Version), as of February 25, 2019 at 12:57:56

Defense-Wide
FY 2020 President's Budget
Exhibit P-1 FY 2020 President's Budget
Total Obligational Authority
(Dollars in Thousands)

25 Feb 2019

Appropriation: 0300D Procurement, Defense-Wide

Line No	Item Nomenclature	Ident Code	FY 2020 Base Quantity	FY 2020 Base Cost	FY 2020 OCO for Base Requirements Quantity	FY 2020 OCO for Base Requirements Cost	FY 2020 OCO for Direct War and Enduring Costs Quantity	FY 2020 OCO for Direct War and Enduring Costs Cost	FY 2020 Total OCO Quantity	FY 2020 Total OCO Cost	Sec
Budget Activity 03: Chemical/Biological Defense											
CBDP											
76	Chemical Biological Situational Awareness	A	162,406								U
77	CB Protection & Hazard Mitigation	A	188,188								U
Total Chemical/Biological Defense			350,594								
Total Procurement, Defense-Wide			350,594								

P-120PB: FY 2020 President's Budget (Published Version), as of February 25, 2019 at 12:57:56

Defense-Wide
FY 2020 President's Budget
Exhibit P-1 FY 2020 President's Budget
Total Obligational Authority
(Dollars in Thousands)

25 Feb 2019

Appropriation: 0300D Procurement, Defense-Wide

Line No	Item Nomenclature	Ident Code	FY 2020 Total (Base + OCO) Quantity	Cost	Sec
Budget Activity 03: Chemical/Biological Defense					
CBDP					
76	Chemical Biological Situational Awareness	A		162,406	U
77	CB Protection & Hazard Mitigation	A		188,188	U
Total Chemical/Biological Defense				350,594	
Total Procurement, Defense-Wide				350,594	

P-120PB: FY 2020 President's Budget (Published Version), as of February 25, 2019 at 12:57:56

Line Item Table of Contents (by Appropriation then Line Number)

Appropriation 0300D: Procurement, Defense-Wide

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Line Item Table of Contents (Alphabetically by Line Item Title)

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Exhibit P-40, Budget Line Item Justification: PB 2020 Chemical and Biological Defense Program	Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D: Procurement, Defense-Wide / BA 03: Chemical/Biological Defense / BSA 1: CBDP	**P-1 Line Item Number / Title:** 7001SA1000 / Chemical Biological Situational Awareness

ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A

Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity *(Units in Each)*	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost *($ in Millions)*	319.916	124.969	168.918	162.406	-	162.406	256.214	315.933	371.416	368.235	Continuing	Continuing
Less PY Advance Procurement *($ in Millions)*	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) *($ in Millions)*	319.916	124.969	168.918	162.406	-	162.406	256.214	315.933	371.416	368.235	Continuing	Continuing
Plus CY Advance Procurement *($ in Millions)*	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority *($ in Millions)*	**319.916**	**124.969**	**168.918**	**162.406**	**-**	**162.406**	**256.214**	**315.933**	**371.416**	**368.235**	**Continuing**	**Continuing**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)												
Initial Spares *($ in Millions)*	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost *($ in Thousands)*	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost *($ in Thousands)*	-	-	-	-	-	-	-	-	-	-	-	-

Description:

Enable the warfigher to deter, prevent, protect against, mitigate, respond to, and recover from chemical, biological, radiological, and nuclear (CBRN) threats and effects as part of an integrated and layered defense. Situational awareness provides the Joint Force the ability to proactively identify hazards from traditional and emerging CBRN threats with a focus on improving the timeliness and confidence of information for decision makers. The funds provided will foster innovation and develop advanced state-of the art CBRN technology to protect the United States, its allies, and American forces worldwide.

Exhibit P-40, Budget Line Item Justification: PB 2020 Chemical and Biological Defense Program	Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D: Procurement, Defense-Wide / BA 03: Chemical/Biological Defense / BSA 1: CBDP	**P-1 Line Item Number / Title:** 7001SA1000 / Chemical Biological Situational Awareness
ID Code (A=Service Ready, B=Not Service Ready): A	**Program Elements for Code B Items:** N/A — **Other Related Program Elements:** N/A
Line Item MDAP/MAIS Code: N/A	

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/ MAIS Code	Quantity / Total Cost *(Each) / ($ M)*	Quantity / Total Cost *(Each) / ($ M)*	Quantity / Total Cost *(Each) / ($ M)*	Quantity / Total Cost *(Each) / ($ M)*	Quantity / Total Cost *(Each) / ($ M)*	Quantity / Total Cost *(Each) / ($ M)*
P-5	SA0025 / ANALYTICAL LABORATORY SYSTEM MODIFICATION (ALS MOD)	P-5a, P-21	B		- / 0.000	- / 0.000	- / 0.000	- / 55.158	- / -	- / 55.158
P-5	SA0005 / CBRN SENSOR INTEGRATION ON ROBOTIC PLATFORMS (CSIRP)	P-5a	B		- / 0.000	- / 0.000	- / 0.000	- / 3.495	- / -	- / 3.495
P-5	JF0108 / JOINT HANDHELD BIO-AGENT IDENTIFIER (JHBI)		A		- / 0.000	- / 1.661	- / 1.092	- / 1.070	- / -	- / 1.070
P-5	SA0012 / JOINT PERSONNEL DOSIMETER-INDIVIDUAL (JPD-I)	P-5a	A		- / 0.000	- / 0.000	- / 5.000	- / 4.957	- / -	- / 4.957
P-5	SA0009 / MOUNTED MANNED PLATFORM RADIOLOGICAL DETECTION SYSTEM (MMPRDS)	P-5a	A		- / 0.000	- / 0.000	- / 0.000	- / 3.245	- / -	- / 3.245
P-5	SA0011 / RADIOLOGICAL DETECTION SYSTEM (RDS)	P-5a	A		- / 0.000	- / 0.000	- / 0.000	- / 4.065	- / -	- / 4.065
P-5	JF0100 / JOINT CHEMICAL AGENT DETECTOR (JCAD)	P-5a	A		- / 33.697	- / 4.483	- / 1.698	- / 4.493	- / -	- / 4.493
P-5	G47101 / JOINT WARNING & REPORTING NETWORK (JWARN)		A		- / 3.889	- / 0.933	- / 0.502	- / 0.442	- / -	- / 0.442
P-5	JX0300 / BIOSURVEILLANCE (BSV)				- / 2.600	- / 18.188	- / 0.000	- / 0.000	- / -	- / 0.000
P-5	JS5230 / SOFTWARE SUPPORT ACTIVITY (SSA)		B		- / 0.400	- / 0.092	- / 0.094	- / 0.081	- / -	- / 0.081
P-5	JC0208 / JOINT EFFECTS MODEL (JEM)		A		- / 6.385	- / 0.880	- / 0.911	- / 0.689	- / -	- / 0.689
P-5	SA0006 / CBRN INFORMATION SYSTEMS (CBRN IS)		B		- / 0.500	- / 0.464	- / 0.753	- / 0.276	- / -	- / 0.276
P-5	MC0100 / JOINT NBC RECONNAISSANCE SYSTEM (JNBCRS)		A		- / 20.351	- / 0.468	- / 0.000	- / 0.300	- / -	- / 0.300
P-5	MC0101 / CBRN DISMOUNTED RECONNAISSANCE SYSTEMS (CBRN DRS)	P-5a, P-21	A		- / 201.683	- / 69.945	- / 98.081	- / 53.020	- / -	- / 53.020
P-5	JM8788 / NEXT GENERATION DIAGNOSTICS SYSTEM (NGDS)	P-5a	A		- / 8.390	- / 6.498	- / 6.563	- / 4.905	- / -	- / 4.905
P-5	JX0302 / GLOBAL BIO TECH INITIATIVE (GBTI)				- / 2.171	- / 1.967	- / 0.000	- / 0.000	- / -	- / 0.000
P-5	JX0210 / DEFENSE BIOLOGICAL PRODUCTS ASSURANCE PROGRAM (DBPAP)				- / 2.010	- / 0.980	- / 0.975	- / 2.961	- / -	- / 2.961
P-5	JX0301 / BIOSURVELLENCE PORTAL (BSP)		A		- / 2.840	- / 1.107	- / 1.148	- / 1.124	- / -	- / 1.124
P-5	JS0005 / COMMON ANALYTICAL LABORATORY SYSTEM (CALS)	P-5a	B		- / 23.100	- / 13.964	- / 48.317	- / 4.293	- / -	- / 4.293
P-5	JS0008 / SPU CBE CBRN RESPONSE ENTERPRISE (SPU CBE CRE)		A		- / 9.681	- / 2.234	- / 2.400	- / 0.000	- / -	- / 0.000
P-5	JS0007 / SPU CBE CHEMICAL BIOLOGICAL INCIDENT RESPONSE FORCE (SPU CBE CBIRF)		A		- / 2.219	- / 1.105	- / 1.384	- / 1.089	- / -	- / 1.089
P-5	SA0003 / ENHANCED MARITIME BIOLOGICAL DETECTION (EMBD)	P-5a	A		- / 0.000	- / 0.000	- / 0.000	- / 16.743	- / -	- / 16.743
P-40	**Total Gross/Weapon System Cost**				**- / 319.916**	**- / 124.969**	**- / 168.918**	**- / 162.406**	**- / -**	**- / 162.406**

*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.

Justification:
Situational Awareness is a primary objective of the Chemical Biological Defense Program. Operational forces have an immediate need to safely operate, survive, and sustain operations in an NBC agent threat environment. Contamination Avoidance is necessary to maintain operational efficiency and minimize the need to decontaminate vehicles, equipment, and areas. Advanced chemical defensive equipment is

Exhibit P-40, Budget Line Item Justification: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D: Procurement, Defense-Wide / BA 03: Chemical/Biological Defense / BSA 1: CBDP	**P-1 Line Item Number / Title:** 7001SA1000 / Chemical Biological Situational Awareness	
ID Code (A=Service Ready, B=Not Service Ready): A	**Program Elements for Code B Items:** N/A	**Other Related Program Elements:** N/A
Line Item MDAP/MAIS Code: N/A		

required to enhance US capability to detect and identify threat agents in the battle space and the homeland. Warning, reporting, and reconnaissance efforts will provide a tiered strategy for detection and warning comprised of complementary detection/identification systems to provide theater protection against a large area and point attacks. Additionally, efforts in this BLIN support Special Purpose Unit operations and the National Guard Bureau WMD-CSTs.

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 7001SA1000 / Chemical Biological Situational Awareness	**Item Number / Title [DODIC]:** SA0025 / ANALYTICAL LABORATORY SYSTEM MODIFICATION (ALS MOD)
ID Code (A=Service Ready, B=Not Service Ready) : B		**MDAP/MAIS Code:**

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity *(Units in Each)*	-	-	-	-	-	-
Gross/Weapon System Cost *($ in Millions)*	0.000	0.000	0.000	55.158	-	55.158
Less PY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Net Procurement (P-1) *($ in Millions)*	0.000	0.000	0.000	55.158	-	55.158
Plus CY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Total Obligation Authority *($ in Millions)*	**0.000**	**0.000**	**0.000**	**55.158**	**-**	**55.158**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)						
Initial Spares *($ in Millions)*	-	-	-	-	-	-
Gross/Weapon System Unit Cost *($ in Thousands)*	-	-	-	-	-	-

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)
Hardware Cost																		
Recurring Cost																		
Prior/Future combined efforts	-	-	-	-	-	0.000	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
ALS MOD - Production(†)	-	-	0.000	-	-	0.000	-	-	0.000	1,766.304	23	40.625	-	-	-	1,766.304	23	40.625
Subtotal: Recurring Cost	-	-	*0.000*	-	-	*0.000*	-	-	*0.000*	-	-	*40.625*	-	-	-	-	-	*40.625*
Subtotal: Hardware Cost	**-**	**-**	***0.000***	**-**	**-**	***0.000***	**-**	**-**	***0.000***	**-**	**-**	***40.625***	**-**	**-**	**-**	**-**	**-**	***40.625***
Support Cost																		
ALS MOD - System Test & Evaluation - IA Support	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.274	-	-	-	-	-	0.274
ALS MOD - Engineering Changes	-	-	0.000	-	-	0.000	-	-	0.000	-	-	1.444	-	-	-	-	-	1.444
ALS MOD - Program Management	-	-	0.000	-	-	0.000	-	-	0.000	-	-	7.809	-	-	-	-	-	7.809
ALS MOD - Fielding Costs	-	-	0.000	-	-	0.000	-	-	0.000	-	-	5.006	-	-	-	-	-	5.006
Subtotal: Support Cost	**-**	**-**	***0.000***	**-**	**-**	***0.000***	**-**	**-**	***0.000***	**-**	**-**	***14.533***	**-**	**-**	**-**	**-**	**-**	***14.533***
Gross/Weapon System Cost	**-**	**-**	**0.000**	**-**	**-**	**0.000**	**-**	**-**	**0.000**	**-**	**-**	**55.158**	**-**	**-**	**-**	**-**	**-**	**55.158**

Remarks:

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 7001SA1000 / Chemical Biological Situational Awareness	**Item Number / Title [DODIC]:** SA0025 / ANALYTICAL LABORATORY SYSTEM MODIFICATION (ALS MOD)
ID Code (A=Service Ready, B=Not Service Ready) : B		**MDAP/MAIS Code:**

The Analytical Laboratory System (ALS) Modification (MOD) program was established to address critical analytical equipment obsolescence (Analytical Suite) and system functionality for the National Guard Bureau's (NGB) Civil Support Teams. In so doing, this program will follow the requirements defined in the ALS Capability Production Document. The ALS MOD capability will be modular, scalable and adaptable to a various environmental conditions. Additionally, the ALS MOD will support the specific mission and CONOPS of the gaining unit and will be able to detect and/or identify Chemical Warfare Agents (CWAs), Toxic Industrial Chemicals (TICs), Toxic Industrial Materials (TIMs), Biological Warfare Agents (BWAs), and radiological material in environmental samples.

ALS MOD program supports the evaluation of advancements in CBRN commercial off the shelf (COTS)/government-off-the-shelf (GOTS) equipment against the current technology baseline of equipment fielded to the (57) WMD CST Teams. As such, the program will establish a time phased modernization plan to integrate and incorporate advancements in commercially available technology refresh into the CST operating mission set ahead of critical obsolescence. ALS MOD obsolescence will be done in concert with the two CALS variants. An obsolescence plan outlining the specifics of the effort will be approved by the MDA (JPEO-CBRND).

Note: Previously fielded ALS variants to the National Guard Bureau's (NGB) have experienced degraded system performance. Documented ALS system criticalities include obsolete prime movers, shelters, and analytical suite equipment. Service funding is being provided to procure the prime mover for the ALS MOD. The PM will be responsible for modifying the prime mover, modernizing the shelter, analytical suite equipment and communication/IT equipment for the ALS MOD.

Justification: FY20 Funding procures 23 National Guard Bureau (NGB) ALS MOD assets and includes New Equipment Training (NET), Consumables and warranty / CLS costs for all fielded systems, Program Management (PM) and Other Government Agencies (OGA's).

(†) indicates the presence of a P-5a

Exhibit P-5a, Procurement History and Planning: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	P-1 Line Item Number / Title: 7001SA1000 / Chemical Biological Situational Awareness	Item Number / Title [DODIC]: SA0025 / ANALYTICAL LABORATORY SYSTEM MODIFICATION (ALS MOD)

Cost Elements	OCO	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost ($ K)	Specs Avail Now?	Date Revision Available	RFP Issue Date
ALS MOD - Production(†)		2020	Pine Bluff Arsenal / Pine Bluff, AR	MIPR	Pine Bluff, AR	Oct 2019	Dec 2019	23	1,766.304	Y		

(†) indicates the presence of a P-21

Exhibit P-21, Production Schedule: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 7001SA1000 / Chemical Biological Situational Awareness	**Item Number / Title [DODIC]:** SA0025 / ANALYTICAL LABORATORY SYSTEM MODIFICATION (ALS MOD)

Cost Elements (Units in Each)							Fiscal Year 2020												Fiscal Year 2021											BALANCE
										Calendar Year 2020														Calendar Year 2021								
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2019	BAL DUE AS OF 1 OCT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
ALS MOD - Production																														
	1	2020	CBDP	23	0	23	A -	-	2	2	2	2	2	2	2	2	2	2	2	2	1										0
Secondary Distribution			*ARMY : ANG*	*23*	*0*	*23*	*A -*	*-*	*2*	*2*	*2*	*2*	*2*	*2*	*2*	*2*	*2*	*2*	*2*	*2*	*1*										*0*
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	

Exhibit P-21, Production Schedule: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 7001SA1000 / Chemical Biological Situational Awareness	**Item Number / Title [DODIC]:** SA0025 / ANALYTICAL LABORATORY SYSTEM MODIFICATION (ALS MOD)

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Month)			Procurement Leadtime (Months)							
					Initial				Reorder			
		MSR For 2020	1-8-5 For 2020	MAX For 2020	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	Pine Bluff Arsenal - Pine Bluff, AR	1	2	2	0	1	1	2	0	1	1	2

Remarks:
Production rates are monthly for all manufacturers

(‡) Delivery rows marked with this symbol indicate that they are funded through a separate Line Item. See the respective components' exhibits for details, including the full delivery schedule.
"A" in the Delivery Schedule indicates the Contract Award Date.
Note: Due to space limitations, quantities in the Exhibit P-21 delivery calendar are truncated and rounded based on the maximum quantity in the calendar as follows. If the maximum quantity is less than or equal to than 9,999, all quantities are shown as each. If the maximum quantity is between 10,000 and 999,999 all quantities are shown in thousands. If the maximum quantity is between 1,000,000 and 999,999,999 all quantities are shown in millions (rounded to the nearest thousand).If the maximum quantity is equal or greater than 1,000,000,000 all quantities are shown in billions (rounded to the nearest million).

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 7001SA1000 / Chemical Biological Situational Awareness	**Item Number / Title [DODIC]:** SA0005 / CBRN SENSOR INTEGRATION ON ROBOTIC PLATFORMS (CSIRP)
ID Code (A=Service Ready, B=Not Service Ready) : B		**MDAP/MAIS Code:**

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity *(Units in Each)*	-	-	-	-	-	-
Gross/Weapon System Cost *($ in Millions)*	0.000	0.000	0.000	3.495	-	3.495
Less PY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Net Procurement (P-1) *($ in Millions)*	0.000	0.000	0.000	3.495	-	3.495
Plus CY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Total Obligation Authority *($ in Millions)*	**0.000**	**0.000**	**0.000**	**3.495**	**-**	**3.495**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)						
Initial Spares *($ in Millions)*	-	-	-	-	-	-
Gross/Weapon System Unit Cost *($ in Thousands)*	-	-	-	-	-	-

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)
Hardware Cost																		
Recurring Cost																		
Prior/Future combined efforts	-	-	-	-	-	0.000	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
CSIRP Prototypes (Hardware)(†)	-	-	0.000	-	-	0.000	-	-	0.000	50.000	60	3.000	-	-	-	50.000	60	3.000
Subtotal: Recurring Cost	-	-	*0.000*	-	-	*0.000*	-	-	*0.000*	-	-	*3.000*	-	-	-	-	-	*3.000*
Subtotal: Hardware Cost	**-**	**-**	***0.000***	**-**	**-**	***0.000***	**-**	**-**	***0.000***	**-**	**-**	***3.000***	**-**	**-**	**-**	**-**	**-**	***3.000***
Support Cost																		
Engineering Support	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.495	-	-	-	-	-	0.495
Subtotal: Support Cost	**-**	**-**	***0.000***	**-**	**-**	***0.000***	**-**	**-**	***0.000***	**-**	**-**	***0.495***	**-**	**-**	**-**	**-**	**-**	***0.495***
Gross/Weapon System Cost	**-**	**-**	**0.000**	**-**	**-**	**0.000**	**-**	**-**	**0.000**	**-**	**-**	**3.495**	**-**	**-**	**-**	**-**	**-**	**3.495**

Remarks:
CBRN Sensor Integration on Robotic Platforms (CSIRP) is a rapid prototyping and fielding effort starting in FY19 that will focus on small scale purchase of CBRN sensors for use with service identified unmanned platforms in the field. It will Integrate modular CBRN sensor solutions to enhance Service Unmanned Air and Ground Systems Programs of Record (PORs). CSIRP sensors will 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 machine learning and autonomy for greater propulsion, sensing and communication capabilities that enable timely and accurate detection, warning and reporting of CBRN hazards for increased risk reduction opportunities at tactical and operational echelons in mounted and dismounted configurations. With accelerating advances in Robotic and Autonomous Systems (RAS) technologies, CSIRP gives the Joint Force a tremendous opportunity to enhance

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	P-1 Line Item Number / Title: 7001SA1000 / Chemical Biological Situational Awareness	Item Number / Title [DODIC]: SA0005 / CBRN SENSOR INTEGRATION ON ROBOTIC PLATFORMS (CSIRP)
ID Code (A=Service Ready, B=Not Service Ready) : B		MDAP/MAIS Code:

capabilities and maintain operational advantage in an increasingly lethal and sophisticated operating environment. CSIRP will use a spiral development concept to buy-try-decide as it provides CBRN capability sets to the warfighters unmanned platforms. Different platforms have size, weight and power constraints which will require repackaging of CBRN systems under development as they mature.

Justification: FY20 funding procures Chemical and Biological sensor prototypes and provides government engineering and field support. Through the OTA Prototyping process, vendors will be required to produce 10 prototypes. These LRIP systems will be demonstrated, evaluated and tested by the services, government laboratories and academia. Engineering support will be provided through both government agencies as well as academia.

RDT&E Code B Item: 0603884BP/Proj CA4; 0604384BP/Proj CA5

CA4/CSIRP: RDT&E ; FY2019 - 5.000M; FY2020 - 7.987M; FY2021 - 2.646M; FY2022 - 2.744M; FY2023 - 4.411M; FY2024 - 4.909M
CA5/CSIRP: RDT&E ; FY2021 - 8.052M; FY2022 - 10.773M; FY2023 - 11.520M; FY2024 - 16.470M
DEVELOPMENT/TEST STATUS AND MAJOR MILESTONES

CSIRP - OTA Request For Information (Sep 2018 to Oct 2018)
CSIRP - Materiel Development Decision (Oct 2018 to Feb 2020)
CSIRP - OTA Prototype Award for Capability Set #1: Feb 2019
CSIRP - Prototype Plan from Awardees on Capability Set #1 (Mar 2019 to Sep 2020)
CSIRP - Test and Evaluation of Prototypes - Capability Set #1 (Jun 2019 to Mar 2020)
CSIRP - Transition Decision for Capability Set #1: Aug 2020
CSIRP - Rapid Fielding Decision - Capability Set #1: Oct 2020
CSIRP Baseline Capability Set #1 Delivery (Oct 2019 to Oct 2020)
CSIRP - OTA Prototype Award for Capability Set #2: Feb 2021
CSIRP - Prototype Plan from Awardees for Capability Set #2 (Mar 2021 to Sep 2022)
CSIRP - Test and Evaluation of Prototypes - Capability Set #2 (Jun 2021 to Mar 2022)

P5: Purchase of capability set hardware for integration on Joint Services unmanned platform programs of record.

(†) indicates the presence of a P-5a

Exhibit P-5a, Procurement History and Planning: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 7001SA1000 / Chemical Biological Situational Awareness	**Item Number / Title [DODIC]:** SA0005 / CBRN SENSOR INTEGRATION ON ROBOTIC PLATFORMS (CSIRP)

Cost Elements	OCO	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost ($ K)	Specs Avail Now?	Date Revision Available	RFP Issue Date
CSIRP Prototypes (Hardware)		2020	TBD / UNKNOWN	C / FFP	Unknown	Jan 2020	Apr 2020	60	50.000	Y		

Remarks:
Manufacturer will be determined by the CWMD Consortium through the Other Transactional Agreements (OTA) process.

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 7001SA1000 / Chemical Biological Situational Awareness	**Item Number / Title [DODIC]:** JF0108 / JOINT HANDHELD BIO-AGENT IDENTIFIER (JHBI)
ID Code (A=Service Ready, B=Not Service Ready) : A		**MDAP/MAIS Code:**

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity *(Units in Each)*	-	-	-	-	-	-
Gross/Weapon System Cost *($ in Millions)*	0.000	1.661	1.092	1.070	-	1.070
Less PY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Net Procurement (P-1) *($ in Millions)*	0.000	1.661	1.092	1.070	-	1.070
Plus CY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Total Obligation Authority *($ in Millions)*	**0.000**	**1.661**	**1.092**	**1.070**	**-**	**1.070**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)						
Initial Spares *($ in Millions)*	-	-	-	-	-	-
Gross/Weapon System Unit Cost *($ in Thousands)*	-	-	-	-	-	-

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*
Hardware Cost																		
Recurring Cost																		
JHBI - Hardware - three9 (devices)	-	-	0.000	-	-	0.000	-	-	0.000	12.000	50	0.600	-	-	-	12.000	50	0.600
JHBI - Hardware - Genedrive (devices)	-	-	0.000	5.000	54	0.270	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
Subtotal: Recurring Cost	-	-	*0.000*	-	-	*0.270*	-	-	*0.000*	-	-	*0.600*	-	-	-	-	-	*0.600*
Subtotal: Hardware Cost	**-**	**-**	***0.000***	**-**	**-**	***0.270***	**-**	**-**	***0.000***	**-**	**-**	***0.600***	**-**	**-**	**-**	**-**	**-**	***0.600***
Package Fielding Cost																		
Recurring Cost																		
JHBI - Hardware - Mobile Analysis Platform (assays)	-	-	0.000	-	-	0.000	0.240	762	0.183	-	-	0.000	-	-	-	-	-	0.000
JHBI - Hardware - Genedrive (assays)	-	-	0.000	0.100	2,700	0.270	0.240	1,500	0.360	-	-	0.000	-	-	-	-	-	0.000
JHBI - Hardware - three9 (assays)	-	-	0.000	0.120	683	0.082	0.242	1,500	0.363	0.400	640	0.256	-	-	-	0.400	640	0.256
Subtotal: Recurring Cost	-	-	*0.000*	-	-	*0.352*	-	-	*0.906*	-	-	*0.256*	-	-	-	-	-	*0.256*
Subtotal: Package Fielding Cost	**-**	**-**	***0.000***	**-**	**-**	***0.352***	**-**	**-**	***0.906***	**-**	**-**	***0.256***	**-**	**-**	**-**	**-**	**-**	***0.256***
Support Cost																		
Program Management Support	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.214	-	-	-	-	-	0.214
JHBI Support Costs	-	-	0.000	-	-	1.039	-	-	0.186	-	-	0.000	-	-	-	-	-	0.000

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 7001SA1000 / Chemical Biological Situational Awareness	**Item Number / Title [DODIC]:** JF0108 / JOINT HANDHELD BIO-AGENT IDENTIFIER (JHBI)
ID Code (A=Service Ready, B=Not Service Ready) : A		**MDAP/MAIS Code:**

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)
Subtotal: Support Cost	*-*	*-*	*0.000*	*-*	*-*	*1.039*	*-*	*-*	*0.186*	*-*	*-*	*0.214*	*-*	*-*	*-*	*-*	*-*	*0.214*
Gross/Weapon System Cost	-	-	0.000	-	-	1.661	-	-	1.092	-	-	1.070	-	-	-	-	-	1.070

Remarks:

The Joint Handheld Bio-Agent Identifier (JHBI) program is a Joint Service Acquisition Category (ACAT) III program that addresses an existing United States Special Operations Command (USSOCOM) requirement for handheld, multiplexed, environmental, bio-agent identification. The JHBI program will provide handheld bio-collection preparation, and identification systems for the rapid and accurate identification of organisms at the point of contact for multiple mission types. Biomeme developed the "two3" system for Increment 1 and is improving that system to become the "three9" system for Increment 2. Both are highly multiplexed, smart phone-based, Polymerase Chain Reaction (PCR) identification systems. Epistem is developing the "Genedrive", a 9-plex PCR system. The proposed JHBI systems will be handheld, PCR-based, multiplexed devices for the analysis of powder or liquid environmental biological samples and will be supported by tools for quickly collecting and preparing raw biological samples for use on these identifiers. JHBI capabilities will provide Special Operations Forces with timely and accurate identification of 8 or more bio-agents at the point of need. Additional capabilities will be developed to meet time-phases or objective requirements. These capabilities may include additional CBRN threat assays, integrated sample preparation capabilities, and supporting capabilities, as required. JHBI Increment 1 is anticipated to serve as a supplemental capability to the man-portable, multiplex, Polymerase Chain Reaction Bio-identifier known as BioFire RAZOR, with Increment 2 fielding the complete replacement of the RAZOR by FY20.

Justification: FY20 will procure the following JHBI hardware for USSOCOM; 50 three9 devices and 640 three9 assays to meet FOC 3QFY20.

RDT&E Code B Item: 0604384BP/Proj CA5

CA5/JHBI: RDT&E ; FY2018 - 1.740M

DEVELOPMENT/TEST STATUS AND MAJOR MILESTONES

JHBI - Genedrive System MS C FRP: Jul 2018
JHBI - Genedrive System Full Operational Capability: Feb 2019
JHBI - three9 System MS C: Feb 2020
JHBI - three9 System Full Operational Capability: May 2020

P5: Cost increase for three9 assays across the fiscal years is based on consolidation of multiple assays together so that each unit is a greater capability thus costing more per unit.

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 7001SA1000 / Chemical Biological Situational Awareness	**Item Number / Title [DODIC]:** SA0012 / JOINT PERSONNEL DOSIMETER-INDIVIDUAL (JPD-I)
ID Code (A=Service Ready, B=Not Service Ready) : A		**MDAP/MAIS Code:**

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity *(Units in Each)*	-	-	-	-	-	-
Gross/Weapon System Cost *($ in Millions)*	0.000	0.000	5.000	4.957	-	4.957
Less PY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Net Procurement (P-1) *($ in Millions)*	0.000	0.000	5.000	4.957	-	4.957
Plus CY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Total Obligation Authority *($ in Millions)*	**0.000**	**0.000**	**5.000**	**4.957**	**-**	**4.957**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)						
Initial Spares *($ in Millions)*	-	-	-	-	-	-
Gross/Weapon System Unit Cost *($ in Thousands)*	-	-	-	-	-	-

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)
Hardware Cost																		
Recurring Cost																		
JPD-I End Item(†)	-	-	0.000	-	-	0.000	0.310	6,000	1.860	0.324	10,192	3.307	-	-	-	0.324	10,192	3.307
Subtotal: Recurring Cost	-	-	*0.000*	-	-	*0.000*	-	-	*1.860*	-	-	*3.307*	-	-	-	-	-	*3.307*
Non Recurring Cost																		
JPD-I - Engineering Support	-	-	0.000	-	-	0.000	-	-	0.975	-	-	0.000	-	-	-	-	-	0.000
Subtotal: Non Recurring Cost	-	-	*0.000*	-	-	*0.000*	-	-	*0.975*	-	-	*0.000*	-	-	-	-	-	*0.000*
Subtotal: Hardware Cost	**-**	**-**	***0.000***	**-**	**-**	***0.000***	**-**	**-**	***2.835***	**-**	**-**	***3.307***	**-**	**-**	**-**	**-**	**-**	***3.307***
Logistics Cost																		
Recurring Cost																		
JPD-I - Fielding Support	-	-	0.000	-	-	0.000	-	-	1.150	-	-	0.630	-	-	-	-	-	0.630
Subtotal: Recurring Cost	-	-	*0.000*	-	-	*0.000*	-	-	*1.150*	-	-	*0.630*	-	-	-	-	-	*0.630*
Subtotal: Logistics Cost	**-**	**-**	***0.000***	**-**	**-**	***0.000***	**-**	**-**	***1.150***	**-**	**-**	***0.630***	**-**	**-**	**-**	**-**	**-**	***0.630***
Support Cost																		
JPD-I - Program Management and System Engineering	-	-	0.000	-	-	0.000	-	-	1.015	-	-	1.020	-	-	-	-	-	1.020
Subtotal: Support Cost	**-**	**-**	***0.000***	**-**	**-**	***0.000***	**-**	**-**	***1.015***	**-**	**-**	***1.020***	**-**	**-**	**-**	**-**	**-**	***1.020***
Gross/Weapon System Cost	**-**	**-**	**0.000**	**-**	**-**	**0.000**	**-**	**-**	**5.000**	**-**	**-**	**4.957**	**-**	**-**	**-**	**-**	**-**	**4.957**

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 7001SA1000 / Chemical Biological Situational Awareness	**Item Number / Title [DODIC]:** SA0012 / JOINT PERSONNEL DOSIMETER-INDIVIDUAL (JPD-I)
ID Code (A=Service Ready, B=Not Service Ready) : A		**MDAP/MAIS Code:**

Remarks:

The Joint Personal Dosimeter - Individual (JPD-I) will provide a sensor to record and retrieve a Service member's radiation exposure from occupational to tactical levels. This capability provides a Joint solution reducing life-cycle costs while also address lessons learned from Operation Tomodachi.

Note: Responsibility for Passive Radiological Nuclear Protection capabilities is in transition from Nuclear Matters to Chem Bio Defense per 2016 OSD Memorandum. Army also plans to fund $2.0M in FY20 Base toward this effort on Army Item B92400.

Justification: FY20 Funds will provide for procurement, training and fielding of 10,192 JPD-I System to the Army.

P5: JPD-I provides near-real time display of soldiers radiation exposure to support situational awareness.

(†) indicates the presence of a P-5a

Exhibit P-5a, Procurement History and Planning: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	P-1 Line Item Number / Title: 7001SA1000 / Chemical Biological Situational Awareness	Item Number / Title [DODIC]: SA0012 / JOINT PERSONNEL DOSIMETER-INDIVIDUAL (JPD-I)

Cost Elements	OCO	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost ($ K)	Specs Avail Now?	Date Revision Available	RFP Issue Date
JPD-I End Item		2019	TBD / UNKNOWN	SS / FFP	Aberdeen Proving Ground, MD	Jun 2019	Jan 2020	6,000	0.310	Y		
JPD-I End Item		2020	TBD / UNKNOWN	SS / FFP	Aberdeen Proving Ground, MD	Jun 2020	Jan 2021	10,192	0.324	Y		

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 7001SA1000 / Chemical Biological Situational Awareness	**Item Number / Title [DODIC]:** SA0009 / MOUNTED MANNED PLATFORM RADIOLOGICAL DETECTION SYSTEM (MMPRDS)
ID Code (A=Service Ready, B=Not Service Ready) : A		**MDAP/MAIS Code:**

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity *(Units in Each)*	-	-	-	-	-	-
Gross/Weapon System Cost *($ in Millions)*	0.000	0.000	0.000	3.245	-	3.245
Less PY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Net Procurement (P-1) *($ in Millions)*	0.000	0.000	0.000	3.245	-	3.245
Plus CY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Total Obligation Authority *($ in Millions)*	**0.000**	**0.000**	**0.000**	**3.245**	**-**	**3.245**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)						
Initial Spares *($ in Millions)*	-	-	-	-	-	-
Gross/Weapon System Unit Cost *($ in Thousands)*	-	-	-	-	-	-

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)
Hardware Cost																		
Non Recurring Cost																		
MMPRDS - MERLIN Hardware(†)	-	-	0.000	-	-	0.000	-	-	0.000	201.000	12	2.412	-	-	-	201.000	12	2.412
MMPRDS - VIPER Hardware(†)	-	-	0.000	-	-	0.000	-	-	0.000	7.333	12	0.088	-	-	-	7.333	12	0.088
Subtotal: Non Recurring Cost	-	-	*0.000*	-	-	*0.000*	-	-	*0.000*	-	-	*2.500*	-	-	-	-	-	*2.500*
Subtotal: Hardware Cost	**-**	**-**	***0.000***	**-**	**-**	***0.000***	**-**	**-**	***0.000***	**-**	**-**	***2.500***	**-**	**-**	**-**	**-**	**-**	***2.500***
Package Fielding Cost																		
Non Recurring Cost																		
MMPRDS - Fielding Cost	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.500	-	-	-	-	-	0.500
Subtotal: Non Recurring Cost	-	-	*0.000*	-	-	*0.000*	-	-	*0.000*	-	-	*0.500*	-	-	-	-	-	*0.500*
Subtotal: Package Fielding Cost	**-**	**-**	***0.000***	**-**	**-**	***0.000***	**-**	**-**	***0.000***	**-**	**-**	***0.500***	**-**	**-**	**-**	**-**	**-**	***0.500***
Support Cost																		
MMPRDS - Program Management	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.245	-	-	-	-	-	0.245
Subtotal: Support Cost	**-**	**-**	***0.000***	**-**	**-**	***0.000***	**-**	**-**	***0.000***	**-**	**-**	***0.245***	**-**	**-**	**-**	**-**	**-**	***0.245***

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 7001SA1000 / Chemical Biological Situational Awareness	**Item Number / Title [DODIC]:** SA0009 / MOUNTED MANNED PLATFORM RADIOLOGICAL DETECTION SYSTEM (MMPRDS)
ID Code (A=Service Ready, B=Not Service Ready) : A		**MDAP/MAIS Code:**

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)
Gross/Weapon System Cost	-	-	0.000	-	-	0.000	-	-	0.000	-	-	3.245	-	-	-	-	-	3.245

Remarks:
The Mounted Manned Platform Radiological Detection System (MMPRDS) provides sensor suite of advanced platform-mounted radiological/nuclear (RN) crew monitoring/detection, reconnaissance, and surveillance for multiple manned and unmanned U.S. Army ground and rotary wing vehicles. The suite, which can also be integrated into fixed site sensor payloads, provides Sensor Suite Upgrades; both point (VIPER) and standoff (MERLIN) RN detection capabilities that replace AN/UDR-13 and AN/VDR-2 systems.

Justification: FY20 Procurement provides for procurement and fielding of 12 MMPRDS Sensor Suite Upgrades for integration onto the Stryker NBCRV and medium-sized unmanned ground platforms for standoff (MERLIN) and point detection (VIPER).

(†) indicates the presence of a P-5a

Exhibit P-5a, Procurement History and Planning: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 7001SA1000 / Chemical Biological Situational Awareness	**Item Number / Title [DODIC]:** SA0009 / MOUNTED MANNED PLATFORM RADIOLOGICAL DETECTION SYSTEM (MMPRDS)

Cost Elements	OCO	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost ($ K)	Specs Avail Now?	Date Revision Available	RFP Issue Date
MMPRDS - MERLIN Hardware		2020	TBD / UNKNOWN	C / CPFF	Aberdeen Proving Ground, MD	Aug 2020	Feb 2021	12	201.000	N		
MMPRDS - VIPER Hardware		2020	TBD / UNKNOWN	C / FFP	Aberdeen Proving Ground, MD	Aug 2020	Feb 2021	12	7.333	N		

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 7001SA1000 / Chemical Biological Situational Awareness	**Item Number / Title [DODIC]:** SA0011 / RADIOLOGICAL DETECTION SYSTEM (RDS)
ID Code (A=Service Ready, B=Not Service Ready) : A		**MDAP/MAIS Code:**

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity *(Units in Each)*	-	-	-	-	-	-
Gross/Weapon System Cost *($ in Millions)*	0.000	0.000	0.000	4.065	-	4.065
Less PY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Net Procurement (P-1) *($ in Millions)*	0.000	0.000	0.000	4.065	-	4.065
Plus CY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Total Obligation Authority *($ in Millions)*	**0.000**	**0.000**	**0.000**	**4.065**	**-**	**4.065**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)						
Initial Spares *($ in Millions)*	-	-	-	-	-	-
Gross/Weapon System Unit Cost *($ in Thousands)*	-	-	-	-	-	-

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*
Hardware Cost																		
Recurring Cost																		
Prior/Future combined efforts	-	-	-	-	-	0.000	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
RDS Hardware AF Config 3 FIDLER(†)	-	-	0.000	-	-	0.000	-	-	0.000	8.711	45	0.392	-	-	-	8.711	45	0.392
RDS Hardware AF Config 2 BE(†)	-	-	0.000	-	-	0.000	-	-	0.000	6.293	58	0.365	-	-	-	6.293	58	0.365
RDS Hardware AF Config 1 EM-BC(†)	-	-	0.000	-	-	0.000	-	-	0.000	6.438	176	1.133	-	-	-	6.438	176	1.133
RDS Hardware USMC Config 2(†)	-	-	0.000	-	-	0.000	-	-	0.000	13.735	49	0.673	-	-	-	13.735	49	0.673
RDS Hardware Army Config 2(†)	-	-	0.000	-	-	0.000	-	-	0.000	16.947	57	0.966	-	-	-	16.947	57	0.966
Subtotal: Recurring Cost	-	-	*0.000*	-	-	*0.000*	-	-	*0.000*	-	-	*3.529*	-	-	-	-	-	*3.529*
Subtotal: Hardware Cost	**-**	**-**	***0.000***	**-**	**-**	***0.000***	**-**	**-**	***0.000***	**-**	**-**	***3.529***	**-**	**-**	**-**	**-**	**-**	***3.529***
Package Fielding Cost																		
Non Recurring Cost																		
RDS Fielding	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.207	-	-	-	-	-	0.207
Subtotal: Non Recurring Cost	-	-	*0.000*	-	-	*0.000*	-	-	*0.000*	-	-	*0.207*	-	-	-	-	-	*0.207*

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 7001SA1000 / Chemical Biological Situational Awareness	**Item Number / Title [DODIC]:** SA0011 / RADIOLOGICAL DETECTION SYSTEM (RDS)
ID Code (A=Service Ready, B=Not Service Ready) : A		**MDAP/MAIS Code:**

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)
Subtotal: Package Fielding Cost	**-**	**-**	***0.000***	**-**	**-**	***0.000***	**-**	**-**	***0.000***	**-**	**-**	***0.207***	**-**	**-**	**-**	**-**	**-**	***0.207***
Support Cost																		
RDS Program Management	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.329	-	-	-	-	-	0.329
Subtotal: Support Cost	**-**	**-**	***0.000***	**-**	**-**	***0.000***	**-**	**-**	***0.000***	**-**	**-**	***0.329***	**-**	**-**	**-**	**-**	**-**	***0.329***
Gross/Weapon System Cost	**-**	**-**	**0.000**	**-**	**-**	**0.000**	**-**	**-**	**0.000**	**-**	**-**	**4.065**	**-**	**-**	**-**	**-**	**-**	**4.065**

Remarks:

The Radiological Detection System (RDS) is the first joint solution to provide the Warfighter with the net-ready capability to measure alpha, beta, gamma, neutron, and low energy x-rays. It replaces DoD's legacy RADIAC survey meters (AN/PDR-77, VDR-2, MFR Suite, and ADM-300). The RDS will provide common units of measurement including both conventional and international system units and its open architecture design will enable upgrade of probes over system lifecycle, reducing life-cycle costs.

Note: The Army supports production for RDS in FY20 to reach operational capability sooner (Other Procurement, Army (OPA) Item Number M01280).

Justification: FY20 funding ($4.065M) procures 279 Radiological Detection Systems for the USAF, 57 Radiological Detection Systems for the US ARMY, and 49 Radiological Detection Systems for the USMC in order to reach economic order quantity (EOQ) on the same contract.

P5: Unit cost for the RDS varies due to the type and quantity of the configurations that are needed in that fiscal year. The Army supports production for RDS in FY20 to reach operational capability sooner (Other Procurement, Army (OPA) Item Number M01280).

(†) indicates the presence of a P-5a

Exhibit P-5a, Procurement History and Planning: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	P-1 Line Item Number / Title: 7001SA1000 / Chemical Biological Situational Awareness	Item Number / Title [DODIC]: SA0011 / RADIOLOGICAL DETECTION SYSTEM (RDS)

Cost Elements	OCO	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost ($ K)	Specs Avail Now?	Date Revision Available	RFP Issue Date
RDS Hardware AF Config 3 FIDLER		2020	TBD / UNKNOWN	SS / FPIF	Aberdeen Proving Ground, MD	Jun 2020	Dec 2020	45	8.711	Y		
RDS Hardware AF Config 2 BE		2020	TBD / UNKNOWN	SS / FPIF	Aberdeen Proving Ground, MD	Jun 2020	Dec 2020	58	6.293	Y		
RDS Hardware AF Config 1 EM-BC		2020	TBD / UNKNOWN	SS / FPIF	Aberdeen Proving Ground, MD	Jun 2020	Dec 2020	176	6.438	Y		
RDS Hardware USMC Config 2		2020	TBD / UNKNOWN	SS / FPIF	Aberdeen Proving Ground, MD	Jun 2020	Dec 2020	49	13.735	Y		
RDS Hardware Army Config 2		2020	TBD / UNKNOWN	SS / FPIF	Aberdeen Proving Ground, MD	Jun 2020	Dec 2020	57	16.947	Y		

Remarks:
Contract was competitively awarded to Visionary Products, Inc. (Draper, UT) in September 2016 for development with a FY19 LRIP procurement option and FY20-24 FRP options.

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 7001SA1000 / Chemical Biological Situational Awareness	**Item Number / Title [DODIC]:** JF0100 / JOINT CHEMICAL AGENT DETECTOR (JCAD)
ID Code (A=Service Ready, B=Not Service Ready) : A		**MDAP/MAIS Code:**

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity *(Units in Each)*	-	-	-	-	-	-
Gross/Weapon System Cost *($ in Millions)*	33.697	4.483	1.698	4.493	-	4.493
Less PY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Net Procurement (P-1) *($ in Millions)*	33.697	4.483	1.698	4.493	-	4.493
Plus CY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Total Obligation Authority *($ in Millions)*	**33.697**	**4.483**	**1.698**	**4.493**	**-**	**4.493**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)						
Initial Spares *($ in Millions)*	-	-	-	-	-	-
Gross/Weapon System Unit Cost *($ in Thousands)*	-	-	-	-	-	-

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)
Hardware Cost																		
Recurring Cost																		
Prior/Future combined efforts	-	-	33.697	-	-	0.000	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
M4A1 JCAD - HARDWARE - IPDS-LR Retrofit Kit for PVT(†)	-	-	0.000	91.250	4	0.365	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
M4A1 JCAD - HARDWARE - IPDS-LR Retrofit Kit(†)	-	-	0.000	49.359	39	1.925	48.645	31	1.508	-	-	0.000	-	-	-	-	-	0.000
JCAD SLA KIT - JCAD SLA - Hardware(†)	-	-	0.000	-	-	0.000	-	-	0.000	5.848	382	2.234	-	-	-	5.848	382	2.234
JCAD SLA KIT - JCAD SLA Communication Adapter(†)	-	-	0.000	-	-	0.000	-	-	0.000	4.251	382	1.624	-	-	-	4.251	382	1.624
Subtotal: Recurring Cost	-	-	*33.697*	-	-	*2.290*	-	-	*1.508*	-	-	*3.858*	-	-	-	-	-	*3.858*
Subtotal: Hardware Cost	**-**	**-**	***33.697***	**-**	**-**	***2.290***	**-**	**-**	***1.508***	**-**	**-**	***3.858***	**-**	**-**	**-**	**-**	**-**	***3.858***
Support Cost																		
Engineering Support (Govt)	-	-	0.000	-	-	0.953	-	-	0.000	-	-	0.450	-	-	-	-	-	0.450
System Fielding Support (Govt)	-	-	0.000	-	-	1.240	-	-	0.190	-	-	0.185	-	-	-	-	-	0.185
Subtotal: Support Cost	**-**	**-**	***0.000***	**-**	**-**	***2.193***	**-**	**-**	***0.190***	**-**	**-**	***0.635***	**-**	**-**	**-**	**-**	**-**	***0.635***

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 7001SA1000 / Chemical Biological Situational Awareness	**Item Number / Title [DODIC]:** JF0100 / JOINT CHEMICAL AGENT DETECTOR (JCAD)
ID Code (A=Service Ready, B=Not Service Ready) : A		**MDAP/MAIS Code:**

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)
Gross/Weapon System Cost	-	-	33.697	-	-	4.483	-	-	1.698	-	-	4.493	-	-	-	-	-	4.493

Remarks:

The Joint Chemical Agent Detector (JCAD) program employed an incremental acquisition strategy to develop a miniaturized, rugged point chemical agent detector that automatically and simultaneously detects, identifies and alerts in the presence of nerve, blister, and blood chemical warfare agents. The M4 JCAD replaced the M8A1 and the M22 Automatic Chemical Agent Alarms (ACAA/ACADA). The M4 JCAD entered full rate production in September 2008 and was procured through FY10. The M4A1 reduced operations and sustainment costs to the Warfighter and obtained many of the objective values in the JCAD Increment I Capability Production Document (CPD). Production of the M4A1 began April FY11 and FOC was achieved August 2018. The Improved Point Detection System- Life Cycle Replacement (IPDS-LR) was developed within the JCAD program to meet Navy ship chemical detection capabilities. The IPDS-LR provides automatic point detection of CWA vapors external to ship, while rejecting common shipboard interferents. The IPDS-LR modification kit being purchased in FY19 fixes a condensation issue on the primary system due warm humid air entered air conditioned spaces. The JCAD Solid Liquid Adapter (SLA) kit effort continues the development of the JCAD Chemical Explosive Detector (CED), which was a NGCD acceleration efforts for USSOCOM and a chemical warfare - pharmaceutical agent development effort funded by the FY17 Congressional Add . The SLA interfaces with the fielded M4A1 JCAD to allow for solid liquid sampling off surfaces. The SLA kit provides an interim point solution to detect NTAs and PBAs off surfaces.

Justification: FY20 funding procures 382 JCAD solid/liquid adaptors (SLA's), an additional Authorized List (AAL) item to the M4A1 JCAD. Final Engineering Change Proposal (ECP) quantities to be determined by system performance and Service requirements.

(†) indicates the presence of a P-5a

Exhibit P-5a, Procurement History and Planning: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	P-1 Line Item Number / Title: 7001SA1000 / Chemical Biological Situational Awareness	Item Number / Title [DODIC]: JF0100 / JOINT CHEMICAL AGENT DETECTOR (JCAD)

Cost Elements	OCO	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost ($ K)	Specs Avail Now?	Date Revision Available	RFP Issue Date
M4A1 JCAD - HARDWARE - IPDS-LR Retrofit Kit for PVT		2018	Bruker Detection Corp. / Billerica, MA	SS / CPIF	Billerica, MA	Dec 2017	Jul 2018	4	91.250	Y		
M4A1 JCAD - HARDWARE - IPDS-LR Retrofit Kit		2018	Bruker Detection Corp. / Billerica, MA	SS / CPIF	Billerica, MA	Dec 2017	Jul 2018	39	49.359	Y		
M4A1 JCAD - HARDWARE - IPDS-LR Retrofit Kit		2019	Smiths Detection / Edgewood, MD	SS / FFP	RDECOM, APG, MD	Dec 2018 (1)	Jul 2019	31	48.645	Y		
JCAD SLA KIT - JCAD SLA - Hardware		2020	Smiths Detection / Edgewood, MD	SS / FFP	RDECOM, APG, MD	Dec 2019	Jul 2020	382	5.848	Y		
JCAD SLA KIT - JCAD SLA Communication Adapter		2020	Smiths Detection / Edgewood, MD	SS / FFP	RDECOM, APG, MD	Dec 2019	Jul 2020	382	4.251	Y		

Footnotes:
(1) (Option)

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 7001SA1000 / Chemical Biological Situational Awareness	**Item Number / Title [DODIC]:** G47101 / JOINT WARNING & REPORTING NETWORK (JWARN)
ID Code (A=Service Ready, B=Not Service Ready) : A		**MDAP/MAIS Code:**

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity *(Units in Each)*	-	-	-	-	-	-
Gross/Weapon System Cost *($ in Millions)*	3.889	0.933	0.502	0.442	-	0.442
Less PY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Net Procurement (P-1) *($ in Millions)*	3.889	0.933	0.502	0.442	-	0.442
Plus CY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Total Obligation Authority *($ in Millions)*	**3.889**	**0.933**	**0.502**	**0.442**	**-**	**0.442**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)						
Initial Spares *($ in Millions)*	-	-	-	-	-	-
Gross/Weapon System Unit Cost *($ in Thousands)*	-	-	-	-	-	-

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*
Package Fielding Cost																		
Recurring Cost																		
Prior/Future combined efforts	-	-	3.889	-	-	0.000	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
JWARN 2 - System Fielding Support (TPF, FDT, NET)	-	-	0.000	-	-	0.933	-	-	0.502	-	-	0.442	-	-	-	-	-	0.442
Subtotal: Recurring Cost	-	-	*3.889*	-	-	*0.933*	-	-	*0.502*	-	-	*0.442*	-	-	-	-	-	*0.442*
Subtotal: Package Fielding Cost	**-**	**-**	***3.889***	**-**	**-**	***0.933***	**-**	**-**	***0.502***	**-**	**-**	***0.442***	**-**	**-**	**-**	**-**	**-**	***0.442***
Gross/Weapon System Cost	**-**	**-**	**3.889**	**-**	**-**	**0.933**	**-**	**-**	**0.502**	**-**	**-**	**0.442**	**-**	**-**	**-**	**-**	**-**	**0.442**

Remarks:

The Joint Warning and Reporting Network (JWARN) provides the Joint Forces with a comprehensive Early Warning (EW) analysis and response capability to minimize the effects of hostile Chemical, Biological, Radiological, and Nuclear (CBRN) attacks, incidents and accidents. It provides the operational capability to employ CBRN warning technology which will collect, analyze, identify, locate, report, and disseminate CBRN warnings. JWARN will transition from a Command and Control (C2) platform specific implementation to a Web-based Service Oriented Architecture (SOA) meeting the DoD's evolution to a more comprehensive Common Operating Environment (COE). JWARN 2 will provide an expansion of sensors that will connect to JWARN, increased automation of message handling, improved false alarm filtering, integration of route-planning calculator, and interoperability with additional Command and Control (C2), medical information and evolving Bio-Surveillance systems. JWARN will be located in Command and Control Centers at the appropriate level and will be employed by CBRN defense specialists and other designated personnel to improve the efficiency of limited CBRN personnel assets. This employment will transfer data automatically from existing sensors and to and from the future sensors to provide commanders with the capability to support operational decision making in a CBRN environment. JWARN will integrate existing sensors into a sensor network or host C2 system, but will not provide the sensors that will be employed in the operating environment. JWARN will be compatible and integrated with Joint Services Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) Systems and will operate as a standalone capability in the next increment of development.

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 7001SA1000 / Chemical Biological Situational Awareness	**Item Number / Title [DODIC]:** G47101 / JOINT WARNING & REPORTING NETWORK (JWARN)
ID Code (A=Service Ready, B=Not Service Ready) : A		**MDAP/MAIS Code:**

Justification: FY20 supports JWARN 2 Total Package Fielding (TPF) and New Equipment Training (NET).

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 7001SA1000 / Chemical Biological Situational Awareness	**Item Number / Title [DODIC]:** JX0300 / BIOSURVEILLANCE (BSV)
ID Code (A=Service Ready, B=Not Service Ready) :	**MDAP/MAIS Code:**	

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity *(Units in Each)*	-	-	-	-	-	-
Gross/Weapon System Cost *($ in Millions)*	2.600	18.188	0.000	0.000	-	0.000
Less PY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Net Procurement (P-1) *($ in Millions)*	2.600	18.188	0.000	0.000	-	0.000
Plus CY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Total Obligation Authority *($ in Millions)*	**2.600**	**18.188**	**0.000**	**0.000**	**-**	**0.000**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)						
Initial Spares *($ in Millions)*	-	-	-	-	-	-
Gross/Weapon System Unit Cost *($ in Thousands)*	-	-	-	-	-	-

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)
Hardware Cost																		
Recurring Cost																		
Prior/Future combined efforts	-	-	2.600	-	-	0.000	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
BSV - Point Senor Enclosure (PSE)	-	-	0.000	60.000	60	3.600	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
BSV - Resource Effective Bio-identification System (REBS)	-	-	0.000	137.667	12	1.652	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
BSV - IBAC	-	-	0.000	27.183	60	1.631	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
BSV - Cables	-	-	0.000	5.208	192	1.000	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
Subtotal: Recurring Cost	-	-	*2.600*	-	-	*7.883*	-	-	*0.000*	-	-	*0.000*	-	-	-	-	-	*0.000*
Non Recurring Cost																		
BSV - Network	-	-	0.000	100.000	5	0.500	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
Subtotal: Non Recurring Cost	-	-	*0.000*	-	-	*0.500*	-	-	*0.000*	-	-	*0.000*	-	-	-	-	-	*0.000*
Subtotal: Hardware Cost	**-**	**-**	***2.600***	**-**	**-**	***8.383***	**-**	**-**	***0.000***	**-**	**-**	***0.000***	**-**	**-**	**-**	**-**	**-**	***0.000***
Logistics Cost																		
Recurring Cost																		
BSV - Contractor Logistics Support (CLS)	-	-	0.000	-	-	2.000	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
BSV - Infrastructure	-	-	0.000	-	-	5.000	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
Subtotal: Recurring Cost	-	-	*0.000*	-	-	*7.000*	-	-	*0.000*	-	-	*0.000*	-	-	-	-	-	*0.000*

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	P-1 Line Item Number / Title: 7001SA1000 / Chemical Biological Situational Awareness	Item Number / Title [DODIC]: JX0300 / BIOSURVEILLANCE (BSV)
ID Code (A=Service Ready, B=Not Service Ready) :		MDAP/MAIS Code:

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)
Subtotal: Logistics Cost	-	-	***0.000***	-	-	***7.000***	-	-	***0.000***	-	-	***0.000***	-	-	-	-	-	***0.000***
Support Cost																		
BSV - Labor	-	-	0.000	-	-	2.805	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
Subtotal: Support Cost	-	-	***0.000***	-	-	***2.805***	-	-	***0.000***	-	-	***0.000***	-	-	-	-	-	***0.000***
Gross/Weapon System Cost	-	-	**2.600**	-	-	**18.188**	-	-	**0.000**	-	-	**0.000**	-	-	-	-	-	**0.000**

Remarks:
Biosurveillance (BSV) will support the Joint United States Forces Korea (USFK) Portal and Integrated Threat Recognition (JUPITR) Advanced Technology Demonstration (ATD) which will find, demonstrate, transition, and transfer the best operational concepts and technology solutions in support of a holistic approach to countering biological threats from laboratory to operational use. Depending on the maturity, outputs will focus on providing component, CONOPS, augmentation of existing identification capabilities and subsystem transition into programs of record (PORs) and/or integration into existing PORs. The JUPITR ATD will use a four leg approach to demonstrate equipment, information systems, and processed that address the capability gaps and provide risk reduction for follow-on acquisition efforts. Current efforts purchase test items in support of Camp Humphreys Fielding.

Justification:

RDT&E Code B Item: 0603884BP/Proj CA4; 0603884BP/Proj MB4; 0604384BP/Proj MB5

CA4/BSV: RDT&E FY2017 and Prior - 71.117M; FY2018 - 15.018M; FY2019 - 9.932M; FY2020 - 0.397M
MB4/BSV: RDT&E FY2017 and Prior - 114.233M
MB5/BSV: RDT&E FY2017 and Prior - 25.700M

DEVELOPMENT/TEST STATUS AND MAJOR MILESTONES

BSV - Competitive Prototyping Contract Award: Mar 2013
BSV - CENTAUR (Dec 2013 to Sep 2020)
BSV - MDA IPR: Aug 2013
BSV - MS C - ATD Portal: Jun 2017

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 7001SA1000 / Chemical Biological Situational Awareness	**Item Number / Title [DODIC]:** JS5230 / SOFTWARE SUPPORT ACTIVITY (SSA)
ID Code (A=Service Ready, B=Not Service Ready) : B		**MDAP/MAIS Code:**

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity *(Units in Each)*	-	-	-	-	-	-
Gross/Weapon System Cost *($ in Millions)*	0.400	0.092	0.094	0.081	-	0.081
Less PY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Net Procurement (P-1) *($ in Millions)*	0.400	0.092	0.094	0.081	-	0.081
Plus CY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Total Obligation Authority *($ in Millions)*	**0.400**	**0.092**	**0.094**	**0.081**	**-**	**0.081**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)						
Initial Spares *($ in Millions)*	-	-	-	-	-	-
Gross/Weapon System Unit Cost *($ in Thousands)*	-	-	-	-	-	-

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)
Support Cost																		
Prior/Future combined efforts	-	-	0.400	-	-	0.000	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
SSA - System Fielding Support (TPF, NET)	-	-	0.000	-	-	0.092	-	-	0.094	-	-	0.081	-	-	-	-	-	0.081
Subtotal: Support Cost	***-***	***-***	***0.400***	***-***	***-***	***0.092***	***-***	***-***	***0.094***	***-***	***-***	***0.081***	***-***	***-***	***-***	***-***	***-***	***0.081***
Gross/Weapon System Cost	**-**	**-**	**0.400**	**-**	**-**	**0.092**	**-**	**-**	**0.094**	**-**	**-**	**0.081**	**-**	**-**	**-**	**-**	**-**	**0.081**

Remarks:

The Software Support Activity (SSA) is a user developmental support and service activity supporting all JPEO-CBD CBRND Systems by providing enterprise-wide services to facilitate net-centric interoperability of systems in acquisition for the Warfighter. The SSA provides the CBRND Warfighter with Joint Service solutions for Cybersecurity/Information Assurance (CS/IA), Integrated Architectures, Data Management/ Modeling, Interoperability Certifications, Verification, Validation and Accreditation (VV&A) to support interoperable and integrated net-centric, service-oriented solutions for CBRND systems within the CBDP. The SSA emphasizes development of reference implementations to guide Government and industry system and software developers to ensure that their products meet common interoperability standards.

The latest technologies/products include the definition of a Common CBRN Sensor Integration Standard (CCSI) and the CBRN Data Model. These technologies are direct enablers for the development of CBRN integrated sensor networks and the dissemination of CBRN information across all users.

The SSA directly supports CBDP Biosurveillance initiatives in providing common service oriented architecture and framework for the collection and dissemination of Biosurveillance information.

Justification: FY20 funds SSA system fielding support to the CBDP community.

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 7001SA1000 / Chemical Biological Situational Awareness	**Item Number / Title [DODIC]:** JC0208 / JOINT EFFECTS MODEL (JEM)
ID Code (A=Service Ready, B=Not Service Ready) : A		**MDAP/MAIS Code:**

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity *(Units in Each)*	-	-	-	-	-	-
Gross/Weapon System Cost *($ in Millions)*	6.385	0.880	0.911	0.689	-	0.689
Less PY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Net Procurement (P-1) *($ in Millions)*	6.385	0.880	0.911	0.689	-	0.689
Plus CY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Total Obligation Authority *($ in Millions)*	**6.385**	**0.880**	**0.911**	**0.689**	**-**	**0.689**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)						
Initial Spares *($ in Millions)*	-	-	-	-	-	-
Gross/Weapon System Unit Cost *($ in Thousands)*	-	-	-	-	-	-

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*
Software Cost																		
Recurring Cost																		
Prior/Future combined efforts	-	-	6.385	-	-	0.000	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
JEM 2 - Software & Installation	-	-	0.000	-	-	0.148	-	-	0.160	-	-	0.121	-	-	-	-	-	0.121
Subtotal: Recurring Cost	-	-	*6.385*	-	-	*0.148*	-	-	*0.160*	-	-	*0.121*	-	-	-	-	-	*0.121*
Subtotal: Software Cost	**-**	**-**	***6.385***	**-**	**-**	***0.148***	**-**	**-**	***0.160***	**-**	**-**	***0.121***	**-**	**-**	**-**	**-**	**-**	***0.121***
Package Fielding Cost																		
Recurring Cost																		
JEM 2 - System Fielding Support (TFP, FDT, NET)	-	-	0.000	-	-	0.551	-	-	0.557	-	-	0.422	-	-	-	-	-	0.422
Subtotal: Recurring Cost	-	-	*0.000*	-	-	*0.551*	-	-	*0.557*	-	-	*0.422*	-	-	-	-	-	*0.422*
Subtotal: Package Fielding Cost	**-**	**-**	***0.000***	**-**	**-**	***0.551***	**-**	**-**	***0.557***	**-**	**-**	***0.422***	**-**	**-**	**-**	**-**	**-**	***0.422***
Support Cost																		
JEM 2 - Technical & Engineering Support	-	-	0.000	-	-	0.181	-	-	0.194	-	-	0.146	-	-	-	-	-	0.146
Subtotal: Support Cost	**-**	**-**	***0.000***	**-**	**-**	***0.181***	**-**	**-**	***0.194***	**-**	**-**	***0.146***	**-**	**-**	**-**	**-**	**-**	***0.146***
Gross/Weapon System Cost	**-**	**-**	**6.385**	**-**	**-**	**0.880**	**-**	**-**	**0.911**	**-**	**-**	**0.689**	**-**	**-**	**-**	**-**	**-**	**0.689**

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 7001SA1000 / Chemical Biological Situational Awareness	**Item Number / Title [DODIC]:** JC0208 / JOINT EFFECTS MODEL (JEM)
ID Code (A=Service Ready, B=Not Service Ready) : A		**MDAP/MAIS Code:**

Remarks:

The Joint Effects Model 2 (JEM 2) is DoD's only accredited model for predicting hazards associated with the release of contaminants into the environment. JEM 2 is a web-based software program. It is the only accredited DoD computer-based tactical and operational hazard prediction model capable of providing common representation of chemical, biological, radiological, nuclear (CBRN) and toxic industrial chemicals/toxic industrial material hazard areas and effects. It may be used in two variants: as a standalone system, or as a resident application on host command, control, communications, computers, and intelligence systems. JEM 2 is capable of modeling hazards in a variety of scenarios including: counter-force, passive defense, accident and/or incidents, high altitude releases, urban NBC environments, building interiors, and human performance degradation. Battle space commanders and first responders must have a CBRN hazard prediction capability in order to make decisions that will minimize risks of CBRN contamination and enable them to continue mission operations. JEM operates in an integrated fashion with operational and tactical Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) systems, and in a standalone mode. JEM 2 interfaces and communicates with the other programs such as JWARN, weather systems, intelligence systems, and various databases.

Justification: FY20 supports JEM 2 Software & Installation, Total Package Fielding (TPF), New Equipment Training (NET), and Technical & Engineering Support. Note, JEM 2 is a software product, and there are no associated quantities.

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 7001SA1000 / Chemical Biological Situational Awareness	**Item Number / Title [DODIC]:** SA0006 / CBRN INFORMATION SYSTEMS (CBRN IS)
ID Code (A=Service Ready, B=Not Service Ready) : B		**MDAP/MAIS Code:**

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity *(Units in Each)*	-	-	-	-	-	-
Gross/Weapon System Cost *($ in Millions)*	0.500	0.464	0.753	0.276	-	0.276
Less PY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Net Procurement (P-1) *($ in Millions)*	0.500	0.464	0.753	0.276	-	0.276
Plus CY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Total Obligation Authority *($ in Millions)*	**0.500**	**0.464**	**0.753**	**0.276**	**-**	**0.276**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)						
Initial Spares *($ in Millions)*	-	-	-	-	-	-
Gross/Weapon System Unit Cost *($ in Thousands)*	-	-	-	-	-	-

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*
Software Cost																		
Recurring Cost																		
Prior/Future combined efforts	-	-	0.500	-	-	0.000	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
Technical and Engineering Support	-	-	0.000	-	-	0.464	-	-	0.753	-	-	0.276	-	-	-	-	-	0.276
Subtotal: Recurring Cost	-	-	*0.500*	-	-	*0.464*	-	-	*0.753*	-	-	*0.276*	-	-	-	-	-	*0.276*
Subtotal: Software Cost	**-**	**-**	***0.500***	**-**	**-**	***0.464***	**-**	**-**	***0.753***	**-**	**-**	***0.276***	**-**	**-**	**-**	**-**	**-**	***0.276***
Gross/Weapon System Cost	**-**	**-**	**0.500**	**-**	**-**	**0.464**	**-**	**-**	**0.753**	**-**	**-**	**0.276**	**-**	**-**	**-**	**-**	**-**	**0.276**

Remarks:

Chemical, Biological, Radiological, and Nuclear Information Systems (CBRN-IS) aligns Chemical Biological Radiological and Nuclear Defense (CBRND) information technologies, capability sets and applications in order to utilize a common software architecture, eliminate duplicative integration effort, produce interoperable system components, and minimize time-to-market of end user capability. CBRN-IS provides timely, fused and easily accessible information to the Joint Warfighter, CBDP Community of Interest, civil and international partners. Provides real-time discovery of data that can be integrated with tools and services in a cloud environment. Transitions the one each stove pipe capabilities to enterprise capabilities, applications and toolsets for CBRN Warning and Reporting, Integrated Early Warning, Hazard Prediction and Analysis, Consequence Management, Decision Support and Situational Awareness. CBRN-IS aligns with the Joint Information Environment (JIE), such as milCloud, in order to field the integrated capabilities. Cloud computing is a cornerstone of the DoD's future - providing a secure information framework for our national senior leaders and joint force commanders, command and control forces that deliver responsive, decisive actions from any device; anytime and anywhere.

Justification: FY20 supports the continued deployment, technical and engineering support cost associated with hosting CBRN-IS on milCloud in support of worldwide accessibility for the warfighter.

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 7001SA1000 / Chemical Biological Situational Awareness	**Item Number / Title [DODIC]:** MC0100 / JOINT NBC RECONNAISSANCE SYSTEM (JNBCRS)
ID Code (A=Service Ready, B=Not Service Ready) : A		**MDAP/MAIS Code:**

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity *(Units in Each)*	-	-	-	-	-	-
Gross/Weapon System Cost *($ in Millions)*	20.351	0.468	0.000	0.300	-	0.300
Less PY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Net Procurement (P-1) *($ in Millions)*	20.351	0.468	0.000	0.300	-	0.300
Plus CY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Total Obligation Authority *($ in Millions)*	**20.351**	**0.468**	**0.000**	**0.300**	**-**	**0.300**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)						
Initial Spares *($ in Millions)*	-	-	-	-	-	-
Gross/Weapon System Unit Cost *($ in Thousands)*	-	-	-	-	-	-

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*
Support Cost																		
Prior/Future combined efforts	-	-	20.351	-	-	0.000	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
Engineering Support	-	-	0.000	-	-	0.468	-	-	0.000	-	-	0.300	-	-	-	-	-	0.300
Subtotal: Support Cost	**-**	**-**	***20.351***	**-**	**-**	***0.468***	**-**	**-**	***0.000***	**-**	**-**	***0.300***	**-**	**-**	**-**	**-**	**-**	***0.300***
Gross/Weapon System Cost	**-**	**-**	**20.351**	**-**	**-**	**0.468**	**-**	**-**	**0.000**	**-**	**-**	**0.300**	**-**	**-**	**-**	**-**	**-**	**0.300**

Remarks:

The Joint Nuclear Biological and Chemical Reconnaissance Systems (JNBCRS), including the Stryker Nuclear Biological and Chemical Reconnaissance Vehicles (NBCRV), and NBC equipment suites provide field commanders with point and early warning intelligence for real time field assessment of NBC hazards. The NBC Equipment Suite consists of the Chemical and Biological Mass Spectrometer II (CBMS II), Joint Biological Point Detection System (JBPDS), Chemical Vapor Sampling System (CVSS), Training Aids, Devices and Simulation Systems (TADSS), the Sensor Processing Group and associated initial and pipeline spares. The NBC Equipment Suite performs the vital function of detecting, identifying, collecting, reporting, and marking NBC hazards and toxic industrial chemicals. In addition to hardware funding covers Engineering in Support to Production at contractor and Government integrated product team (engineering, test, logistics) IPT support required in FY18, FY19, and FY20 for to support system upgrade efforts.

Justification: F20 funding provides Engineering Support. Engineering support required in FY18, FY19, and FY20 to upgrade the CBMS II to increase operational readiness

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 7001SA1000 / Chemical Biological Situational Awareness	**Item Number / Title [DODIC]:** MC0101 / CBRN DISMOUNTED RECONNAISSANCE SYSTEMS (CBRN DRS)
ID Code (A=Service Ready, B=Not Service Ready) : A		**MDAP/MAIS Code:**

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity *(Units in Each)*	-	-	-	-	-	-
Gross/Weapon System Cost *($ in Millions)*	201.683	69.945	98.081	53.020	-	53.020
Less PY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Net Procurement (P-1) *($ in Millions)*	201.683	69.945	98.081	53.020	-	53.020
Plus CY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Total Obligation Authority *($ in Millions)*	**201.683**	**69.945**	**98.081**	**53.020**	**-**	**53.020**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)						
Initial Spares *($ in Millions)*	-	-	-	-	-	-
Gross/Weapon System Unit Cost *($ in Thousands)*	-	-	-	-	-	-

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)
Hardware Cost																		
Recurring Cost																		
Prior/Future combined efforts	-	-	137.495	-	-	0.000	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
CBRN DRS USMC EOD MARSOC Teams Configuration(†)	-	-	0.000	-	-	0.000	1,161.167	12	13.934	-	-	0.000	-	-	-	-	-	0.000
CBRN DRS USMC EOD Teams (Explosive Ordinance Disposal Teams) Configuration(†)	-	-	0.000	-	-	0.000	-	-	0.000	972.778	9	8.755	-	-	-	972.778	9	8.755
CBRN DRS Navy Configuration(†)	398.240	25	9.956	402.120	25	10.053	407.976	42	17.135	410.000	45	18.450	-	-	-	410.000	45	18.450
CBRN DRS Army Configuration(†)	1,084.640	50	54.232	1,166.259	27	31.489	1,150.000	24	27.600	-	-	0.000	-	-	-	-	-	0.000
CBRN DRS Air Force Configuration(†)	-	-	0.000	-	-	0.000	250.650	40	10.026	258.180	50	12.909	-	-	-	258.180	50	12.909
JPL SOF RCDD (SCBA)	-	-	0.000	-	-	2.000	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
JPL SOF RCDD (SP SKO RPD)	-	-	0.000	274.000	4	1.096	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
JPL SOF RCDD (SPA)	-	-	0.000	-	-	1.500	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 7001SA1000 / Chemical Biological Situational Awareness	**Item Number / Title [DODIC]:** MC0101 / CBRN DISMOUNTED RECONNAISSANCE SYSTEMS (CBRN DRS)
ID Code (A=Service Ready, B=Not Service Ready) : A		**MDAP/MAIS Code:**

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)
CBRN DRS Initial Spares	-	-	0.000	-	-	0.728	-	-	2.686	-	-	1.750	-	-	-	-	-	1.750
Subtotal: Recurring Cost	-	-	*201.683*	-	-	*46.866*	-	-	*71.381*	-	-	*41.864*	-	-	-	-	-	*41.864*
Subtotal: Hardware Cost	**-**	**-**	***201.683***	**-**	**-**	***46.866***	**-**	**-**	***71.381***	**-**	**-**	***41.864***	**-**	**-**	**-**	**-**	**-**	***41.864***
Logistics Cost																		
Recurring Cost																		
CBRN DRS MC CLS Contractor Logistics Support (FLIR)	-	-	0.000	-	-	1.062	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
CBRN DRS Logistics/ Sustainment Support (PBA)	-	-	0.000	-	-	0.000	-	-	2.000	-	-	2.500	-	-	-	-	-	2.500
CBRN DRS Logistics Support (TBD)	-	-	0.000	-	-	2.555	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
CBRN DRS Contractor Logistics Support (CACI)	-	-	0.000	-	-	0.000	-	-	1.800	-	-	0.720	-	-	-	-	-	0.720
Subtotal: Recurring Cost	-	-	*0.000*	-	-	*3.617*	-	-	*3.800*	-	-	*3.220*	-	-	-	-	-	*3.220*
Subtotal: Logistics Cost	**-**	**-**	***0.000***	**-**	**-**	***3.617***	**-**	**-**	***3.800***	**-**	**-**	***3.220***	**-**	**-**	**-**	**-**	**-**	***3.220***
Support Cost																		
CBRN DRS Contractor Fielding Support	-	-	0.000	-	-	0.221	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
CBRN DRS Product & Team Support	-	-	0.000	-	-	3.590	-	-	3.540	-	-	2.500	-	-	-	-	-	2.500
CBRN DRS Government Management Services	-	-	0.000	-	-	6.774	-	-	6.509	-	-	4.495	-	-	-	-	-	4.495
CBRN DRS Contractor Logistics Support (Leidos)	-	-	0.000	-	-	3.344	-	-	3.000	-	-	0.000	-	-	-	-	-	0.000
CBRN DRS Production Engineering Support (FLIR)	-	-	0.000	-	-	2.697	-	-	2.908	-	-	0.000	-	-	-	-	-	0.000
CBRN DRS Fielding Support	-	-	0.000	-	-	0.958	-	-	2.710	-	-	0.000	-	-	-	-	-	0.000
CBRN DRS Engineering Support	-	-	0.000	-	-	1.125	-	-	0.896	-	-	0.941	-	-	-	-	-	0.941
CBRN DRS Logistics Support	-	-	0.000	-	-	0.753	-	-	3.337	-	-	0.000	-	-	-	-	-	0.000

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 7001SA1000 / Chemical Biological Situational Awareness	**Item Number / Title [DODIC]:** MC0101 / CBRN DISMOUNTED RECONNAISSANCE SYSTEMS (CBRN DRS)
ID Code (A=Service Ready, B=Not Service Ready) : A		**MDAP/MAIS Code:**

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)
Subtotal: Support Cost	-	-	***0.000***	-	-	***19.462***	-	-	***22.900***	-	-	***7.936***	-	-	-	-	-	***7.936***
Gross/Weapon System Cost	-	-	**201.683**	-	-	**69.945**	-	-	**98.081**	-	-	**53.020**	-	-	-	-	-	**53.020**

Remarks:
The CBRN Dismounted Reconnaissance System (CBRN DRS) provides CBRN Warfighters with a comprehensive suite of protection, detection, identification, sample collection, hazard marking, decontamination, and other support capabilities for use during dismounted reconnaissance and sensitive site assessment missions. The Warfighter will use the CBRN DRS respiratory and percutaneous protection to prevent potential contamination while conducting assessment and exploitation operations. The user will use the CBRN DRS sensor capabilities to find CBRN and toxic industrial hazards for marking and sampling with other capabilities in the system. Warfighters will use the decontamination kit to remove contamination from personnel and equipment.

The Special Purpose Sets, Kits and Outfits (SP SKO) is a derivative of the DR-SKO to meet specific USSOCOM identified urgent capability gaps such as Super Polymer Absorbent (SPA), the Self-Contained Breathing Apparatus (SCBA) and Respiratory Protective Device (RPD) that were needed to improve mission success. These efforts were executed by the SOF RCDD team.

The USSOCOM RPD capabilities allows the users to tailor the device to the specific environment, for proper protection from the potential exposure environment while executing mission requirements. The SP SKO RPD kit must be a modular component design that includes head and face enclosure, internal air management components, and filtered air supply. The RPD system leverages the use of Commercial-Off-The-Shelf (COTS) parts to reduce the logical burden of the USSOCOM supply chain, by minimizing the introduction of new components, and exploiting advances in commercially available technology provides a more technological mature solution.

Justification: FY20 funds procure 45 CBRN DRS for the Navy, 50 CBRN DRS for the Air Force, and 9 Explosive Ordinance Disposal Teams (EOD TMS) for the Marine Corps, as well as fielding, engineering, program management, and logistics support.

RDT&E Code B Item: 0607384BP/Proj CA7

DEVELOPMENT/TEST STATUS AND MAJOR MILESTONES

CBRN DRS - FRP/Deployment (Mar 2014 to Sep 2022)
CBRN DRS - IOC - Army: Feb 2015
CBRN DRS - Test components to replace obsolete items and insert new technologies (Mar 2015 to Sep 2024)
CBRN DRS - IOC - Air Force: Jun 2019
CBRN DRS - FOC - USMC: Jul 2018
CBRN DRS - IOC - USMC EOD: Sep 2019

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 7001SA1000 / Chemical Biological Situational Awareness	**Item Number / Title [DODIC]:** MC0101 / CBRN DISMOUNTED RECONNAISSANCE SYSTEMS (CBRN DRS)
ID Code (A=Service Ready, B=Not Service Ready) : A		**MDAP/MAIS Code:**

CBRN DRS - FOC - Army: Sep 2020
CBRN DRS - FOC - Navy: Sep 2021
CBRN DRS - FOC - Air Force: Sep 2021
CBRN DRS - FOC - USMC EOD: Sep 2023
CBRN DRS - ACS - Materiel Requirements Analysis (Nov 2018 to Sep 2019)
CBRN DRS ACS - Assessment of Potential Solutions (Apr 2019 to Sep 2019)

(†) indicates the presence of a P-5a

Exhibit P-5a, Procurement History and Planning: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	P-1 Line Item Number / Title: 7001SA1000 / Chemical Biological Situational Awareness	Item Number / Title [DODIC]: MC0101 / CBRN DISMOUNTED RECONNAISSANCE SYSTEMS (CBRN DRS)

Cost Elements	OCO	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost ($ K)	Specs Avail Now?	Date Revision Available	RFP Issue Date
CBRN DRS USMC EOD MARSOC Teams Configuration		2019	Pine Bluff Arsenal / Pine Bluff, AR	Allot	Pine Bluff Arsenal, Pine Bluff, AR	Nov 2018	Jun 2019	12	1,161.167	Y		
CBRN DRS USMC EOD Teams (Explosive Ordinance Disposal Teams) Configuration(†)		2020	Pine Bluff Arsenal / Pine Bluff, AR	MIPR	Pine Bluff Arsenal, Pine Bluff, AR	Nov 2019	Mar 2020	9	972.778	Y		
CBRN DRS Navy Configuration(†)		2017	Pine Bluff Arsenal / Pine Bluff, AR	MIPR	Pine Bluff Arsenal, Pine Bluff, AR	Jan 2017	May 2017	25	398.240	Y		
CBRN DRS Navy Configuration(†)		2018	Pine Bluff Arsenal / Pine Bluff, AR	MIPR	Pine Bluff Arsenal, Pine Bluff, AR	Dec 2017	Apr 2018	25	402.120	Y		
CBRN DRS Navy Configuration(†)		2019	Pine Bluff Arsenal / Pine Bluff, AR	MIPR	Pine Bluff Arsenal, Pine Bluff, AR	Nov 2018	May 2019	42	407.976	Y		
CBRN DRS Navy Configuration(†)		2020	Pine Bluff Arsenal / Pine Bluff, AR	MIPR	Pine Bluff Arsenal, Pine Bluff, AR	Nov 2019	May 2020	45	410.000	Y		
CBRN DRS Army Configuration		2017	FLIR Systems Inc. / Elkridge, MD	C / FFP	RDECOM, Edgewood, MD	Jan 2017 (2)	May 2017	50	1,084.640	Y		
CBRN DRS Army Configuration		2018	FLIR Systems Inc. / Elkridge, MD	C / FFP	RDECOM, Edgewood, MD	Apr 2018 (3)	Jun 2018	27	1,166.259	Y		
CBRN DRS Army Configuration		2019	FLIR Systems Inc. / Elkridge, MD	C / FFP	RDECOM, Edgewood, MD	Nov 2018 (4)	Jun 2019	24	1,150.000	Y		
CBRN DRS Air Force Configuration(†)		2019	Pine Bluff Arsenal / Pine Bluff, AR	MIPR	Pine Bluff Arsenal, Pine Bluff AR	Nov 2018	Jun 2019	40	250.000	Y		
CBRN DRS Air Force Configuration(†)		2020	Pine Bluff Arsenal / Pine Bluff, AR	MIPR	Pine Bluff Arsenal, Pine Bluff, AR	Nov 2019	May 2020	50	263.500	Y		

(†) indicates the presence of a P-21

Footnotes:
(2) (Option)
(3) (Option)
(4) (Option)

Exhibit P-21, Production Schedule: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 7001SA1000 / Chemical Biological Situational Awareness	**Item Number / Title [DODIC]:** MC0101 / CBRN DISMOUNTED RECONNAISSANCE SYSTEMS (CBRN DRS)

Cost Elements (Units in Each)							Fiscal Year 2017												Fiscal Year 2018												BALANCE
										Calendar Year 2017														Calendar Year 2018									
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2016	BAL DUE AS OF 1 OCT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
CBRN DRS USMC EOD Teams (Explosive Ordinance Disposal Teams) Configuration																															
	1	2020	CBDP	9	0	9																									9
Secondary Distribution			*MC*	*9*	*0*	*9*																									*9*
CBRN DRS Navy Configuration																															
	2	2017	CBDP	25	0	25				A	-	-	-	3	3	3	3	3	3	3	2	2									0
Secondary Distribution			*NAVY*	*25*	*0*	*25*				*A*	*-*	*-*	*-*	*3*	*3*	*3*	*3*	*3*	*3*	*3*	*2*	*2*									*0*
	2	2018	CBDP	25	0	25															A	-	-	-	3	4	6	6	6		0
Secondary Distribution			*NAVY*	*25*	*0*	*25*															*A*	*-*	*-*	*-*	*3*	*4*	*6*	*6*	*6*		*0*
	2	2019	CBDP	42	0	42																									42
Secondary Distribution			*NAVY*	*42*	*0*	*42*																									*42*
	2	2020	CBDP	45	0	45																									45
Secondary Distribution			*NAVY*	*45*	*0*	*45*																									*45*
CBRN DRS Air Force Configuration																															
	4	2019	CBDP	40	0	40																									40
Secondary Distribution			*AF*	*40*	*0*	*40*																									*40*
	3	2020	CBDP	50	0	50																									50
Secondary Distribution			*AF*	*50*	*0*	*50*																									*50*
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	

Exhibit P-21, Production Schedule: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 7001SA1000 / Chemical Biological Situational Awareness	**Item Number / Title [DODIC]:** MC0101 / CBRN DISMOUNTED RECONNAISSANCE SYSTEMS (CBRN DRS)

Cost Elements (Units in Each)							Fiscal Year 2019												Fiscal Year 2020												BALANCE
										Calendar Year 2019												Calendar Year 2020											
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2018	BAL DUE AS OF 1 OCT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
CBRN DRS USMC EOD Teams (Explosive Ordinance Disposal Teams) Configuration																															
	1	2020	CBDP	9	0	9														A -	-	-	-	9							0
Secondary Distribution			*MC*	*9*	*0*	*9*														*A -*	-	-	-	*9*							*0*
CBRN DRS Navy Configuration																															
	2	2017	CBDP	25	25	0																									0
Secondary Distribution			*NAVY*	*25*	*25*	*0*																									*0*
	2	2018	CBDP	25	25	0																									0
Secondary Distribution			*NAVY*	*25*	*25*	*0*																									*0*
	2	2019	CBDP	42	0	42		A -	-	-	-	-	-	3	6	6	6	6	6	6	3											0
Secondary Distribution			*NAVY*	*42*	*0*	*42*		*A -*	-	-	-	-	-	*3*	*6*	*6*	*6*	*6*	*6*	*6*	*3*											*0*
	2	2020	CBDP	45	0	45														A -	-	-	-	-	-	4	4	4	4	4	25
Secondary Distribution			*NAVY*	*45*	*0*	*45*														*A -*	-	-	-	-	-	*4*	*4*	*4*	*4*	*4*	*25*
CBRN DRS Air Force Configuration																															
	4	2019	CBDP	40	0	40		A -	-	-	-	-	-	-	6	6	6	6	6	6	4											0
Secondary Distribution			*AF*	*40*	*0*	*40*		*A -*	-	-	-	-	-	-	*6*	*6*	*6*	*6*	*6*	*6*	*4*											*0*
	3	2020	CBDP	50	0	50														A -	-	-	-	-	-	10	10	10	10	10	0
Secondary Distribution			*AF*	*50*	*0*	*50*														*A -*	-	-	-	-	-	*10*	*10*	*10*	*10*	*10*	*0*
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	

Exhibit P-21, Production Schedule: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 7001SA1000 / Chemical Biological Situational Awareness	**Item Number / Title [DODIC]:** MC0101 / CBRN DISMOUNTED RECONNAISSANCE SYSTEMS (CBRN DRS)

Cost Elements (Units in Each)							Fiscal Year 2021												Fiscal Year 2022											BALANCE
										Calendar Year 2021														Calendar Year 2022								
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2020	BAL DUE AS OF 1 OCT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
CBRN DRS USMC EOD Teams (Explosive Ordinance Disposal Teams) Configuration																														
	1	2020	CBDP	9	9	0																								0
Secondary Distribution			*MC*	*9*	*9*	*0*																								*0*
CBRN DRS Navy Configuration																														
	2	2017	CBDP	25	25	0																								0
Secondary Distribution			*NAVY*	*25*	*25*	*0*																								*0*
	2	2018	CBDP	25	25	0																								0
Secondary Distribution			*NAVY*	*25*	*25*	*0*																								*0*
	2	2019	CBDP	42	42	0																								0
Secondary Distribution			*NAVY*	*42*	*42*	*0*																								*0*
	2	2020	CBDP	45	20	25	4	4	4	4	4	5																		0
Secondary Distribution			*NAVY*	*45*	*20*	*25*	*4*	*4*	*4*	*4*	*4*	*5*																		*0*
CBRN DRS Air Force Configuration																														
	4	2019	CBDP	40	40	0																								0
Secondary Distribution			*AF*	*40*	*40*	*0*																								*0*
	3	2020	CBDP	50	50	0																								0
Secondary Distribution			*AF*	*50*	*50*	*0*																								*0*
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	

Exhibit P-21, Production Schedule: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 7001SA1000 / Chemical Biological Situational Awareness	**Item Number / Title [DODIC]:** MC0101 / CBRN DISMOUNTED RECONNAISSANCE SYSTEMS (CBRN DRS)

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Month)			Procurement Leadtime (Months)							
					Initial				Reorder			
		MSR For 2020	1-8-5 For 2020	MAX For 2020	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	Pine Bluff Arsenal - Pine Bluff, AR	1	6	20	0	5	3	8	0	1	4	5
2	Pine Bluff Arsenal - Pine Bluff, AR	1	6	20	0	5	3	8	0	1	4	5
3	Pine Bluff Arsenal - Pine Bluff, AR	1	6	20	0	5	3	8	0	1	4	5
4	Pine Bluff Arsenal - Pine Bluff, AR	1	6	20	4	3	5	8	0	3	5	8

Remarks:
PBA Lead time includes contract, ordering, and manufacturing. ** Production rates are monthly for all manufacturers

(‡) Delivery rows marked with this symbol indicate that they are funded through a separate Line Item. See the respective components' exhibits for details, including the full delivery schedule.
"A" in the Delivery Schedule indicates the Contract Award Date.
Note: Due to space limitations, quantities in the Exhibit P-21 delivery calendar are truncated and rounded based on the maximum quantity in the calendar as follows. If the maximum quantity is less than or equal to than 9,999, all quantities are shown as each. If the maximum quantity is between 10,000 and 999,999 all quantities are shown in thousands. If the maximum quantity is between 1,000,000 and 999,999,999 all quantities are shown in millions (rounded to the nearest thousand).If the maximum quantity is equal or greater than 1,000,000,000 all quantities are shown in billions (rounded to the nearest million).

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 7001SA1000 / Chemical Biological Situational Awareness	**Item Number / Title [DODIC]:** JM8788 / NEXT GENERATION DIAGNOSTICS SYSTEM (NGDS)
ID Code (A=Service Ready, B=Not Service Ready) : A		**MDAP/MAIS Code:**

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity *(Units in Each)*	-	-	-	-	-	-
Gross/Weapon System Cost *($ in Millions)*	8.390	6.498	6.563	4.905	-	4.905
Less PY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Net Procurement (P-1) *($ in Millions)*	8.390	6.498	6.563	4.905	-	4.905
Plus CY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Total Obligation Authority *($ in Millions)*	**8.390**	**6.498**	**6.563**	**4.905**	**-**	**4.905**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)						
Initial Spares *($ in Millions)*	-	-	-	-	-	-
Gross/Weapon System Unit Cost *($ in Thousands)*	-	-	-	-	-	-

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)
Hardware Cost																		
Recurring Cost																		
Prior/Future combined efforts	-	-	5.834	-	-	0.000	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
NGDS 1 - Systems(†)	39.938	64	2.556	39.300	90	3.537	39.300	40	1.572	-	-	0.000	-	-	-	-	-	0.000
NGDS 2 MAN-PORTABLE DIAGNOSTIC AND ASSAYS - NGDS 2 Man Portable Diagnostic System (MPDS)(†)	-	-	0.000	-	-	0.000	-	-	0.000	11.000	144	1.584	-	-	-	11.000	144	1.584
Subtotal: Recurring Cost	-	-	*8.390*	-	-	*3.537*	-	-	*1.572*	-	-	*1.584*	-	-	-	-	-	*1.584*
Non Recurring Cost																		
NGDS 1 - Hardware Upgrades	-	-	0.000	-	-	0.000	-	-	0.350	-	-	0.000	-	-	-	-	-	0.000
Subtotal: Non Recurring Cost	-	-	*0.000*	-	-	*0.000*	-	-	*0.350*	-	-	*0.000*	-	-	-	-	-	*0.000*
Subtotal: Hardware Cost	**-**	**-**	***8.390***	**-**	**-**	***3.537***	**-**	**-**	***1.922***	**-**	**-**	***1.584***	**-**	**-**	**-**	**-**	**-**	***1.584***
Package Fielding Cost																		
Recurring Cost																		
NGDS 1 - Provisioning - Assay and Reagents	-	-	0.000	-	-	0.497	-	-	1.538	-	-	0.024	-	-	-	-	-	0.024
Subtotal: Recurring Cost	-	-	*0.000*	-	-	*0.497*	-	-	*1.538*	-	-	*0.024*	-	-	-	-	-	*0.024*

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 7001SA1000 / Chemical Biological Situational Awareness	**Item Number / Title [DODIC]:** JM8788 / NEXT GENERATION DIAGNOSTICS SYSTEM (NGDS)
ID Code (A=Service Ready, B=Not Service Ready) : A		**MDAP/MAIS Code:**

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)
Non Recurring Cost																		
NGDS 1 - Initial Training	-	-	0.000	-	-	0.691	-	-	0.735	-	-	0.045	-	-	-	-	-	0.045
NGDS 1 - Fielding Expense	-	-	0.000	-	-	0.534	-	-	0.534	-	-	0.149	-	-	-	-	-	0.149
NGDS 2 Man Portable Diagnostic System (MPDS) TPF	-	-	0.000	-	-	0.000	-	-	0.000	-	-	1.099	-	-	-	-	-	1.099
Subtotal: Non Recurring Cost	-	-	*0.000*	-	-	*1.225*	-	-	*1.269*	-	-	*1.293*	-	-	-	-	-	*1.293*
Subtotal: Package Fielding Cost	**-**	**-**	***0.000***	**-**	**-**	***1.722***	**-**	**-**	***2.807***	**-**	**-**	***1.317***	**-**	**-**	**-**	**-**	**-**	***1.317***
Logistics Cost																		
Recurring Cost																		
NGDS 1 - Contractor Logistic Support	-	-	0.000	-	-	0.000	-	-	0.092	-	-	0.092	-	-	-	-	-	0.092
NGDS 1 - Logistics Program Implementation and Initial Training	-	-	0.000	-	-	0.233	-	-	0.233	-	-	0.013	-	-	-	-	-	0.013
Subtotal: Recurring Cost	-	-	*0.000*	-	-	*0.233*	-	-	*0.325*	-	-	*0.105*	-	-	-	-	-	*0.105*
Subtotal: Logistics Cost	**-**	**-**	***0.000***	**-**	**-**	***0.233***	**-**	**-**	***0.325***	**-**	**-**	***0.105***	**-**	**-**	**-**	**-**	**-**	***0.105***
Support Cost																		
NGDS 1 - PMO Support	-	-	0.000	-	-	0.040	-	-	0.154	-	-	0.046	-	-	-	-	-	0.046
NGDS 2 MAN-PORTABLE DIAGNOSTIC AND ASSAYS - NGDS 2 - PMO Support	-	-	0.000	-	-	0.007	-	-	0.000	-	-	1.536	-	-	-	-	-	1.536
NGDS 1 - Contractor Web Support	-	-	0.000	-	-	0.000	-	-	0.050	-	-	0.050	-	-	-	-	-	0.050
NGDS 1 - Proficiency Testing	-	-	0.000	-	-	0.300	-	-	0.300	-	-	0.084	-	-	-	-	-	0.084
NGDS 1 - Training	-	-	0.000	-	-	0.388	-	-	0.755	-	-	0.113	-	-	-	-	-	0.113
NGDS 1 - Fielding Support	-	-	0.000	-	-	0.271	-	-	0.250	-	-	0.070	-	-	-	-	-	0.070
Subtotal: Support Cost	**-**	**-**	***0.000***	**-**	**-**	***1.006***	**-**	**-**	***1.509***	**-**	**-**	***1.899***	**-**	**-**	**-**	**-**	**-**	***1.899***
Gross/Weapon System Cost	**-**	**-**	**8.390**	**-**	**-**	**6.498**	**-**	**-**	**6.563**	**-**	**-**	**4.905**	**-**	**-**	**-**	**-**	**-**	**4.905**

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 7001SA1000 / Chemical Biological Situational Awareness	**Item Number / Title [DODIC]:** JM8788 / NEXT GENERATION DIAGNOSTICS SYSTEM (NGDS)
ID Code (A=Service Ready, B=Not Service Ready) : A		**MDAP/MAIS Code:**

Remarks:

The Next Generation Diagnostic System (NGDS) is a family of systems providing increments of diagnostic capabilities over time that address varied chemical, biological and radiological (CBR) threats across the different echelons of the Combat Health Support System. The mission of the NGDS is to provide CBR threat and infectious disease identification and FDA-cleared diagnostics to inform individual patient treatment and CBR situational awareness and disease surveillance. NGDS Increment 1 improves diagnostic capabilities in deployable and laboratory-based combat health support units. NGDS Inc 1 offers improved operational suitability and affordability over legacy systems by developing FDA cleared biological warfare agent (BWA) and infectious disease in vitro diagnostic (IVD) assays on an existing commercial diagnostic device with a well established FDA regulatory history and pipeline of commercial non-BWA infectious disease diagnostic tests. NGDS 2 will complement NGDS Increment 1 by developing diagnostics for unmet biological pathogen and toxin threats, chemical and radiological exposures, and to provide capability to lower echelons of care. NGDS 2 will provide additional capability for diagnosis of CBR-induced diseases, suitable for use in far forward environments, by developing lightweight, portable, and simple-to-use instruments and test kits.

Procurement funds support the purchase of hardware components as well as Total Package Fielding (TPF) for initial fielding and support to systems for two years post fielding. TPF includes consumables, software security/applications, proficiency test efforts, Contractor Logistics Support, logistics & web support, instructors, and training.

Justification: FY20 funding procures 144 NGDS 2 Man Portable Diagnostic systems and total package fielding (TPF). FY20 funding completes TPF and continues Logistics support for NGDS Inc 1.

RDT&E Code B Item: 0603884BP/Proj MB4; 0604384BP/Proj MB5; 0607384BP/Proj MB7

MB4/NGDS: RDT&E FY2017 and Prior - 56.605M; FY2018 - 4.472M; FY2019 - 8.653M; FY2020 - 0.619M; FY2021 - 2.480M; FY2022 - 7.549M; FY2023 - 7.499M; FY2024 - 3.617M
MB5/NGDS: RDT&E FY2017 and Prior - 20.178M; FY2018 - 18.446M; FY2019 - 6.124M; FY2020 - 13.065M; FY2021 - 14.111M; FY2022 - 6.213M; FY2023 - 5.214M; FY2024 - 5.040M
MB7/NGDS: RDT&E FY2017 and Prior - 32.004M; FY2018 - 11.176M; FY2019 - 9.003M; FY2020 - 3.231M; FY2021 - 3.365M; FY2022 - 2.887M; FY2023 - 2.179M; FY2024 - 7.552M

DEVELOPMENT/TEST STATUS AND MAJOR MILESTONES

NGDS - FRP Increment 1: Aug 2018
NGDS - USN IOC Increment 1 (Jul 2019 to Jan 2020)
NGDS - USN FOC Increment 1 (Jul 2020 to Jan 2021)
NGDS - USA IOC Increment 1 (Jan 2019 to Sep 2019)
NGDS Increment 2 - Man Portable Dx System (MPDS) MS C (Jul 2020 to Sep 2020)

(†) indicates the presence of a P-5a

Exhibit P-5a, Procurement History and Planning: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	P-1 Line Item Number / Title: 7001SA1000 / Chemical Biological Situational Awareness	Item Number / Title [DODIC]: JM8788 / NEXT GENERATION DIAGNOSTICS SYSTEM (NGDS)

Cost Elements	OCO	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost ($ K)	Specs Avail Now?	Date Revision Available	RFP Issue Date
NGDS 1 - Systems		2017	BioFire Dx / Salt Lake City, UT	SS / FFP	ACC-APG-NCD, Ft. Detrick, MD	Dec 2017 (5)	Apr 2018	64	39.938	Y		
NGDS 1 - Systems		2018	BioFire Dx / Salt Lake City, UT	SS / FFP	ACC-APG-NCD, Ft. Detrick, MD	Nov 2017 (6)	Feb 2019	90	39.300	Y		
NGDS 1 - Systems		2019	BioFire Dx / Salt Lake City, UT	SS / FFP	ACC-APG-NCD, Ft. Detrick, MD	Dec 2018	Aug 2019	40	39.300	Y		
NGDS 2 MAN-PORTABLE DIAGNOSTIC AND ASSAYS - NGDS 2 Man Portable Diagnostic System (MPDS)		2020	TBD / UNKNOWN	SS / FP	TBD	Jan 2020	Jul 2020	144	11.000	Y		

Footnotes:

(5) Option

(6) Option

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 7001SA1000 / Chemical Biological Situational Awareness	**Item Number / Title [DODIC]:** JX0302 / GLOBAL BIO TECH INITIATIVE (GBTI)
ID Code (A=Service Ready, B=Not Service Ready) :	**MDAP/MAIS Code:**	

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity *(Units in Each)*	-	-	-	-	-	-
Gross/Weapon System Cost *($ in Millions)*	2.171	1.967	0.000	0.000	-	0.000
Less PY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Net Procurement (P-1) *($ in Millions)*	2.171	1.967	0.000	0.000	-	0.000
Plus CY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Total Obligation Authority *($ in Millions)*	**2.171**	**1.967**	**0.000**	**0.000**	**-**	**0.000**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)						
Initial Spares *($ in Millions)*	-	-	-	-	-	-
Gross/Weapon System Unit Cost *($ in Thousands)*	-	-	-	-	-	-

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*
Hardware Cost																		
Recurring Cost																		
Prior/Future combined efforts	-	-	2.171	-	-	0.000	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
GBTI Assays and Reagents	-	-	0.000	43.400	25	1.085	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
Subtotal: Recurring Cost	-	-	*2.171*	-	-	*1.085*	-	-	*0.000*	-	-	*0.000*	-	-	-	-	-	*0.000*
Subtotal: Hardware Cost	**-**	**-**	***2.171***	**-**	**-**	***1.085***	**-**	**-**	***0.000***	**-**	**-**	***0.000***	**-**	**-**	**-**	**-**	**-**	***0.000***
Support Cost																		
GBTI PM Support	-	-	0.000	-	-	0.882	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
Subtotal: Support Cost	**-**	**-**	***0.000***	**-**	**-**	***0.882***	**-**	**-**	***0.000***	**-**	**-**	***0.000***	**-**	**-**	**-**	**-**	**-**	***0.000***
Gross/Weapon System Cost	**-**	**-**	**2.171**	**-**	**-**	**1.967**	**-**	**-**	**0.000**	**-**	**-**	**0.000**	**-**	**-**	**-**	**-**	**-**	**0.000**

Remarks:

The Global Biosurveillance Technology Initiative (GBTI) will characterize laboratory networks and develop algorithms to identify key nodes having the greatest potential to compress the time between disease event initiation and the production of actionable data. In FY19, GBTI will close. The Targeted Acquisition of Reference Materials Augmenting Capabilities (TARMAC) will track projects of mutual interest, formerly under GBTI, with the Chemical Biological Defense Program under the Defense Biological Product Assurance Program (DBPAP). Under TARMAC, these projects will cover a variety of activities and will provide data and information used to facilitate the identification of unknown threats and the development of new countermeasures. Key node data generation will be augmented in direct support of existing programs of record. The GBTI program is sun-setting. FY19 will be the last year of funding.

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 7001SA1000 / Chemical Biological Situational Awareness	**Item Number / Title [DODIC]:** JX0210 / DEFENSE BIOLOGICAL PRODUCTS ASSURANCE PROGRAM (DBPAP)
ID Code (A=Service Ready, B=Not Service Ready) :	**MDAP/MAIS Code:**	

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity *(Units in Each)*	-	-	-	-	-	-
Gross/Weapon System Cost *($ in Millions)*	2.010	0.980	0.975	2.961	-	2.961
Less PY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Net Procurement (P-1) *($ in Millions)*	2.010	0.980	0.975	2.961	-	2.961
Plus CY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Total Obligation Authority *($ in Millions)*	**2.010**	**0.980**	**0.975**	**2.961**	**-**	**2.961**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)						
Initial Spares *($ in Millions)*	-	-	-	-	-	-
Gross/Weapon System Unit Cost *($ in Thousands)*	-	-	-	-	-	-

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*
Support Cost																		
Prior/Future combined efforts	-	-	2.010	-	-	0.000	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
DBPAP - Consumables and Reagents, Repository Equipment, Maintenance, and Service Contracts	-	-	0.000	-	-	0.980	-	-	0.806	-	-	2.961	-	-	-	-	-	2.961
DBPAP - Quality Assurance/Quality Control Support	-	-	0.000	-	-	0.000	-	-	0.169	-	-	0.000	-	-	-	-	-	0.000
Subtotal: Support Cost	**-**	**-**	***2.010***	**-**	**-**	***0.980***	**-**	**-**	***0.975***	**-**	**-**	***2.961***	**-**	**-**	**-**	**-**	**-**	***2.961***
Gross/Weapon System Cost	**-**	**-**	**2.010**	**-**	**-**	**0.980**	**-**	**-**	**0.975**	**-**	**-**	**2.961**	**-**	**-**	**-**	**-**	**-**	**2.961**

Remarks:

The Defense Biological Product Assurance Program (DBPAP) integrates and consolidates DoD reagents (i.e., antibodies/antigens) and biological warfare agent detection requirements plus supports an internal initiative ("TARMAC") that uses state-of-the-art analytical capability for biological threats that will enable the compression of the discovery-to-decision time frame and provide awareness and understanding of the baseline biological threat footprint.

In order to detect biological warfare agents (antigen), a critical reagent (genomics material) may be needed for use in a detection platform. Multiple medical and non-medical platforms require a continuous, quality supply of critical reagents for effective warning to significantly enhance force survivability. They are also required for rapid medical diagnosis to ensure appropriate treatment of exposed personnel. A common set of reagents for relevant platforms are required.

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	P-1 Line Item Number / Title: 7001SA1000 / Chemical Biological Situational Awareness	Item Number / Title [DODIC]: JX0210 / DEFENSE BIOLOGICAL PRODUCTS ASSURANCE PROGRAM (DBPAP)
ID Code (A=Service Ready, B=Not Service Ready) :		MDAP/MAIS Code:

The DBPAP is also responsible for managing the production, storage and validation of Hand Held Assays (HHAs), PCR genomic assays, ECL immunoassays, antibodies, and select biological threat agents and genomic reference materials. The DBPAP's PCR assays have been used in the DoD's response effort to the Ebola epidemic in West Africa that began in early 2014. Deployed laboratories from US Army Medical Research Institute of Infectious Diseases (USAMRIID), the Naval Medical Research Center's (NMRC) Biological Defense Research Directorate's (BDRD) Mobile Labs and the 1st AML, as well as interagency partners such as the National Institutes of Health (NIH) National Institute of Allergies and Infectious Disease (NIAID), have all used DBPAP PCR assays to detect Ebola virus during their response missions in West Africa.

Note: Antibodies, assays, and reference materials are ordered using outside source funding (DoD and other Government agencies).

Justification: FY20 funds support repository management (i.e. production, storage, distribution and quality assurance validation) of assays, antibodies, select biological threat agent and genomic reference materials.

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 7001SA1000 / Chemical Biological Situational Awareness	**Item Number / Title [DODIC]:** JX0301 / BIOSURVELLENCE PORTAL (BSP)
ID Code (A=Service Ready, B=Not Service Ready) : A		**MDAP/MAIS Code:**

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity *(Units in Each)*	-	-	-	-	-	-
Gross/Weapon System Cost *($ in Millions)*	2.840	1.107	1.148	1.124	-	1.124
Less PY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Net Procurement (P-1) *($ in Millions)*	2.840	1.107	1.148	1.124	-	1.124
Plus CY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Total Obligation Authority *($ in Millions)*	**2.840**	**1.107**	**1.148**	**1.124**	**-**	**1.124**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)						
Initial Spares *($ in Millions)*	-	-	-	-	-	-
Gross/Weapon System Unit Cost *($ in Thousands)*	-	-	-	-	-	-

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*
Software Cost																		
Recurring Cost																		
Prior/Future combined efforts	-	-	2.840	-	-	0.000	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
Software and Installation	-	-	0.000	-	-	0.272	-	-	0.278	-	-	0.281	-	-	-	-	-	0.281
Subtotal: Recurring Cost	-	-	*2.840*	-	-	*0.272*	-	-	*0.278*	-	-	*0.281*	-	-	-	-	-	*0.281*
Subtotal: Software Cost	**-**	**-**	***2.840***	**-**	**-**	***0.272***	**-**	**-**	***0.278***	**-**	**-**	***0.281***	**-**	**-**	**-**	**-**	**-**	***0.281***
Package Fielding Cost																		
Recurring Cost																		
System Fielding Support (TFP, FDT, NET)	-	-	0.000	-	-	0.554	-	-	0.581	-	-	0.562	-	-	-	-	-	0.562
Subtotal: Recurring Cost	-	-	*0.000*	-	-	*0.554*	-	-	*0.581*	-	-	*0.562*	-	-	-	-	-	*0.562*
Subtotal: Package Fielding Cost	**-**	**-**	***0.000***	**-**	**-**	***0.554***	**-**	**-**	***0.581***	**-**	**-**	***0.562***	**-**	**-**	**-**	**-**	**-**	***0.562***
Support Cost																		
Technical Engineering Support	-	-	0.000	-	-	0.281	-	-	0.289	-	-	0.281	-	-	-	-	-	0.281
Subtotal: Support Cost	**-**	**-**	***0.000***	**-**	**-**	***0.281***	**-**	**-**	***0.289***	**-**	**-**	***0.281***	**-**	**-**	**-**	**-**	**-**	***0.281***
Gross/Weapon System Cost	**-**	**-**	**2.840**	**-**	**-**	**1.107**	**-**	**-**	**1.148**	**-**	**-**	**1.124**	**-**	**-**	**-**	**-**	**-**	**1.124**

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 7001SA1000 / Chemical Biological Situational Awareness	**Item Number / Title [DODIC]:** JX0301 / BIOSURVELLENCE PORTAL (BSP)
ID Code (A=Service Ready, B=Not Service Ready) : A		**MDAP/MAIS Code:**

Remarks:

The Global Biosurveillance Portal (Global-BSP) is a web-based enterprise environment that will facilitate collaboration, communication, and information sharing in support of the detection, management, and mitigation of man-made and naturally occurring biological events. Global-BSP bridges the communication gaps in the Biosurveillance domain to provide a central access point for Biosurveillance information and situational awareness for DoD, interagency and allied partners supporting the early identification and response to biological events.

Global-BSP provides an integrated suite of web-based components designed to support public health officers, environmental officers, clinicians, physicians, and CBRN personnel as they maintain their situational awareness of local, regional, and global biological threats to the force. Global-BSP does not duplicate existing DoD capabilities, but rather leverages existing tools and technologies to provide users across multiple organizations and disciplines with a centralized "one-stop shop" for all of their Biosurveillance resources.

Justification: FY20 funding provides for Total Package Fielding (TPF), New Equipment Training (NET), Technical Engineering support, and software installation and system host provider support.

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 7001SA1000 / Chemical Biological Situational Awareness	**Item Number / Title [DODIC]:** JS0005 / COMMON ANALYTICAL LABORATORY SYSTEM (CALS)

ID Code (A=Service Ready, B=Not Service Ready) : B | **MDAP/MAIS Code:**

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity *(Units in Each)*	-	-	-	-	-	-
Gross/Weapon System Cost *($ in Millions)*	23.100	13.964	48.317	4.293	-	4.293
Less PY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Net Procurement (P-1) *($ in Millions)*	23.100	13.964	48.317	4.293	-	4.293
Plus CY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Total Obligation Authority *($ in Millions)*	**23.100**	**13.964**	**48.317**	**4.293**	**-**	**4.293**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)						
Initial Spares *($ in Millions)*	-	-	-	-	-	-
Gross/Weapon System Unit Cost *($ in Thousands)*	-	-	-	-	-	-

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)
Hardware Cost																		
Recurring Cost																		
Prior/Future combined efforts	-	-	23.100	-	-	0.000	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
CALS - PR2 Bio-Subsystems(†)	-	-	0.000	-	-	0.000	-	-	0.000	91.340	47	4.293	-	-	-	91.340	47	4.293
ALS MOD Long Lead Items	-	-	0.000	779.000	12	9.348	1,422.208	24	34.133	-	-	0.000	-	-	-	-	-	0.000
Subtotal: Recurring Cost	-	-	*23.100*	-	-	*9.348*	-	-	*34.133*	-	-	*4.293*	-	-	-	-	-	*4.293*
Subtotal: Hardware Cost	**-**	**-**	***23.100***	**-**	**-**	***9.348***	**-**	**-**	***34.133***	**-**	**-**	***4.293***	**-**	**-**	**-**	**-**	**-**	***4.293***
Support Cost																		
ACS - ALS MOD PMO Support	-	-	0.000	-	-	1.954	-	-	7.807	-	-	0.000	-	-	-	-	-	0.000
ALS MOD Engineering Changes	-	-	0.000	-	-	1.025	-	-	1.629	-	-	0.000	-	-	-	-	-	0.000
ALS MOD Fielding	-	-	0.000	-	-	0.752	-	-	2.671	-	-	0.000	-	-	-	-	-	0.000
ALS MOD Test & Evaluation	-	-	0.000	-	-	0.885	-	-	2.077	-	-	0.000	-	-	-	-	-	0.000
Subtotal: Support Cost	**-**	**-**	***0.000***	**-**	**-**	***4.616***	**-**	**-**	***14.184***	**-**	**-**	***0.000***	**-**	**-**	**-**	**-**	**-**	***0.000***
Gross/Weapon System Cost	**-**	**-**	**23.100**	**-**	**-**	**13.964**	**-**	**-**	**48.317**	**-**	**-**	**4.293**	**-**	**-**	**-**	**-**	**-**	**4.293**

Remarks:

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	P-1 Line Item Number / Title: 7001SA1000 / Chemical Biological Situational Awareness	Item Number / Title [DODIC]: JS0005 / COMMON ANALYTICAL LABORATORY SYSTEM (CALS)
ID Code (A=Service Ready, B=Not Service Ready) : B		MDAP/MAIS Code:

The Common Analytical Laboratory System (CALS) capability will be modular, scalable and adaptable to a variety of concept of operations (CONOPS) and environmental conditions. Currently, the systems have been designed independently by various agencies with the intent of meeting a specific units requirements. As a result, multiple mobile lab configurations exist with differing sustainment tails and lacking in commonality. The system under development will incorporate an open architecture that can accommodate quick installation or removal of equipment as mission requirements dictate. As well, it will provide the ability to rapidly develop a common operating picture allowing first responders and DoD officials to determine the appropriate course of action. The analytical detection systems fielded will be designed to support the specific mission and CONOPS of the gaining unit and be able to detect and/or identify Chemical Warfare Agents (CWAs), Toxic Industrial Chemicals (TICs), Toxic Industrial Materials (TIMs), Biological Warfare Agents (BWAs), and radiological material in environmental samples.

In 2018 the Milestone Decision Authority approved two Acquisition Decision Memorandums (ADMs), dated 03 May and 29 Aug, strategically pausing FC IS and FC ACS to initiate the ALS MOD concept to address critical readiness and safety issues with the ALS as a result of system obsolescence. The ALS MOD will address the operational readiness issues by concentrating on addressing obsolescence of the vehicle, shelter, and analytical suite. End users include National Guard Bureau and Marine Corps. The system will provide field confirmatory analysis capabilities to support the identification of chemical and biological materials in environmental samples. Information produced by the system will assist commanders or the local authority with managing/mitigating the effects of a CBRE attack or disaster. ALS MOD integrates a common suite of commercial-and government-off-the-shelf (COTS/GOTS) components onto a user-specific platform.

Note: The funding and quantities shown in the FY19 PB Submission for 23 ACS LRIP units in FY18 and 4 FC IS and 54 ACS production units in FY19 were shifted to produce 12 ALS MOD Systems in FY18 and 24 ALS MOD systems in FY19 to begin addressing the critical readiness issues in the NGB and USMC's CSTs. The National Guard Bureau provided an additional $9M of funding to support purchase of the 12 ALS MOD systems in FY18; therefore the Defense Wide unit cost was substantially reduced compared to FY19 where only Defense Wide funds were used to procure the 24 ALS MOD systems.

Justification: FY20 Procurement funds will purchase 47 PR2, (Bio-Analytics) for 33 Biological Augmentation Teams (BAT), 9 Pacific Air Force (PACAF), and 5 U.S. Air Force Europe (USAFE).

The 29 AUG 2018 ADM authorized to strategically pause the CALS FC ACS due to the lack of program affordability, the Services identified an urgent key capability gap that resulted in the decision to use FY20 procurement funds to purchase 47 PR2 (Bio Systems, Units already listed above). The services have agreed to postpone and wait for the remaining components of FC ACS.

RDT&E Code B Item: 0603884BP/Proj CM4; 0604384BP/Proj CM5; 0606384BP/Proj CM7

CM4/CALS: RDT&E FY2017 and Prior - 41.368M
CM5/CALS: RDT&E FY2017 and Prior - 76.425M; FY2018 - 15.513M; FY2019 - 6.000M; FY2020 - 12.646M

DEVELOPMENT/TEST STATUS AND MAJOR MILESTONES

CALS - Critical Design Review (TV IS): Jan 2018
CALS - Developmental Test (TV IS) (Jan 2019 to Apr 2019)
CALS - Functional Configuration Audit (TV IS) (Oct 2019 to Dec 2019)
CALS - Log Demo (TV IS) (Jul 2019 to Sep 2019)
CALS - Milestone C (TVIS) (Apr 2020 to Jun 2020)
CALS - LRIP (TV IS) (Apr 2020 to Jul 2020)
CALS - Operational Test (TV IS) (Oct 2020 to Jan 2021)
CALS - Full Rate Production (TV IS) (Jul 2021 to Sep 2023)
CALS - P&D Contract Award (ACS) (Apr 2021 to May 2021)
CALS - Production Verification Test (ACS) (Jul 2021 to Sep 2021)

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 7001SA1000 / Chemical Biological Situational Awareness	**Item Number / Title [DODIC]:** JS0005 / COMMON ANALYTICAL LABORATORY SYSTEM (CALS)
ID Code (A=Service Ready, B=Not Service Ready) : B		**MDAP/MAIS Code:**

CALS - Multi-Service Operational Test & Evaluation (ACS) (Nov 2022 to Dec 2022)
CALS - Full Rate Production (ACS) (Apr 2022 to Sep 2024)

(†) indicates the presence of a P-5a

Exhibit P-5a, Procurement History and Planning: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	P-1 Line Item Number / Title: 7001SA1000 / Chemical Biological Situational Awareness	Item Number / Title [DODIC]: JS0005 / COMMON ANALYTICAL LABORATORY SYSTEM (CALS)

Cost Elements	OCO	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost ($ K)	Specs Avail Now?	Date Revision Available	RFP Issue Date
CALS - PR2 Bio-Subsystems		2020	Meso Scale Diagnostics LLC / Rockville, MD	SS / FFP	Rockville, MD	Dec 2019	Mar 2020	47	91.340	Y		

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 7001SA1000 / Chemical Biological Situational Awareness	**Item Number / Title [DODIC]:** JS0008 / SPU CBE CBRN RESPONSE ENTERPRISE (SPU CBE CRE)
ID Code (A=Service Ready, B=Not Service Ready) : A		**MDAP/MAIS Code:**

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity *(Units in Each)*	-	-	-	-	-	-
Gross/Weapon System Cost *($ in Millions)*	9.681	2.234	2.400	0.000	-	0.000
Less PY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Net Procurement (P-1) *($ in Millions)*	9.681	2.234	2.400	0.000	-	0.000
Plus CY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Total Obligation Authority *($ in Millions)*	**9.681**	**2.234**	**2.400**	**0.000**	**-**	**0.000**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)						
Initial Spares *($ in Millions)*	-	-	-	-	-	-
Gross/Weapon System Unit Cost *($ in Thousands)*	-	-	-	-	-	-

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*
Hardware Cost																		
Recurring Cost																		
Prior/Future combined efforts	-	-	9.681	-	-	0.000	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
SPU CBE Personal Protective Equipment - Class 3	-	-	0.000	0.577	2,600	1.499	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
SPU CBE Personal Protective Equipment - Filter Canister	-	-	0.000	-	-	0.000	0.060	20,788	1.247	-	-	0.000	-	-	-	-	-	0.000
SPU CBE CRE - Depot Fielding Support	-	-	0.000	-	-	0.390	-	-	0.325	-	-	0.000	-	-	-	-	-	0.000
SPU CBE Engineering Support	-	-	0.000	-	-	0.000	-	-	0.278	-	-	0.000	-	-	-	-	-	0.000
SPU CBE CRE - Fielding Support	-	-	0.000	-	-	0.102	-	-	0.284	-	-	0.000	-	-	-	-	-	0.000
Subtotal: Recurring Cost	-	-	*9.681*	-	-	*1.991*	-	-	*2.134*	-	-	*0.000*	-	-	-	-	-	*0.000*
Subtotal: Hardware Cost	**-**	**-**	***9.681***	**-**	**-**	***1.991***	**-**	**-**	***2.134***	**-**	**-**	***0.000***	**-**	**-**	**-**	**-**	**-**	***0.000***
Support Cost																		
SPU CBE CRE - Program Management	-	-	0.000	-	-	0.243	-	-	0.266	-	-	0.000	-	-	-	-	-	0.000
Subtotal: Support Cost	**-**	**-**	***0.000***	**-**	**-**	***0.243***	**-**	**-**	***0.266***	**-**	**-**	***0.000***	**-**	**-**	**-**	**-**	**-**	***0.000***
Gross/Weapon System Cost	**-**	**-**	**9.681**	**-**	**-**	**2.234**	**-**	**-**	**2.400**	**-**	**-**	**0.000**	**-**	**-**	**-**	**-**	**-**	**0.000**

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 7001SA1000 / Chemical Biological Situational Awareness	**Item Number / Title [DODIC]:** JS0008 / SPU CBE CBRN RESPONSE ENTERPRISE (SPU CBE CRE)
ID Code (A=Service Ready, B=Not Service Ready) : A		**MDAP/MAIS Code:**

Remarks:

The Integrated Chemical Biological Radiological and Nuclear Response Enterprise (CBRNE) rapid response capability packages are required for the National Guard Bureau's (NGB) Special Purpose Units (SPU) Chemical Biological Equipment (CBE) Chemical Biological Radiological and Nuclear Response Enterprise (CRE) which consists of the CBRNE Enhanced Response Force Package (CERFP), the United States Army Reserve (USAR) Chemical Recon Platoons, Decon Platoons and Defense Support of Civil Authority CBRN Response Force (DCRF), and the 20th Support Command Nuclear Disablement (NDT) and CBRNE Teams. The purpose of this program is to address legacy requirements gaps/deficiencies for SPU-CBEs where they exist through the streamlined acquisition of commercial-off-the-shelf (COTS)/ government-off-the-shelf (GOTS) capability upgrades that incorporate proven advancements in technology to satisfy mission performance standards. Chemical, Biological, Radiological, Nuclear (CBRN) and High-Yield Explosive (CBRNE) protection is required for CONUS/OCONUS DoD installation physical structures as well as military personnel and others within the perimeter of the military reservation.

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 7001SA1000 / Chemical Biological Situational Awareness	**Item Number / Title [DODIC]:** JS0007 / SPU CBE CHEMICAL BIOLOGICAL INCIDENT RESPONSE FORCE (SPU CBE CBIRF)
ID Code (A=Service Ready, B=Not Service Ready) : A	**MDAP/MAIS Code:**	

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity *(Units in Each)*	-	-	-	-	-	-
Gross/Weapon System Cost *($ in Millions)*	2.219	1.105	1.384	1.089	-	1.089
Less PY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Net Procurement (P-1) *($ in Millions)*	2.219	1.105	1.384	1.089	-	1.089
Plus CY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Total Obligation Authority *($ in Millions)*	**2.219**	**1.105**	**1.384**	**1.089**	**-**	**1.089**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)						
Initial Spares *($ in Millions)*	-	-	-	-	-	-
Gross/Weapon System Unit Cost *($ in Thousands)*	-	-	-	-	-	-

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)
Hardware Cost																		
Recurring Cost																		
Prior/Future combined efforts	-	-	2.219	-	-	0.000	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
SPU CBE (CBIRF) Personal Protection Equipment - Class 3	-	-	0.000	0.070	1,529	0.107	1.141	1,000	1.141	1.105	788	0.871	-	-	-	1.105	788	0.871
SPU CBE (CBIRF) Personal Protection Equipment - HAZMAT Boots	-	-	0.000	1.104	785	0.867	0.075	1,500	0.112	-	-	0.000	-	-	-	-	-	0.000
Subtotal: Recurring Cost	-	-	*2.219*	-	-	*0.974*	-	-	*1.253*	-	-	*0.871*	-	-	-	-	-	*0.871*
Subtotal: Hardware Cost	**-**	**-**	***2.219***	**-**	**-**	***0.974***	**-**	**-**	***1.253***	**-**	**-**	***0.871***	**-**	**-**	**-**	**-**	**-**	***0.871***
Support Cost																		
Program Management and Support	-	-	0.000	-	-	0.131	-	-	0.131	-	-	0.218	-	-	-	-	-	0.218
Subtotal: Support Cost	**-**	**-**	***0.000***	**-**	**-**	***0.131***	**-**	**-**	***0.131***	**-**	**-**	***0.218***	**-**	**-**	**-**	**-**	**-**	***0.218***
Gross/Weapon System Cost	**-**	**-**	**2.219**	**-**	**-**	**1.105**	**-**	**-**	**1.384**	**-**	**-**	**1.089**	**-**	**-**	**-**	**-**	**-**	**1.089**

Remarks:
The Special Purpose Units-Chemical Biological Equipment (SPU-CBE) program provides the integrated CBRNE rapid response force, which includes the Chemical Biological Incident Response Force (CBIRF), the capability packages that are required for the United States Northern Command to execute Department of Defense Support of Civil Authority (DSCA) missions. The purpose of this program is to address

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 7001SA1000 / Chemical Biological Situational Awareness	**Item Number / Title [DODIC]:** JS0007 / SPU CBE CHEMICAL BIOLOGICAL INCIDENT RESPONSE FORCE (SPU CBE CBIRF)
ID Code (A=Service Ready, B=Not Service Ready) : A		**MDAP/MAIS Code:**

legacy requirements gaps/deficiencies for SPU-CBEs where they exist through the streamlined acquisition of commercial-off-the-shelf (COTS)/government-off-the-shelf (GOTS) capability upgrades that incorporate proven advancements in technology to satisfy mission performance standards. Chemical, Biological, Radiological, Nuclear (CBRN) and High-Yield Explosive (CBRNE) protection is required for CONUS/OCONUS DoD installation physical structures as well as military personnel and others within the perimeter of the military reservation.

Justification: FY20 Program procures 788 NFPA Class 3 ruggedized ensembles for replacement of obsolete mission critical equipment. The ensembles offer certified protection to the latest standard and provide an increased ruggedized capability over legacy systems which allows the CBIRF to perform their mission critical tasks in such as technical rescue in contaminated or hazardous environments at or below Immediately dangerous to life or health (IDLH). Additionally this equipment will be used to conduct agent detection and identification, casualty search and extraction and decontamination operations in hazardous environments.

Fluctuations in unit cost are a result of the Class type of ensemble, each ensemble may have various options and quantities.

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 7001SA1000 / Chemical Biological Situational Awareness	**Item Number / Title [DODIC]:** SA0003 / ENHANCED MARITIME BIOLOGICAL DETECTION (EMBD)
ID Code (A=Service Ready, B=Not Service Ready) : A		**MDAP/MAIS Code:**

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity *(Units in Each)*	-	-	-	-	-	-
Gross/Weapon System Cost *($ in Millions)*	0.000	0.000	0.000	16.743	-	16.743
Less PY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Net Procurement (P-1) *($ in Millions)*	0.000	0.000	0.000	16.743	-	16.743
Plus CY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Total Obligation Authority *($ in Millions)*	**0.000**	**0.000**	**0.000**	**16.743**	**-**	**16.743**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)						
Initial Spares *($ in Millions)*	-	-	-	-	-	-
Gross/Weapon System Unit Cost *($ in Thousands)*	-	-	-	-	-	-

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)
Hardware Cost																		
Recurring Cost																		
Prior/Future combined efforts	-	-	-	-	-	0.000	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
EMBD Production Contractor Engineering & Management	-	-	0.000	-	-	0.000	-	-	0.000	-	-	5.042	-	-	-	-	-	5.042
EMBD Initial Fielding Packages(†)	-	-	0.000	-	-	0.000	-	-	0.000	115.000	10	1.150	-	-	-	115.000	10	1.150
EMBD LRIP Hardware Production(†)	-	-	0.000	-	-	0.000	-	-	0.000	450.000	10	4.500	-	-	-	450.000	10	4.500
Subtotal: Recurring Cost	-	-	*0.000*	-	-	*0.000*	-	-	*0.000*	-	-	*10.692*	-	-	-	-	-	*10.692*
Subtotal: Hardware Cost	**-**	**-**	***0.000***	**-**	**-**	***0.000***	**-**	**-**	***0.000***	**-**	**-**	***10.692***	**-**	**-**	**-**	**-**	**-**	***10.692***
Software Cost																		
Recurring Cost																		
EMBD Configuration Management	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.750	-	-	-	-	-	0.750
EMBD Software Support	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.325	-	-	-	-	-	0.325
Subtotal: Recurring Cost	-	-	*0.000*	-	-	*0.000*	-	-	*0.000*	-	-	*1.075*	-	-	-	-	-	*1.075*
Subtotal: Software Cost	**-**	**-**	***0.000***	**-**	**-**	***0.000***	**-**	**-**	***0.000***	**-**	**-**	***1.075***	**-**	**-**	**-**	**-**	**-**	***1.075***
Logistics Cost																		

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 7001SA1000 / Chemical Biological Situational Awareness	**Item Number / Title [DODIC]:** SA0003 / ENHANCED MARITIME BIOLOGICAL DETECTION (EMBD)
ID Code (A=Service Ready, B=Not Service Ready) : A		**MDAP/MAIS Code:**

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)
Recurring Cost																		
EMBD Logistics Support	-	-	0.000	-	-	0.000	-	-	0.000	-	-	1.500	-	-	-	-	-	1.500
Subtotal: Recurring Cost	-	-	*0.000*	-	-	*0.000*	-	-	*0.000*	-	-	*1.500*	-	-	-	-	-	*1.500*
Subtotal: Logistics Cost	**-**	**-**	***0.000***	**-**	**-**	***0.000***	**-**	**-**	***0.000***	**-**	**-**	***1.500***	**-**	**-**	**-**	**-**	**-**	***1.500***
Support Cost																		
EMBD Government Engineering and System Support	-	-	0.000	-	-	0.000	-	-	0.000	-	-	1.492	-	-	-	-	-	1.492
EMBD Government Management Services	-	-	0.000	-	-	0.000	-	-	0.000	-	-	1.984	-	-	-	-	-	1.984
Subtotal: Support Cost	**-**	**-**	***0.000***	**-**	**-**	***0.000***	**-**	**-**	***0.000***	**-**	**-**	***3.476***	**-**	**-**	**-**	**-**	**-**	***3.476***
Gross/Weapon System Cost	**-**	**-**	**0.000**	**-**	**-**	**0.000**	**-**	**-**	**0.000**	**-**	**-**	**16.743**	**-**	**-**	**-**	**-**	**-**	**16.743**

Remarks:

Enhanced Maritime Biological Detection (EMBD) is a technology refresh to the Joint Biological Point Detection System (JBPDS) and provides improved detection and identification capabilities, decreases operational costs while increasing reliability and maintainability. EMBD will provide an improved computer architecture to mitigate future obsolescence in both hardware and software. EMBD is an automated system that rapidly detects, collects and identifies airborne Biological Warfare Agent (BWA) assessed to pose a threat to the Navy. The Capability Production Document (CPD) requires integration of the EMBD on Navy ships and EMBD interoperability with the Navy's command and control infrastructure. EMBD consists of Line Replaceable Units (LRUs) that perform the following core biological defense functions: detection (Rapid Agent Aerosol Detector [RAAD]), collection (Wetted Wall Cyclone (WWC) Collector), identification (Lateral Flow Immunoassay Identifier), sample handling (Fluid Transfer System (FTS)) and a local user interface (Computing and Control Subsystem [CCS]).

Justification: FY20 funds procure 10 LRIP systems for fielding, production support, logistics support and initial fielding packages.

DEVELOPMENT/TEST STATUS AND MAJOR MILESTONES

EMBD - EMD Contract Award: Jul 2018
EMBD - Production Quality Test (PQT) (Sep 2018 to Jan 2020)
EMBD - MS C: Mar 2020
EMBD - LRIP Contract Award: May 2020
EMBD - IOT&E (Jun 2020 to Jul 2020)
EMBD - LRIP Production (Jul 2020 to Jan 2021)
EMBD - FRP Decision: Jan 2021
EMBD - FRP Production (Mar 2021 to Mar 2022)
EMBD - IOC: Aug 2022

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	P-1 Line Item Number / Title: 7001SA1000 / Chemical Biological Situational Awareness	Item Number / Title [DODIC]: SA0003 / ENHANCED MARITIME BIOLOGICAL DETECTION (EMBD)
ID Code (A=Service Ready, B=Not Service Ready) : A		MDAP/MAIS Code:

P5: LRIP is an option on the EMD Contract.

(†) indicates the presence of a P-5a

Exhibit P-5a, Procurement History and Planning: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	P-1 Line Item Number / Title: 7001SA1000 / Chemical Biological Situational Awareness	Item Number / Title [DODIC]: SA0003 / ENHANCED MARITIME BIOLOGICAL DETECTION (EMBD)

Cost Elements	OCO	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost ($ K)	Specs Avail Now?	Date Revision Available	RFP Issue Date
EMBD Initial Fielding Packages		2020	Chemring Detection Systems / Charlotte, NC	C / FPIF	ACC, APG, MD	May 2020	Jul 2021	10	115.000	Y		
EMBD LRIP Hardware Production		2020	Chemring Detection Systems / Charlotte, NC	C / FPIF	ACC, APG, MD	May 2020 (7)	Jul 2021	10	450.000	Y		

Footnotes:
(7) (Option)

Exhibit P-40, Budget Line Item Justification: PB 2020 Chemical and Biological Defense Program	Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D: Procurement, Defense-Wide / BA 03: Chemical/Biological Defense / BSA 1: CBDP	**P-1 Line Item Number / Title:** 8001PH1000 / CB Protection & Hazard Mitigation
ID Code (A=Service Ready, B=Not Service Ready):	**Program Elements for Code B Items:** N/A	**Other Related Program Elements:** N/A
Line Item MDAP/MAIS Code: N/A		

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity *(Units in Each)*	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost *($ in Millions)*	274.286	124.164	142.519	188.188	-	188.188	178.831	211.996	212.595	246.076	Continuing	Continuing
Less PY Advance Procurement *($ in Millions)*	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) *($ in Millions)*	274.286	124.164	142.519	188.188	-	188.188	178.831	211.996	212.595	246.076	Continuing	Continuing
Plus CY Advance Procurement *($ in Millions)*	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority *($ in Millions)*	**274.286**	**124.164**	**142.519**	**188.188**	**-**	**188.188**	**178.831**	**211.996**	**212.595**	**246.076**	**Continuing**	**Continuing**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)												
Initial Spares *($ in Millions)*	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost *($ in Thousands)*	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost *($ in Thousands)*	-	-	-	-	-	-	-	-	-	-	-	-

Description:

Enable the Warfigher to deter, prevent, protect against, mitigate, respond to, and recover from chemical, biological, radiological, and nuclear (CBRN) threats and effects as part of an integrated and layered defense. Protection/Hazard Mitigation provide Warfigher Individual and Collective Protection as well as medical countermeasures against the effects of CBRN hazards. The efforts within this BLIN continue to protect against and mitigate CBRN hazards threat from North Korea, Middle East, and the homeland.

Exhibit P-40, Budget Line Item Justification: PB 2020 Chemical and Biological Defense Program	Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D: Procurement, Defense-Wide / BA 03: Chemical/Biological Defense / BSA 1: CBDP	**P-1 Line Item Number / Title:** 8001PH1000 / CB Protection & Hazard Mitigation
ID Code (A=Service Ready, B=Not Service Ready):	**Program Elements for Code B Items:** N/A	**Other Related Program Elements:** N/A
Line Item MDAP/MAIS Code: N/A		

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/ MAIS Code	Quantity / Total Cost *(Each) / ($ M)*	Quantity / Total Cost *(Each) / ($ M)*	Quantity / Total Cost *(Each) / ($ M)*	Quantity / Total Cost *(Each) / ($ M)*	Quantity / Total Cost *(Each) / ($ M)*	Quantity / Total Cost *(Each) / ($ M)*
P-5	PHM008 / CBRN UNIFORM INGRTD PRTCTN ENSEMBLE FAMILY OF SYSTEMS (UIPE FOS)		B		- / 0.000	- / 0.000	- / 0.000	- / 1.946	- / -	- / 1.946
P-5	JP1112 / CHEMICAL BIOLOGICAL AIRCRAFT SURVIVABILITY BARRIER (CASB)		B		- / 0.000	- / 0.000	- / 0.000	- / 5.040	- / -	- / 5.040
P-5	PHM018 / SPU RAPID CAPABILITY DEVELOPMENT AND DEMO (SPU RCDD)		B		- / 0.000	- / 0.000	- / 0.000	- / 4.610	- / -	- / 4.610
P-5	JI0002 / JS AIRCREW MASK (JSAM)	P-5a, P-21	B		- / 23.750	- / 25.086	- / 54.775	- / 69.416	- / -	- / 69.416
P-5	JI0003 / JOINT SERVICE GENERAL PURPOSE MASK (JSGPM)	P-5a, P-21	A		- / 132.363	- / 53.154	- / 16.927	- / 13.209	- / -	- / 13.209
P-5	MA0401 / CBRN UNIFORM INTEGRATED PROTECTION ENSEMBLE (UIPE)	P-5a, P-21	A		- / 48.511	- / 10.508	- / 13.064	- / 9.984	- / -	- / 9.984
P-5	JP1111 / JOINT EXPEDITIONARY COLLECTIVE PROTECTION (JECP)	P-5a, P-21	B		- / 19.814	- / 9.607	- / 22.752	- / 13.570	- / -	- / 13.570
P-5	R12301 / CB PROTECTIVE SHELTER (CBPS)	P-5a, P-21	A		- / 39.774	- / 16.262	- / 17.673	- / 17.622	- / -	- / 17.622
P-5	JD0050 / DECONTAMINATION FAMILY OF SYSTEMS (DFoS)		B		- / 9.704	- / 3.447	- / 13.035	- / 17.050	- / -	- / 17.050
P-5	JD0070 / JOINT BIOLOGICAL AGENT DECONTAMINATION SYSTEM (JBADS)	P-5a, P-21	B		- / 0.000	- / 0.917	- / 1.000	- / 24.608	- / -	- / 24.608
P-5	JM6677 / ADVANCED ANTICONVULSANT SYSTEM (AAS)	P-5a, P-21	B		- / 0.000	- / 0.000	- / 0.360	- / 5.352	- / -	- / 5.352
P-5	JX0005 / DOD BIOLOGICAL VACCINE PROCUREMENT (VACCINES)		B		- / 0.370	- / 0.183	- / 0.183	- / 3.674	- / -	- / 3.674
P-5	JD0404 / CONTAMINATED HUMAN REMAINS SYSTEM (CHRS)		B		- / 0.000	- / 0.000	- / 0.750	- / 2.107	- / -	- / 2.107
P-5	MA0400 / PROTECTIVE CLOTHING (JSLIST)	P-5a	A		- / 0.000	- / 5.000	- / 2.000	- / 0.000	- / -	- / 0.000
P-40	**Total Gross/Weapon System Cost**				**- / 274.286**	**- / 124.164**	**- / 142.519**	**- / 188.188**	**- / -**	**- / 188.188**

*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.

Justification:
Operational forces across the continuum of global, contingency, special operations/low intensity conflict, counternarcotics, and other high-risk missions have an immediate need to survive and sustain operations in a CB threat environment. Efforts in this BLIN provide protective equipment and medical countermeasures that supports protection prior to potential operations and mitigates the hazard if exposed.

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 8001PH1000 / CB Protection & Hazard Mitigation	**Item Number / Title [DODIC]:** PHM008 / CBRN UNIFORM INGRTD PRTCTN ENSEMBLE FAMILY OF SYSTEMS (UIPE FOS)
ID Code (A=Service Ready, B=Not Service Ready) : B		**MDAP/MAIS Code:**

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity *(Units in Each)*	-	-	-	-	-	-
Gross/Weapon System Cost *($ in Millions)*	0.000	0.000	0.000	1.946	-	1.946
Less PY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Net Procurement (P-1) *($ in Millions)*	0.000	0.000	0.000	1.946	-	1.946
Plus CY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Total Obligation Authority *($ in Millions)*	**0.000**	**0.000**	**0.000**	**1.946**	**-**	**1.946**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)						
Initial Spares *($ in Millions)*	-	-	-	-	-	-
Gross/Weapon System Unit Cost *($ in Thousands)*	-	-	-	-	-	-

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)
Hardware Cost																		
Recurring Cost																		
Prior/Future combined efforts	-	-	-	-	-	0.000	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
UIPE FoS Air: Air suits (CBRL)	-	-	0.000	-	-	0.000	-	-	0.000	1.000	1,626	1.626	-	-	-	1.000	1,626	1.626
Subtotal: Recurring Cost	-	-	*0.000*	-	-	*0.000*	-	-	*0.000*	-	-	*1.626*	-	-	-	-	-	*1.626*
Subtotal: Hardware Cost	**-**	**-**	***0.000***	**-**	**-**	***0.000***	**-**	**-**	***0.000***	**-**	**-**	***1.626***	**-**	**-**	**-**	**-**	**-**	***1.626***
Support Cost																		
UIPE FoS Air: Surveillance Testing	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.061	-	-	-	-	-	0.061
UIPE FoS Air: New Equipment Training	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.062	-	-	-	-	-	0.062
UIPE FoS Air: Program Management Support	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.197	-	-	-	-	-	0.197
Subtotal: Support Cost	**-**	**-**	***0.000***	**-**	**-**	***0.000***	**-**	**-**	***0.000***	**-**	**-**	***0.320***	**-**	**-**	**-**	**-**	**-**	***0.320***
Gross/Weapon System Cost	**-**	**-**	**0.000**	**-**	**-**	**0.000**	**-**	**-**	**0.000**	**-**	**-**	**1.946**	**-**	**-**	**-**	**-**	**-**	**1.946**

Remarks:
The Uniform Integrated Protection Ensemble (UIPE) Family of Systems (FoS) will develop a family of systems that will provide the Warfighter percutaneous protection from operationally relevant traditional and non-traditional CBRN threats. The family of systems will be developed based on Service mission profiles with the goal being to minimize operational burden and provide improved fit, function, and integration with

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 8001PH1000 / CB Protection & Hazard Mitigation	**Item Number / Title [DODIC]:** PHM008 / CBRN UNIFORM INGRTD PRTCTN ENSEMBLE FAMILY OF SYSTEMS (UIPE FOS)
ID Code (A=Service Ready, B=Not Service Ready) : B		**MDAP/MAIS Code:**

the current Warfighter kits compared to legacy systems. The acquisition strategy allows for multiple decision points throughout product development, which provides flexibility to accelerate mature commercial-off the-shelf/non-developmental item solutions and fully develop less mature solutions. Pre-Milestone A activities included the exploration of available state of the art technologies through market research, Requests for Information, and a challenge competition; shaping realistic requirements by exploring trade space of novel technologies; and identified protection offered by non-chemical biological (CB) combat gear. UIPE FoS and the Services identified a mature solution that may meet Air Mission Area suit requirements. The program will identify data gaps from the United States Air Force's (USAF) test and evaluation of the Chemical, Biological, Radiological Layer (CBRL) of the Integrated Aircrew Ensemble. There is high confidence in the CBRL meeting the requirements for the Services.

Justification: FY20: Funds will procure 1626 Air Mission Area Chemical, Biological, Radiological Layer (CBRL) suits to begin the production line, establish New Equipment Training, and reserve initial quantities for Surveillance testing. The Air Mission Area suit will provide United States Air Force (USAF), United States Navy (USN), and United States Marine Corps (USMC) a solution for tactical/ejection seat, Rotary Wing, and non-ejection Fixed Wing platforms.

RDT&E Code B Item: 0603884BP/Proj IP4; 0604384BP/Proj IP5

DEVELOPMENT/TEST STATUS AND MAJOR MILESTONES

UIPE FOS - Air SBIR Award for CBRL Test Assets: Sep 2018
UIPE FOS - Air System Testing (Oct 2018 to Sep 2019)
UIPE FOS - Land Early User Evaluation (Oct 2018 to Oct 2020)
UIPE FOS - Land and Air Material Testing (Oct 2018 to Sep 2019)
UIPE FOS - Land Schedule Decision Point: Jan 2019
UIPE FOS - Air Capability Development Document (CDD): Mar 2019
UIPE FOS - Air MRA: Apr 2019
UIPE FOS - Air MS C Fielding Decision for USAF: Jul 2019
UIPE FOS - Land Manufacture Test Articles (Prototypes) (Sep 2019 to Mar 2020)
UIPE FOS - Land System Testing (Sep 2019 to Sep 2020)
UIPE FOS - Air MS C Production Award (Oct 2019 to Nov 2019)
UIPE FOS - Air USN/USMC Initial Operational Test and Evaluation (Oct 2019 to Mar 2020)
UIPE FOS - Land Design Trade Space Analysis (Apr 2020 to Dec 2020)
UIPE FOS - Air Fielding Decision for USN/USMC: May 2020
UIPE FOS - Air Operational Test Agency Evaluation Report (OER): May 2020
UIPE FOS - Land Decision Point 2: Nov 2020
UIPE FOS - Land Capability Development Document (CDD): Feb 2021
UIPE FOS - Land Milestone B: Mar 2021
UIPE FOS - Land Developmental Testing/Operational Testing (Jul 2021 to Apr 2022)
UIPE FOS - Land Operational Assessment: Feb 2022
UIPE FOS - Land Capability Production Document (CPD): Sep 2022
UIPE FOS - Land Milestone C/Low Rate Initial Production: Oct 2022
UIPE FOS - Land Multi-Service Operational Test and Evaluation (Feb 2023 to Mar 2023)

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 8001PH1000 / CB Protection & Hazard Mitigation	**Item Number / Title [DODIC]:** PHM008 / CBRN UNIFORM INGRTD PRTCTN ENSEMBLE FAMILY OF SYSTEMS (UIPE FOS)
ID Code (A=Service Ready, B=Not Service Ready) : B		**MDAP/MAIS Code:**

UIPE FOS - Land Full Rate Production: Jul 2023

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 8001PH1000 / CB Protection & Hazard Mitigation	**Item Number / Title [DODIC]:** JP1112 / CHEMICAL BIOLOGICAL AIRCRAFT SURVIVABILITY BARRIER (CASB)
ID Code (A=Service Ready, B=Not Service Ready) : B		**MDAP/MAIS Code:**

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity *(Units in Each)*	-	-	-	-	-	-
Gross/Weapon System Cost *($ in Millions)*	0.000	0.000	0.000	5.040	-	5.040
Less PY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Net Procurement (P-1) *($ in Millions)*	0.000	0.000	0.000	5.040	-	5.040
Plus CY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Total Obligation Authority *($ in Millions)*	**0.000**	**0.000**	**0.000**	**5.040**	**-**	**5.040**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)						
Initial Spares *($ in Millions)*	-	-	-	-	-	-
Gross/Weapon System Unit Cost *($ in Thousands)*	-	-	-	-	-	-

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)
Hardware Cost																		
Recurring Cost																		
Prior/Future combined efforts	-	-	-	-	-	0.000	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
CASB System	-	-	0.000	-	-	0.000	-	-	0.000	166.542	24	3.997	-	-	-	166.542	24	3.997
Subtotal: Recurring Cost	-	-	*0.000*	-	-	*0.000*	-	-	*0.000*	-	-	*3.997*	-	-	-	-	-	*3.997*
Subtotal: Hardware Cost	**-**	**-**	***0.000***	**-**	**-**	***0.000***	**-**	**-**	***0.000***	**-**	**-**	***3.997***	**-**	**-**	**-**	**-**	**-**	***3.997***
Logistics Cost																		
Recurring Cost																		
Logistics	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.237	-	-	-	-	-	0.237
Subtotal: Recurring Cost	-	-	*0.000*	-	-	*0.000*	-	-	*0.000*	-	-	*0.237*	-	-	-	-	-	*0.237*
Subtotal: Logistics Cost	**-**	**-**	***0.000***	**-**	**-**	***0.000***	**-**	**-**	***0.000***	**-**	**-**	***0.237***	**-**	**-**	**-**	**-**	**-**	***0.237***
Support Cost																		
Technical Support	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.504	-	-	-	-	-	0.504
Program Management	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.302	-	-	-	-	-	0.302
Subtotal: Support Cost	**-**	**-**	***0.000***	**-**	**-**	***0.000***	**-**	**-**	***0.000***	**-**	**-**	***0.806***	**-**	**-**	**-**	**-**	**-**	***0.806***
Gross/Weapon System Cost	**-**	**-**	**0.000**	**-**	**-**	**0.000**	**-**	**-**	**0.000**	**-**	**-**	**5.040**	**-**	**-**	**-**	**-**	**-**	**5.040**

Remarks:

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 8001PH1000 / CB Protection & Hazard Mitigation	**Item Number / Title [DODIC]:** JP1112 / CHEMICAL BIOLOGICAL AIRCRAFT SURVIVABILITY BARRIER (CASB)
ID Code (A=Service Ready, B=Not Service Ready) : B		**MDAP/MAIS Code:**

The Chemical-Biological Aircraft Survivability Barrier (CASB) will protect the interior of DOD's airlift assets from incidental cross-contamination by CB-contaminated personnel and equipment under transport. The United States Special Operations Command (USSOCOM) requirement is to sustain tactical force operations with the focus on regenerating multiple sorties intra-theater before transitioning to inter-theater redeployment. This tactical arm of airpower is comprised of high-demand, low-density, and expensive assets. The loss of any single asset from a CB contamination event would result in the effective loss of that asset because there are no approved decontamination solutions and/or standards by which assets could be effectively returned to unrestricted service.

Justification: FY20 procures 24 CASB systems to meet the USSOCOM service requirement. FY20 also provides technical, engineering, and fielding support to the first 24 systems.

RDT&E Code B Item: 0604384BP/Proj CO5

CO5/CASB: RDT&E ; FY2018 - 2.750M; FY2019 - 3.335M; FY2020 - 0.877M

DEVELOPMENT/TEST STATUS AND MAJOR MILESTONES

CASB - Capability Development Document: Dec 2015
CASB - Milestone B: Mar 2018
CASB - EMD Contract Award: Apr 2018
CASB - Developmental Test and Evaluation (Jul 2018 to Sep 2019)
CASB - Operational Test (Apr 2019 to Nov 2019)
CASB - Milestone C/FRP (Dec 2019 to Jun 2022)
CASB - IOC: Dec 2020
CASB - FOC: Jun 2022

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 8001PH1000 / CB Protection & Hazard Mitigation	**Item Number / Title [DODIC]:** PHM018 / SPU RAPID CAPABILITY DEVELOPMENT AND DEMO (SPU RCDD)

ID Code (A=Service Ready, B=Not Service Ready) : B | **MDAP/MAIS Code:**

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity *(Units in Each)*	-	-	-	-	-	-
Gross/Weapon System Cost *($ in Millions)*	0.000	0.000	0.000	4.610	-	4.610
Less PY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Net Procurement (P-1) *($ in Millions)*	0.000	0.000	0.000	4.610	-	4.610
Plus CY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Total Obligation Authority *($ in Millions)*	**0.000**	**0.000**	**0.000**	**4.610**	**-**	**4.610**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)						
Initial Spares *($ in Millions)*	-	-	-	-	-	-
Gross/Weapon System Unit Cost *($ in Thousands)*	-	-	-	-	-	-

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)
Hardware Cost																		
Recurring Cost																		
Prior/Future combined efforts	-	-	-	-	-	0.000	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
SPU RCDD Equipment	-	-	0.000	-	-	0.000	-	-	0.000	-	-	3.734	-	-	-	-	-	3.734
Subtotal: Recurring Cost	-	-	*0.000*	-	-	*0.000*	-	-	*0.000*	-	-	*3.734*	-	-	-	-	-	*3.734*
Subtotal: Hardware Cost	**-**	**-**	***0.000***	**-**	**-**	***0.000***	**-**	**-**	***0.000***	**-**	**-**	***3.734***	**-**	**-**	**-**	**-**	**-**	***3.734***
Support Cost																		
Technical Support	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.600	-	-	-	-	-	0.600
Program Management	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.276	-	-	-	-	-	0.276
Subtotal: Support Cost	**-**	**-**	***0.000***	**-**	**-**	***0.000***	**-**	**-**	***0.000***	**-**	**-**	***0.876***	**-**	**-**	**-**	**-**	**-**	***0.876***
Gross/Weapon System Cost	**-**	**-**	**0.000**	**-**	**-**	**0.000**	**-**	**-**	**0.000**	**-**	**-**	**4.610**	**-**	**-**	**-**	**-**	**-**	**4.610**

Remarks:
Special Purpose Unit Rapid Capability Development and Deployment (SPU RCDD) works with elements of the Joint Special Operations Command (JSOC), select elements from across the Special Operations Forces (SOF) Enterprise such as Combatant Commanders' Response Forces (CRFs) and other Joint Force enabling units such as the 20th Chemical, Biological, Radiological, Nuclear and Explosives Command to identify near term mission critical capability gaps needed for mission success. These capability gaps identified are needed in a short timeframe and require the use of rapid acquisition strategies to meet the needs of the User.

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 8001PH1000 / CB Protection & Hazard Mitigation	**Item Number / Title [DODIC]:** PHM018 / SPU RAPID CAPABILITY DEVELOPMENT AND DEMO (SPU RCDD)
ID Code (A=Service Ready, B=Not Service Ready) : B		**MDAP/MAIS Code:**

Justification: FY20 Program funding will allow the JPEO-CBRND/ JPL SOF RCDD to rapidly respond to near-term and emergent chemical-biological defensive capability requirements of the JSOC, as well as select elements of the SOF Enterprise such as the CRFs and other Joint Force enabling units such as the 20th Chemical, Biological, Radiological, Nuclear and Explosives Command. Specific requirements may consist of individual protective (suits, boots, gloves, or mask), detection, decontamination, or collective protection needs.

RDT&E Code B Item: 0604384BP/Proj IP5; 0607384BP/Proj IP7

DEVELOPMENT/TEST STATUS AND MAJOR MILESTONES

SPU RCDD - Development Efforts (Oct 2019 to Sep 2024)
SPU RCDD - IFS Modernization (Oct 2019 to Sep 2020)
SPU RCDD - CB Protective Glove Modernization (Oct 2019 to Sep 2020)

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 8001PH1000 / CB Protection & Hazard Mitigation	**Item Number / Title [DODIC]:** JI0002 / JS AIRCREW MASK (JSAM)
ID Code (A=Service Ready, B=Not Service Ready) : B	**MDAP/MAIS Code:**	

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity *(Units in Each)*	-	-	-	-	-	-
Gross/Weapon System Cost *($ in Millions)*	23.750	25.086	54.775	69.416	-	69.416
Less PY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Net Procurement (P-1) *($ in Millions)*	23.750	25.086	54.775	69.416	-	69.416
Plus CY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Total Obligation Authority *($ in Millions)*	**23.750**	**25.086**	**54.775**	**69.416**	**-**	**69.416**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)						
Initial Spares *($ in Millions)*	-	-	-	-	-	-
Gross/Weapon System Unit Cost *($ in Thousands)*	-	-	-	-	-	-

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)
Hardware Cost																		
Recurring Cost																		
Prior/Future combined efforts	-	-	4.434	-	-	0.000	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
JSAM RW - MPU-5 Hardware - FRP(†)	3.001	2,181	6.545	3.150	2,685	8.458	3.200	3,879	12.413	3.280	2,991	9.810	-	-	-	3.280	2,991	9.810
JSAM SA - M69 - Hardware - FRP(†)	-	-	12.771	2.463	2,049	5.047	2.515	2,972	7.475	2.563	8,415	21.568	-	-	-	2.563	8,415	21.568
JSAM TA - Case- FRP	-	-	0.000	-	-	0.000	0.217	645	0.140	0.223	779	0.174	-	-	-	0.223	779	0.174
JSAM TA - Mask - FRP(†)	-	-	0.000	-	-	0.000	11.115	645	7.169	11.448	779	8.918	-	-	-	11.448	779	8.918
Subtotal: Recurring Cost	-	-	*23.750*	-	-	*13.505*	-	-	*27.197*	-	-	*40.470*	-	-	-	-	-	*40.470*
Subtotal: Hardware Cost	**-**	**-**	***23.750***	**-**	**-**	***13.505***	**-**	**-**	***27.197***	**-**	**-**	***40.470***	**-**	**-**	**-**	**-**	**-**	***40.470***
Logistics Cost																		
Recurring Cost																		
JSAM RW - Config Mgmt/Tech Manuals	-	-	0.000	-	-	0.492	-	-	0.220	-	-	0.570	-	-	-	-	-	0.570
JSAM RW - Logistics Support	-	-	0.000	-	-	0.640	-	-	0.413	-	-	0.400	-	-	-	-	-	0.400
JSAM TA - Initial Spares/ Support Equipment	-	-	0.000	-	-	0.000	-	-	1.925	-	-	2.471	-	-	-	-	-	2.471
JSAM TA - New Equipment Training/ Training Equipment	-	-	0.000	-	-	0.000	-	-	2.300	-	-	0.656	-	-	-	-	-	0.656

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 8001PH1000 / CB Protection & Hazard Mitigation	**Item Number / Title [DODIC]:** JI0002 / JS AIRCREW MASK (JSAM)
ID Code (A=Service Ready, B=Not Service Ready) : B		**MDAP/MAIS Code:**

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)
JSAM SA M69-Training and Support Equipment	-	-	0.000	-	-	1.009	-	-	3.086	-	-	3.945	-	-	-	-	-	3.945
JSAM RW - NET Training/Training Equipment	-	-	0.000	-	-	0.905	-	-	0.743	-	-	1.371	-	-	-	-	-	1.371
JSAM RW - Tooling	-	-	0.000	-	-	0.105	-	-	0.700	-	-	0.000	-	-	-	-	-	0.000
JSAM RW - Initial Spares/Fielding Components	-	-	0.000	-	-	2.620	-	-	3.420	-	-	3.519	-	-	-	-	-	3.519
JSAM SA M69 - New Equipment Training	-	-	0.000	-	-	0.293	-	-	1.465	-	-	1.947	-	-	-	-	-	1.947
JSAM SA M69 - Initial Spares/Components	-	-	0.000	-	-	0.070	-	-	0.143	-	-	0.144	-	-	-	-	-	0.144
Subtotal: Recurring Cost	*-*	*-*	*0.000*	*-*	*-*	*6.134*	*-*	*-*	*14.415*	*-*	*-*	*15.023*	*-*	*-*	*-*	*-*	*-*	*15.023*
Subtotal: Logistics Cost	***-***	***-***	***0.000***	***-***	***-***	***6.134***	***-***	***-***	***14.415***	***-***	***-***	***15.023***	***-***	***-***	***-***	***-***	***-***	***15.023***
Support Cost																		
JSAM SA M69-Production Support	-	-	0.000	-	-	0.634	-	-	2.027	-	-	2.386	-	-	-	-	-	2.386
JSAM TA - Production Support	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.518	-	-	-	-	-	0.518
JSAM RW - Program Management	-	-	0.000	-	-	1.903	-	-	3.141	-	-	1.894	-	-	-	-	-	1.894
JSAM RW - Engineering Support	-	-	0.000	-	-	1.142	-	-	1.150	-	-	1.189	-	-	-	-	-	1.189
JSAM SA M69 - Program Management	-	-	0.000	-	-	1.268	-	-	1.999	-	-	4.838	-	-	-	-	-	4.838
JSAM SA M69 - Engineering Support	-	-	0.000	-	-	0.435	-	-	1.817	-	-	1.418	-	-	-	-	-	1.418
JSAM TA - Program Management	-	-	0.000	-	-	0.000	-	-	1.468	-	-	1.456	-	-	-	-	-	1.456
JSAM TA - Engineering Support	-	-	0.000	-	-	0.000	-	-	0.231	-	-	0.224	-	-	-	-	-	0.224
JSAM RW - First Article Testing	-	-	0.000	-	-	0.065	-	-	1.330	-	-	0.000	-	-	-	-	-	0.000
Subtotal: Support Cost	***-***	***-***	***0.000***	***-***	***-***	***5.447***	***-***	***-***	***13.163***	***-***	***-***	***13.923***	***-***	***-***	***-***	***-***	***-***	***13.923***
Gross/Weapon System Cost	**-**	**-**	**23.750**	**-**	**-**	**25.086**	**-**	**-**	**54.775**	**-**	**-**	**69.416**	**-**	**-**	**-**	**-**	**-**	**69.416**

Remarks:

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	P-1 Line Item Number / Title: 8001PH1000 / CB Protection & Hazard Mitigation	Item Number / Title [DODIC]: JI0002 / JS AIRCREW MASK (JSAM)
ID Code (A=Service Ready, B=Not Service Ready) : B		MDAP/MAIS Code:

The Joint Service Aircrew Mask (JSAM) system is a lightweight Chemical, Biological, Radiological and Nuclear (CBRN) protective mask consisting of mask, filter, blower (except JSAM SA), and accessories incorporating state-of-the-art technology to protect U.S. Forces from anticipated threats. The JSAM systems will be developed to support multiple aircraft platforms which will integrate with aircraft subsystems: Aircrew Life Support Equipment (ALSE), seating, portable aircrew systems, restraint systems, Night Vision Goggles (NVGs), and communications systems. The mask is optimized to minimize impact on the wearer's performance, maximize its ability to interface with aircrew protective clothing, and provide improved field of view when compared to current protective masks.

The JSAM for Rotary Wing (JSAM RW - MPU-5) aircraft will provide head, eye, respiratory, and CB protection and "don in flight" capability for general purpose, rotary wing aircrew in all four Services and the US Coast Guard. The JSAM for Tactical Aircraft (JSAM TA) will provide CB pressure breathing for altitude and anti-G protection. The JSAM for Strategic Aircraft (JSAM SA- M69) will provide CB protection for aircrew positions that only need pressure breathing for altitude. Both the JSAM TA and JSAM SA will provide flame resistance; JSAM TA will provide demist/emergency demist.

Justification: FY20 will procure 2,991 JSAM RW production masks, training, and initial spares to reach United States Army (USA), United States Navy (USN) and United States Marine Corps (USMC) FOC in 2024. FY20 will procure 8,415 JSAM SA production masks, including initial spares, to be used for fielding to various United States Air Force (USAF), United States Navy (USN) and United States Army (USA) aircraft. JSAM SA will conduct New Equipment Training, procure spare parts and support equipment. FY20 will also procure 779 JSAM TA production masks including transit cases, initial spares/support equipment, and training to meet IOC for United States Marine Corps (USMC).

RDT&E Code B Item: 0604384BP/Proj IP5

IP5/JSAM RW: RDT&E FY2017 and Prior - 27.302M; FY2018 - 0.382M
IP5/JSAM SA: RDT&E FY2017 and Prior - 17.011M; FY2018 - 2.787M; FY2019 - 1.708M; FY2020 - 1.127M; FY2021 - 1.149M; FY2022 - 0.208M
IP5/JSAM TA: RDT&E FY2017 and Prior - 13.566M; FY2018 - 3.501M; FY2019 - 2.097M

DEVELOPMENT/TEST STATUS AND MAJOR MILESTONES

JSAM RW - MS C/ Low Rate Initial Production Decision: Jan 2015
JSAM RW - USA/USAF Multi Service Operational Test and Evaluation (Feb 2015 to Apr 2015)
JSAM RW - USN/USMC Multi Service Operational Test and Evaluation (Nov 2016 to Feb 2017)
JSAM RW - USAF Initial Operability Capability: Feb 2018
JSAM RW - USA/USAF Full Rate Production: Nov 2016
JSAM RW - USN/USMC Full Rate Production: Apr 2018
JSAM RW - USAF Full Operational Capability: Dec 2018
JSAM RW - USN/USMC Initial Operational Capability: Jan 2019
JSAM RW - USA Initial Operational Capability: Jun 2019
JSAM RW - USA/USN/USMC Full Operational Capability: Sep 2024
JSAM SA - Developmental Testing (Mar 2014 to Jun 2016)
JSAM SA - MS C / Low Rate Initial Production Decision: Oct 2016
JSAM SA - USAF/USN Operational Testing (Mar 2017 to Aug 2017)
JSAM SA - Full Rate Production: Apr 2018
JSAM SA - USA Operational Testing (Apr 2018 to Jun 2018)
JSAM SA - USAF/USN Initial Operational Capability (Sep 2019 to Dec 2019)
JSAM SA - USA Initial Operational Capability: Feb 2020
JSAM SA - USAF/USN/USMC/USA Integration and Airworthiness Certification Testing (Jan 2017 to Dec 2021)
JSAM TA - AP22P (A) Safe to Fly Certification (Dec 2014 to Dec 2018)

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 8001PH1000 / CB Protection & Hazard Mitigation	**Item Number / Title [DODIC]:** JI0002 / JS AIRCREW MASK (JSAM)
ID Code (A=Service Ready, B=Not Service Ready) : B		**MDAP/MAIS Code:**

JSAM TA - Integrated (Developmental/Operational) Testing (Dec 2015 to Mar 2019)
JSAM TA - AP22P (A) ECP Integration (Dec 2015 to Dec 2018)
JSAM TA - Capability Production Document: Jun 2019
JSAM TA - MS C / Full Rate Production: Sep 2019
JSAM TA - Initial Operational Capability: Aug 2020

(†) indicates the presence of a P-5a

Exhibit P-5a, Procurement History and Planning: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	P-1 Line Item Number / Title: 8001PH1000 / CB Protection & Hazard Mitigation	Item Number / Title [DODIC]: JI0002 / JS AIRCREW MASK (JSAM)

Cost Elements	OCO	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost ($ K)	Specs Avail Now?	Date Revision Available	RFP Issue Date
JSAM RW - MPU-5 Hardware - FRP(†)		2017	AVOX Systems Inc. / Lancaster, NY	SS / FFP	RDECOM, APG, MD	Jun 2017	Feb 2018	2,181	3.001	Y		Oct 2016
JSAM RW - MPU-5 Hardware - FRP(†)		2018	AVOX Systems Inc. / Lancaster, NY	SS / FFP	RDECOM, APG, MD	Sep 2018	Mar 2019	1,507	3.150	Y		Jun 2018
JSAM RW - MPU-5 Hardware - FRP(†)		2018	TBD / UNKNOWN	C / FFP	RDECOM, APG, MD	Jan 2019	Sep 2019	1,178	3.150	Y		Aug 2018
JSAM RW - MPU-5 Hardware - FRP(†)		2019	TBD / UNKNOWN	C / FFP	RDECOM, APG, MD	Jan 2019 (1)	Sep 2019	3,879	3.200	Y		
JSAM RW - MPU-5 Hardware - FRP(†)		2020	TBD / UNKNOWN	C / FFP	RDECOM, APG, MD	Apr 2020 (2)	Oct 2020	2,991	3.280	Y		
JSAM SA - M69 - Hardware - FRP(†)		2018	AVON Protection Systems Inc. / Cadillac, MI	SS / FFP	RDECOM, APG, MD	Jan 2019	Jul 2019	2,049	2.463	N		Jul 2018
JSAM SA - M69 - Hardware - FRP(†)		2019	AVON Protection Systems Inc. / Cadillac, MI	SS / FFP	RDECOM, APG, MD	Jan 2019	Jan 2020	2,972	2.515	N		
JSAM SA - M69 - Hardware - FRP(†)		2020	AVON Protection Systems Inc. / Cadillac, MI	SS / FFP	RDECOM, APG, MD	Jan 2020 (3)	Jul 2020	8,415	2.563	N		
JSAM TA - Mask - FRP(†)		2019	Cam Lock Limited / Aldershot Hampshire, UK	SS / FFP	NAVAIR, Patuxent River, MD	Sep 2019	Mar 2020	645	11.115	N		Dec 2018
JSAM TA - Mask - FRP(†)		2020	Cam Lock Limited / Aldershot Hampshire, UK	SS / FFP	NAVAIR, Patuxent River, MD	Jul 2020 (4)	Jan 2021	779	11.448	Y		

(†) indicates the presence of a P-21

Footnotes:

(1) Delivery Order

(2) Delivery Order

(3) Delivery Order

(4) Opt 1

Exhibit P-21, Production Schedule: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	P-1 Line Item Number / Title: 8001PH1000 / CB Protection & Hazard Mitigation	Item Number / Title [DODIC]: JI0002 / JS AIRCREW MASK (JSAM)

Cost Elements (Units in Each)							Fiscal Year 2017												Fiscal Year 2018											BALANCE
							Calendar Year 2017												Calendar Year 2018											
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2016	BAL DUE AS OF 1 OCT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
JSAM RW - MPU-5 Hardware - FRP																														
	1	2017	CBDP	2,181	0	2,181									A -	-	-	-	-	-	-	-	100	125	150	175	200	250	250	300	631
Secondary Distribution			*ARMY*	*1,325*	*0*	*1,325*									*A -*	-	-	-	-	-	-	-	-	-	-	-	*119*	*250*	*250*	*300*	*406*
			AF	*631*	*0*	*631*									*A -*	-	-	-	-	-	-	-	*100*	*125*	*150*	*175*	*81*	-	-	-	*0*
			MC	*175*	*0*	*175*									*A -*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*175*
			NAVY	*50*	*0*	*50*									*A -*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*50*
	1	2018	CBDP	1,507	0	1,507																								A -	1,507
Secondary Distribution			*ARMY*	*1,507*	*0*	*1,507*																								*A -*	*1,507*
			MC	*0*	*0*	*0*																								*A -*	*0*
			NAVY	*0*	*0*	*0*																								*A -*	*0*
	2	2018	CBDP	1,178	0	1,178																									1,178
Secondary Distribution			*ARMY*	*528*	*0*	*528*																									*528*
			MC	*350*	*0*	*350*																									*350*
			NAVY	*300*	*0*	*300*																									*300*
	2	2019	CBDP	3,879	0	3,879																									3,879
Secondary Distribution			*ARMY*	*3,056*	*0*	*3,056*																									*3,056*
			MC	*350*	*0*	*350*																									*350*
			NAVY	*473*	*0*	*473*																									*473*
	2	2020	CBDP	2,991	0	2,991																									2,991
Secondary Distribution			*ARMY*	*2,169*	*0*	*2,169*																									*2,169*
			MC	*409*	*0*	*409*																									*409*
			NAVY	*413*	*0*	*413*																									*413*
JSAM SA - M69 - Hardware - FRP																														
	3	2018	CBDP	2,049	0	2,049																									2,049
Secondary Distribution			*AF*	*1,849*	*0*	*1,849*																									*1,849*
			NAVY	*200*	*0*	*200*																									*200*
	3	2019	CBDP	2,972	0	2,972																									2,972
Secondary Distribution			*ARMY*	*320*	*0*	*320*																									*320*
			AF	*2,006*	*0*	*2,006*																									*2,006*
			MC	*38*	*0*	*38*																									*38*
			NAVY	*608*	*0*	*608*																									*608*
	3	2020	CBDP	8,415	0	8,415																									8,415
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	

Exhibit P-21, Production Schedule: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 8001PH1000 / CB Protection & Hazard Mitigation	**Item Number / Title [DODIC]:** JI0002 / JS AIRCREW MASK (JSAM)

Cost Elements (Units in Each)							Fiscal Year 2017												Fiscal Year 2018												BALANCE
							Calendar Year 2017												Calendar Year 2018												
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2016	BAL DUE AS OF 1 OCT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
			ARMY	*482*	*0*	*482*																									*482*
Secondary Distribution			*AF*	*7,205*	*0*	*7,205*																									*7,205*
			NAVY	*728*	*0*	*728*																									*728*
JSAM TA - Mask - FRP																															
	4	2019	CBDP	645	0	645																									645
Secondary Distribution			*MC*	*645*	*0*	*645*																									*645*
	4	2020	CBDP	779	0	779																									779
Secondary Distribution			*MC*	*779*	*0*	*779*																									*779*
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	

Exhibit P-21, Production Schedule: PB 2020 Chemical and Biological Defense Program | **Date:** March 2019

Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1 | **P-1 Line Item Number / Title:** 8001PH1000 / CB Protection & Hazard Mitigation | **Item Number / Title [DODIC]:** JI0002 / JS AIRCREW MASK (JSAM)

Cost Elements (Units in Each)							Fiscal Year 2019												Fiscal Year 2020												
							Calendar Year 2019												Calendar Year 2020												
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2018	BAL DUE AS OF 1 OCT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	BALANCE
JSAM RW - MPU-5 Hardware - FRP																															
	1	2017	CBDP	2,181	1,550	631	300	331																							0
Secondary Distribution			*ARMY*	*1,325*	*919*	*406*	*300*	*106*																							*0*
			AF	*631*	*631*	*0*	-	-																							*0*
			MC	*175*	*0*	*175*	-	*175*																							*0*
			NAVY	*50*	*0*	*50*	-	*50*																							*0*
	1	2018	CBDP	1,507	0	1,507	-	-	-	-	-	196	351	267	284	212	197														0
Secondary Distribution			*ARMY*	*1,507*	*0*	*1,507*	-	-	-	-	-	*196*	*351*	*267*	*284*	*212*	*197*														*0*
			MC	*0*	*0*	*0*	-	-	-	-	-	-	-	-	-	-	-														*0*
			NAVY	*0*	*0*	*0*	-	-	-	-	-	-	-	-	-	-	-														*0*
	2	2018	CBDP	1,178	0	1,178				A	-	-	-	-	-	-	-	101	115	360	36	-	-	-	-	-	-	185	294	87	0
Secondary Distribution			*ARMY*	*528*	*0*	*528*				*A*	-	-	-	-	-	-	-	*69*	*63*	*360*	*36*	-	-	-	-	-	-	-	-	-	*0*
			MC	*350*	*0*	*350*				*A*	-	-	-	-	-	-	-	*17*	*28*	-	-	-	-	-	-	-	-	*100*	*158*	*47*	*0*
			NAVY	*300*	*0*	*300*				*A*	-	-	-	-	-	-	-	*15*	*24*	-	-	-	-	-	-	-	-	*85*	*136*	*40*	*0*
	2	2019	CBDP	3,879	0	3,879				A	-	-	-	-	-	-	-	259	245	-	324	360	360	360	360	380	450	175	156	450	0
Secondary Distribution			*ARMY*	*3,056*	*0*	*3,056*				*A*	-	-	-	-	-	-	-	*218*	*179*	-	*324*	*360*	*360*	*360*	*360*	*360*	*360*	*175*	-	-	*0*
			MC	*350*	*0*	*350*				*A*	-	-	-	-	-	-	-	*17*	*28*	-	-	-	-	-	-	-	-	-	*28*	*277*	*0*
			NAVY	*473*	*0*	*473*				*A*	-	-	-	-	-	-	-	*24*	*38*	-	-	-	-	-	-	*20*	*90*	-	*128*	*173*	*0*
	2	2020	CBDP	2,991	0	2,991																			A	-	-	-	-	-	2,991
Secondary Distribution			*ARMY*	*2,169*	*0*	*2,169*																			*A*	-	-	-	-	-	*2,169*
			MC	*409*	*0*	*409*																			*A*	-	-	-	-	-	*409*
			NAVY	*413*	*0*	*413*																			*A*	-	-	-	-	-	*413*
JSAM SA - M69 - Hardware - FRP																															
	3	2018	CBDP	2,049	0	2,049				A	-	-	-	-	-	-	2,049														0
Secondary Distribution			*AF*	*1,849*	*0*	*1,849*				*A*	-	-	-	-	-	-	*1,849*														*0*
			NAVY	*200*	*0*	*200*				*A*	-	-	-	-	-	-	*200*														*0*
	3	2019	CBDP	2,972	0	2,972				A	-	-	-	-	-	-	-	-	-	-	-	2,972									0
Secondary Distribution			*ARMY*	*320*	*0*	*320*				*A*	-	-	-	-	-	-	-	-	-	-	-	*320*									*0*
			AF	*2,006*	*0*	*2,006*				*A*	-	-	-	-	-	-	-	-	-	-	-	*2,006*									*0*
			MC	*38*	*0*	*38*				*A*	-	-	-	-	-	-	-	-	-	-	-	*38*									*0*
			NAVY	*608*	*0*	*608*				*A*	-	-	-	-	-	-	-	-	-	-	-	*608*									*0*
	3	2020	CBDP	8,415	0	8,415																A	-	-	-	-	-	4,208	-	-	4,207
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	

Exhibit P-21, Production Schedule: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 8001PH1000 / CB Protection & Hazard Mitigation	**Item Number / Title [DODIC]:** JI0002 / JS AIRCREW MASK (JSAM)

Cost Elements (Units in Each)							Fiscal Year 2019												Fiscal Year 2020												BALANCE
										Calendar Year 2019														Calendar Year 2020									
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2018	BAL DUE AS OF 1 OCT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
			ARMY	*482*	*0*	*482*																*A -*	-	-	-	-	-	*241*	-	-	*241*
Secondary Distribution			*AF*	*7,205*	*0*	*7,205*																*A -*	-	-	-	-	-	*3,603*	-	-	*3,602*
			NAVY	*728*	*0*	*728*																*A -*	-	-	-	-	-	*364*	-	-	*364*
JSAM TA - Mask - FRP																															
	4	2019	CBDP	645	0	645												A -	-	-	-	-	-	65	65	65	65	65	65	65	190
Secondary Distribution			*MC*	*645*	*0*	*645*												*A -*	-	-	-	-	-	*65*	*65*	*65*	*65*	*65*	*65*	*65*	*190*
	4	2020	CBDP	779	0	779																						A -	-	-	779
Secondary Distribution			*MC*	*779*	*0*	*779*																						*A -*	-	-	*779*
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	

Exhibit P-21, Production Schedule: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	P-1 Line Item Number / Title: 8001PH1000 / CB Protection & Hazard Mitigation	Item Number / Title [DODIC]: JI0002 / JS AIRCREW MASK (JSAM)

Cost Elements (Units in Each)							Fiscal Year 2021												Fiscal Year 2022												BALANCE
							Calendar Year 2021												Calendar Year 2022													
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2020	BAL DUE AS OF 1 OCT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
JSAM RW - MPU-5 Hardware - FRP																															
	1	2017	CBDP	2,181	2,181	0																									0
Secondary Distribution			*ARMY*	*1,325*	*1,325*	*0*																									*0*
			AF	*631*	*631*	*0*																									*0*
			MC	*175*	*175*	*0*																									*0*
			NAVY	*50*	*50*	*0*																									*0*
	1	2018	CBDP	1,507	1,507	0																									0
Secondary Distribution			*ARMY*	*1,507*	*1,507*	*0*																									*0*
			MC	*0*	*0*	*0*																									*0*
			NAVY	*0*	*0*	*0*																									*0*
	2	2018	CBDP	1,178	1,178	0																									0
Secondary Distribution			*ARMY*	*528*	*528*	*0*																									*0*
			MC	*350*	*350*	*0*																									*0*
			NAVY	*300*	*300*	*0*																									*0*
	2	2019	CBDP	3,879	3,879	0																									0
Secondary Distribution			*ARMY*	*3,056*	*3,056*	*0*																									*0*
			MC	*350*	*350*	*0*																									*0*
			NAVY	*473*	*473*	*0*																									*0*
	2	2020	CBDP	2,991	0	2,991	360	360	360	360	360	360	360	360	111																0
Secondary Distribution			*ARMY*	*2,169*	*0*	*2,169*	*282*	*331*	*360*	*360*	*360*	*360*	*116*	-	-																*0*
			MC	*409*	*0*	*409*	*45*	*17*	-	-	-	-	*140*	*207*	-																*0*
			NAVY	*413*	*0*	*413*	*33*	*12*	-	-	-	-	*104*	*153*	*111*																*0*
JSAM SA - M69 - Hardware - FRP																															
	3	2018	CBDP	2,049	2,049	0																									0
Secondary Distribution			*AF*	*1,849*	*1,849*	*0*																									*0*
			NAVY	*200*	*200*	*0*																									*0*
	3	2019	CBDP	2,972	2,972	0																									0
Secondary Distribution			*ARMY*	*320*	*320*	*0*																									*0*
			AF	*2,006*	*2,006*	*0*																									*0*
			MC	*38*	*38*	*0*																									*0*
			NAVY	*608*	*608*	*0*																									*0*
	3	2020	CBDP	8,415	4,208	4,207	-	-	-	-	4,207																				0
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	

Exhibit P-21, Production Schedule: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	P-1 Line Item Number / Title: 8001PH1000 / CB Protection & Hazard Mitigation	Item Number / Title [DODIC]: JI0002 / JS AIRCREW MASK (JSAM)

Cost Elements (Units in Each)							Fiscal Year 2021												Fiscal Year 2022												BALANCE
										Calendar Year 2021														Calendar Year 2022									
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2020	BAL DUE AS OF 1 OCT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
			ARMY	*482*	*241*	*241*	-	-	-	-	*241*																				*0*
Secondary Distribution			*AF*	*7,205*	*3,603*	*3,602*	-	-	-	-	*3,602*																				*0*
			NAVY	*728*	*364*	*364*	-	-	-	-	*364*																				*0*
JSAM TA - Mask - FRP																															
	4	2019	CBDP	645	455	190	65	65	60																						0
Secondary Distribution			*MC*	*645*	*455*	*190*	*65*	*65*	*60*																						*0*
	4	2020	CBDP	779	0	779	-	-	-	78	78	78	78	78	78	78	78	78	77												0
Secondary Distribution			*MC*	*779*	*0*	*779*	-	-	-	*78*	*78*	*78*	*78*	*78*	*78*	*78*	*78*	*78*	*77*												*0*
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	

Exhibit P-21, Production Schedule: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 8001PH1000 / CB Protection & Hazard Mitigation	**Item Number / Title [DODIC]:** JI0002 / JS AIRCREW MASK (JSAM)

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Month)			Procurement Leadtime (Months)							
					Initial				Reorder			
		MSR For 2020	1-8-5 For 2020	MAX For 2020	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	AVOX Systems Inc. - Lancaster, NY	45	360	450	0	8	8	16	0	11	6	17
2	TBD - UNKNOWN	45	360	450	0	15	8	23	0	6	6	12
3	AVON Protection Systems Inc. - Cadillac, MI	100	500	9,500	0	15	6	21	0	3	6	9
4	Cam Lock Limited - Aldershot Hampshire, UK	60	167	333	0	11	6	17	0	9	6	15

Remarks:
Production rates are monthly for all manufacturers

(‡) Delivery rows marked with this symbol indicate that they are funded through a separate Line Item. See the respective components' exhibits for details, including the full delivery schedule.
"A" in the Delivery Schedule indicates the Contract Award Date.
Note: Due to space limitations, quantities in the Exhibit P-21 delivery calendar are truncated and rounded based on the maximum quantity in the calendar as follows. If the maximum quantity is less than or equal to than 9,999, all quantities are shown as each. If the maximum quantity is between 10,000 and 999,999 all quantities are shown in thousands. If the maximum quantity is between 1,000,000 and 999,999,999 all quantities are shown in millions (rounded to the nearest thousand).If the maximum quantity is equal or greater than 1,000,000,000 all quantities are shown in billions (rounded to the nearest million).

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 8001PH1000 / CB Protection & Hazard Mitigation	**Item Number / Title [DODIC]:** JI0003 / JOINT SERVICE GENERAL PURPOSE MASK (JSGPM)
ID Code (A=Service Ready, B=Not Service Ready) : A		**MDAP/MAIS Code:**

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity *(Units in Each)*	-	-	-	-	-	-
Gross/Weapon System Cost *($ in Millions)*	132.363	53.154	16.927	13.209	-	13.209
Less PY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Net Procurement (P-1) *($ in Millions)*	132.363	53.154	16.927	13.209	-	13.209
Plus CY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Total Obligation Authority *($ in Millions)*	**132.363**	**53.154**	**16.927**	**13.209**	**-**	**13.209**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)						
Initial Spares *($ in Millions)*	-	-	-	-	-	-
Gross/Weapon System Unit Cost *($ in Thousands)*	-	-	-	-	-	-

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)
Hardware Cost																		
Recurring Cost																		
Prior/Future combined efforts	-	-	91.717	-	-	0.000	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
JSGPM - Ground/Ship (M50)(†)	0.263	154,547	40.646	0.289	101,687	29.354	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
JSGPM - Ground/Ship (M53A1)(†)	-	-	0.000	2.701	1,787	4.826	2.700	3,230	8.721	2.750	2,250	6.187	-	-	-	2.750	2,250	6.187
Initial Spares	-	-	0.000	-	-	7.272	-	-	1.640	-	-	0.803	-	-	-	-	-	0.803
Production Acceptance Test	-	-	0.000	-	-	0.500	-	-	0.307	-	-	0.300	-	-	-	-	-	0.300
Subtotal: Recurring Cost	-	-	*132.363*	-	-	*41.952*	-	-	*10.668*	-	-	*7.290*	-	-	-	-	-	*7.290*
Non Recurring Cost																		
Production Tooling	-	-	0.000	-	-	0.312	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
Subtotal: Non Recurring Cost	-	-	*0.000*	-	-	*0.312*	-	-	*0.000*	-	-	*0.000*	-	-	-	-	-	*0.000*
Subtotal: Hardware Cost	**-**	**-**	***132.363***	**-**	**-**	***42.264***	**-**	**-**	***10.668***	**-**	**-**	***7.290***	**-**	**-**	**-**	**-**	**-**	***7.290***
Package Fielding Cost																		
Recurring Cost																		
System Fielding Support (Total Package Fielding, First Destination	-	-	0.000	-	-	2.210	-	-	1.980	-	-	1.809	-	-	-	-	-	1.809

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 8001PH1000 / CB Protection & Hazard Mitigation	**Item Number / Title [DODIC]:** JI0003 / JOINT SERVICE GENERAL PURPOSE MASK (JSGPM)
ID Code (A=Service Ready, B=Not Service Ready) : A		**MDAP/MAIS Code:**

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
Cost Elements	**Unit Cost** *($ K)*	**Qty** *(Each)*	**Total Cost** *($ M)*	**Unit Cost** *($ K)*	**Qty** *(Each)*	**Total Cost** *($ M)*	**Unit Cost** *($ K)*	**Qty** *(Each)*	**Total Cost** *($ M)*	**Unit Cost** *($ K)*	**Qty** *(Each)*	**Total Cost** *($ M)*	**Unit Cost** *($ K)*	**Qty** *(Each)*	**Total Cost** *($ M)*	**Unit Cost** *($ K)*	**Qty** *(Each)*	**Total Cost** *($ M)*
Transportation & New Equipment...																		
Subtotal: Recurring Cost	-	-	*0.000*	-	-	*2.210*	-	-	*1.980*	-	-	*1.809*	-	-	-	-	-	*1.809*
Subtotal: Package Fielding Cost	**-**	**-**	***0.000***	**-**	**-**	***2.210***	**-**	**-**	***1.980***	**-**	**-**	***1.809***	**-**	**-**	**-**	**-**	**-**	***1.809***
Support Cost																		
Engineering Support	-	-	0.000	-	-	2.400	-	-	2.400	-	-	2.347	-	-	-	-	-	2.347
Program Management	-	-	0.000	-	-	6.280	-	-	1.879	-	-	1.763	-	-	-	-	-	1.763
Subtotal: Support Cost	**-**	**-**	***0.000***	**-**	**-**	***8.680***	**-**	**-**	***4.279***	**-**	**-**	***4.110***	**-**	**-**	**-**	**-**	**-**	***4.110***
Gross/Weapon System Cost	**-**	**-**	**132.363**	**-**	**-**	**53.154**	**-**	**-**	**16.927**	**-**	**-**	**13.209**	**-**	**-**	**-**	**-**	**-**	**13.209**

Remarks:

The Joint Service General Purpose Mask (JSGPM) family of systems is a lightweight, protective Nuclear Biological Chemical (NBC) mask system. It incorporates state-of-the-art technology to protect the U.S. Joint Forces from anticipated threats. The JSGPM provides above-the-neck, head/eye/respiratory protection against Chemical and Biological (CB) agents, radioactive particles, and Toxic Industrial Materials (TIMs). The mask design is optimized to minimize impact on the wearer's performance, and to maximize its ability to interface with fielded and future Joint Service equipment and protective clothing. The JSGPM mask system replaces the M40/M42 series of masks for Army and Marine ground and combat vehicle operations and the MCU-2/P series for Air Force and Navy ground and shipboard applications. In addition, the JSGPM replaces the M45 mask in the Land Warrior program. This can significantly reduce the number of masks that will have to be logistically supported by the Department of Defense. The M50 is the ground/ship version of the JSGPM, the M51 is the combat vehicle crewman version of the JSGPM, and the M53 is the special operations version of the JSGPM, and the M53A1 is the National Institute for Occupational Safety and Health (NIOSH) certified variant approved for both military and domestic response missions.

Note: The FY18 contract delay was mainly due to the six months it took legal to review and provide their acceptance. The sole-source proposal came in on 27 Nov 2018, on time. Everything is currently on schedule for March award.

The spares that were purchased in FY18 were filters, voice amplifiers, drink tube adapters (for fit test) and sizing tools that are required as part of the Army fielding package for the M50/M51 mask systems. The Army fielding plan requires replacement filters for each mask system and one voice amplifier unit for every ten mask systems fielded. In addition, each unit is fielded two adapters and two sizing tools in order to properly fit the mask to the user. The quantity purchased covers the remaining requirements to complete Army fielding of the M50/M51.

Justification: FY20 funds procure 2,250 JSGPM Ground/Ship (M53A1) masks, training, initial spares, and total package fielding to support Army requirements.

(†) indicates the presence of a P-5a

Exhibit P-5a, Procurement History and Planning: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	P-1 Line Item Number / Title: 8001PH1000 / CB Protection & Hazard Mitigation	Item Number / Title [DODIC]: JI0003 / JOINT SERVICE GENERAL PURPOSE MASK (JSGPM)

Cost Elements	OCO	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost ($ K)	Specs Avail Now?	Date Revision Available	RFP Issue Date
JSGPM - Ground/Ship (M50)		2017	AVON Protection Systems Inc. / Cadillac, MI	C / FPIF	RDECOM, APG, MD	Nov 2016 (5)	Mar 2017	154,547	0.263	Y		
JSGPM - Ground/Ship (M50)		2018	AVON Protection Systems Inc. / Cadillac, MI	C / FPIF	RDECOM, APG, MD	Jan 2018 (6)	Mar 2018	101,687	0.289	Y		
JSGPM - Ground/Ship (M53A1)(†)		2018	AVON Protection Systems Inc. / Cadillac, MI	SS / FFP	RDECOM, APG, MD	Mar 2019	Sep 2019	1,787	2.701	Y		
JSGPM - Ground/Ship (M53A1)(†)		2019	AVON Protection Systems Inc. / Cadillac, MI	SS / FFP	RDECOM, APG, MD	Mar 2019	Sep 2019	3,230	2.700	Y		
JSGPM - Ground/Ship (M53A1)(†)		2020	AVON Protection Systems Inc. / Cadillac, MI	SS / FFP	RDECOM, APG, MD	Nov 2019	Apr 2020	2,250	2.750	Y		

(†) indicates the presence of a P-21

Footnotes:

(5) Delivery Order

(6) Delivery Order

Exhibit P-21, Production Schedule: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 8001PH1000 / CB Protection & Hazard Mitigation	**Item Number / Title [DODIC]:** JI0003 / JOINT SERVICE GENERAL PURPOSE MASK (JSGPM)

Cost Elements (Units in Each)							Fiscal Year 2017												Fiscal Year 2018												BALANCE
										Calendar Year 2017														Calendar Year 2018									
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2016	BAL DUE AS OF 1 OCT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
JSGPM - Ground/Ship (M53A1)																															
	1	2018	CBDP	1,787	0	1,787																									1,787
Secondary Distribution			*ARMY*	*1,787*	*0*	*1,787*																									*1,787*
	2	2019	CBDP	3,230	0	3,230																									3,230
Secondary Distribution			*ARMY*	*3,230*	*0*	*3,230*																									*3,230*
	2	2020	CBDP	2,250	0	2,250																									2,250
Secondary Distribution			*ARMY*	*2,250*	*0*	*2,250*																									*2,250*
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	

Exhibit P-21, Production Schedule: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 8001PH1000 / CB Protection & Hazard Mitigation	**Item Number / Title [DODIC]:** JI0003 / JOINT SERVICE GENERAL PURPOSE MASK (JSGPM)

Cost Elements (Units in Each)							Fiscal Year 2019												Fiscal Year 2020												BALANCE
										Calendar Year 2019														Calendar Year 2020									
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2018	BAL DUE AS OF 1 OCT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
JSGPM - Ground/Ship (M53A1)																															
	1	2018	CBDP	1,787	0	1,787						A	-	-	-	-	-	1,787													0
Secondary Distribution			*ARMY*	*1,787*	*0*	*1,787*						*A*	-	-	-	-	-	*1,787*													*0*
	2	2019	CBDP	3,230	0	3,230						A	-	-	-	-	-	3,230													0
Secondary Distribution			*ARMY*	*3,230*	*0*	*3,230*						*A*	-	-	-	-	-	*3,230*													*0*
	2	2020	CBDP	2,250	0	2,250														A	-	-	-	-	-	2,250					0
Secondary Distribution			*ARMY*	*2,250*	*0*	*2,250*														*A*	-	-	-	-	-	*2,250*					*0*
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		

Exhibit P-21, Production Schedule: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 8001PH1000 / CB Protection & Hazard Mitigation	**Item Number / Title [DODIC]:** JI0003 / JOINT SERVICE GENERAL PURPOSE MASK (JSGPM)

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Month)			Procurement Leadtime (Months)							
					Initial				Reorder			
		MSR For 2020	1-8-5 For 2020	MAX For 2020	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	AVON Protection Systems Inc. - Cadillac, MI	8,333	17,000	21,554	0	3	10	13	0	3	2	5
2	AVON Protection Systems Inc. - Cadillac, MI	1,000	2,566	10,267	0	5	6	11	0	1	5	6

Remarks:
Production rates are monthly for all manufacturers

(‡) Delivery rows marked with this symbol indicate that they are funded through a separate Line Item. See the respective components' exhibits for details, including the full delivery schedule.
"A" in the Delivery Schedule indicates the Contract Award Date.
Note: Due to space limitations, quantities in the Exhibit P-21 delivery calendar are truncated and rounded based on the maximum quantity in the calendar as follows. If the maximum quantity is less than or equal to than 9,999, all quantities are shown as each. If the maximum quantity is between 10,000 and 999,999 all quantities are shown in thousands. If the maximum quantity is between 1,000,000 and 999,999,999 all quantities are shown in millions (rounded to the nearest thousand).If the maximum quantity is equal or greater than 1,000,000,000 all quantities are shown in billions (rounded to the nearest million).

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 8001PH1000 / CB Protection & Hazard Mitigation	**Item Number / Title [DODIC]:** MA0401 / CBRN UNIFORM INTEGRATED PROTECTION ENSEMBLE (UIPE)
ID Code (A=Service Ready, B=Not Service Ready) : A		**MDAP/MAIS Code:**

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity *(Units in Each)*	-	-	-	-	-	-
Gross/Weapon System Cost *($ in Millions)*	48.511	10.508	13.064	9.984	-	9.984
Less PY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Net Procurement (P-1) *($ in Millions)*	48.511	10.508	13.064	9.984	-	9.984
Plus CY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Total Obligation Authority *($ in Millions)*	**48.511**	**10.508**	**13.064**	**9.984**	**-**	**9.984**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)						
Initial Spares *($ in Millions)*	-	-	-	-	-	-
Gross/Weapon System Unit Cost *($ in Thousands)*	-	-	-	-	-	-

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)
Hardware Cost																		
Recurring Cost																		
Prior/Future combined efforts	-	-	37.255	-	-	0.000	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
Production Lot Testing	-	-	0.000	-	-	0.379	-	-	0.264	-	-	0.140	-	-	-	-	-	0.140
UIPE 1 - Ensembles - FRP(†)	-	-	11.256	0.449	19,061	8.560	0.503	14,275	7.180	0.522	15,450	8.070	-	-	-	0.522	15,450	8.070
Subtotal: Recurring Cost	-	-	*48.511*	-	-	*8.939*	-	-	*7.444*	-	-	*8.210*	-	-	-	-	-	*8.210*
Subtotal: Hardware Cost	**-**	**-**	***48.511***	**-**	**-**	***8.939***	**-**	**-**	***7.444***	**-**	**-**	***8.210***	**-**	**-**	**-**	**-**	**-**	***8.210***
Support Cost																		
Ancillary Equipment	-	-	0.000	-	-	0.000	-	-	3.782	-	-	0.100	-	-	-	-	-	0.100
Program Management	-	-	0.000	-	-	0.795	-	-	1.574	-	-	1.574	-	-	-	-	-	1.574
Engineering Support	-	-	0.000	-	-	0.774	-	-	0.264	-	-	0.100	-	-	-	-	-	0.100
Subtotal: Support Cost	**-**	**-**	***0.000***	**-**	**-**	***1.569***	**-**	**-**	***5.620***	**-**	**-**	***1.774***	**-**	**-**	**-**	**-**	**-**	***1.774***
Gross/Weapon System Cost	**-**	**-**	**48.511**	**-**	**-**	**10.508**	**-**	**-**	**13.064**	**-**	**-**	**9.984**	**-**	**-**	**-**	**-**	**-**	**9.984**

Remarks:
The Uniform Integrated Protection Ensemble (UIPE) Increment 1 is a Chemical, Biological, Radiological, Nuclear (CBRN) protective system offering the capability to select a tailored material solution based on the expected threat level commensurate with operational mission requirements. Where appropriate, a family of systems approach that meets the scope of UIPE individual protection capability needs will be utilized. The objective of UIPE is to fully integrate CBRN and toxic industrial material (TIM) protections into an ensemble, identical in fit and form to the combat uniform (including ancillary equipment, mask -

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 8001PH1000 / CB Protection & Hazard Mitigation	**Item Number / Title [DODIC]:** MA0401 / CBRN UNIFORM INTEGRATED PROTECTION ENSEMBLE (UIPE)
ID Code (A=Service Ready, B=Not Service Ready) : A		**MDAP/MAIS Code:**

helmet integration, and protective boots and gloves), thus negating the need for separate protective ensemble components. This integrated protection approach will result in increased warfighter operational performance in a CBRN environment. The UIPE program will develop, integrate, test, procure and field incremental capability solutions that are modular in function and offer improvements in form and fit over current systems; the program will explore trade-space in areas such as protection level, heat stress, durability, antimicrobial properties, flame resistance, launderability, self-detoxification, and protection time in order to provide capabilities that afford maximum utility to the warfighter. Where appropriate modeling and simulation tools will be used to lower UIPE program risks, reduce costs, and ensure a high confidence in selected technologies. UIPE 1 is aimed specifically at providing enhanced individual protection capabilities to the warfighter through reduction of physiological and psychological effects associated with CBRN protective garment thermal burden, weight, and bulk. The UIPE program will consider modernization in order to ensure that the warfighter retains access to state of the art capability to support future operational mission requirements. The UIPE Increment 1 protective system offers the capability to select a tailored material solution based on the expected threat level commensurate with operational mission requirements. This ability to tailor the type and level of the protective system will result in optimized protection, thereby minimizing physiological and psychological burdens associated with the weight, bulk, thermal strain, and encumbrance of wearing CBRN protective equipment on the Warfighter and affording the lowest impact on the operational mission.

Justification: FY20 procures 15,450 UIPE Increment 1 garments to meet Joint Service CBRN equipment requirements. FY20 also provides production lot testing, ancillary equipment (socks, gloves, and neck dams), and engineering support.

RDT&E Code B Item: 0603884BP/Proj IP4; 0604384BP/Proj IP5

DEVELOPMENT/TEST STATUS AND MAJOR MILESTONES

UIPE - Full Rate Production: Jan 2014
UIPE - SOCOM IOC: Jun 2016
UIPE - SOCOM FOC: Sep 2022

(†) indicates the presence of a P-5a

Exhibit P-5a, Procurement History and Planning: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 8001PH1000 / CB Protection & Hazard Mitigation	**Item Number / Title [DODIC]:** MA0401 / CBRN UNIFORM INTEGRATED PROTECTION ENSEMBLE (UIPE)

Cost Elements	OCO	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost ($ K)	Specs Avail Now?	Date Revision Available	RFP Issue Date
UIPE 1 - Ensembles - FRP(†)		2018	Tennessee Apparel Corporation / Tullahoma, TN	C / FFP	RDECOM, Natick, MA	Nov 2017 (7)	Mar 2018	19,061	0.449	Y		
UIPE 1 - Ensembles - FRP(†)		2019	Tennessee Apparel Corporation / Tullahoma, TN	C / FFP	RDECOM, Natick, MA	Dec 2018 (8)	Jan 2019	14,275	0.503	Y		
UIPE 1 - Ensembles - FRP(†)		2020	Tennessee Apparel Corporation / Tullahoma, TN	C / FFP	RDECOM, Natick, MA	Nov 2019	Dec 2019	15,450	0.522	Y		

(†) indicates the presence of a P-21

Footnotes:
(7) Delivery Order
(8) Delivery Order

Exhibit P-21, Production Schedule: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 8001PH1000 / CB Protection & Hazard Mitigation	**Item Number / Title [DODIC]:** MA0401 / CBRN UNIFORM INTEGRATED PROTECTION ENSEMBLE (UIPE)

Cost Elements (Units in Thousands)							Fiscal Year 2018												Fiscal Year 2019										BALANCE
										Calendar Year 2018														Calendar Year 2019									
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2017	BAL DUE AS OF 1 OCT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
UIPE 1 - Ensembles - FRP																													
	1	2018	CBDP	19.061	.000	19.061		A -	-	-	-	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	1.061									.000
Secondary Distribution			*SOCOM*	*19.061*	*.000*	*19.061*		*A -*	-	-	-	*2.000*	*2.000*	*2.000*	*2.000*	*2.000*	*2.000*	*2.000*	*2.000*	*2.000*	*1.061*									*.000*
	1	2019	CBDP	14.275	.000	14.275															A -	1.300	1.300	1.300	1.300	1.300	1.300	1.300	1.300	1.300	2.575
Secondary Distribution			*SOCOM*	*14.275*	*.000*	*14.275*															*A -*	*1.300*	*1.300*	*1.300*	*1.300*	*1.300*	*1.300*	*1.300*	*1.300*	*1.300*	*2.575*
	1	2020	CBDP	15.450	.000	15.450																									15.450
Secondary Distribution			*SOCOM*	*15.450*	*.000*	*15.450*																									*15.450*
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	

Exhibit P-21, Production Schedule: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 8001PH1000 / CB Protection & Hazard Mitigation	**Item Number / Title [DODIC]:** MA0401 / CBRN UNIFORM INTEGRATED PROTECTION ENSEMBLE (UIPE)

Cost Elements (Units in Thousands)							Fiscal Year 2020												Fiscal Year 2021												BALANCE
										Calendar Year 2020														Calendar Year 2021									
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2019	BAL DUE AS OF 1 OCT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
UIPE 1 - Ensembles - FRP																															
	1	2018	CBDP	19.061	19.061	.000																									.000
Secondary Distribution			*SOCOM*	*19.061*	*19.061*	*.000*																									*.000*
	1	2019	CBDP	14.275	11.700	2.575	1.300	1.275																							.000
Secondary Distribution			*SOCOM*	*14.275*	*11.700*	*2.575*	*1.300*	*1.275*																							*.000*
	1	2020	CBDP	15.450	.000	15.450		A -	1.322	1.322	1.322	1.322	1.322	1.322	1.322	1.322	1.322	1.322	1.322	.908											.000
Secondary Distribution			*SOCOM*	*15.450*	*.000*	*15.450*		*A -*	*1.322*	*1.322*	*1.322*	*1.322*	*1.322*	*1.322*	*1.322*	*1.322*	*1.322*	*1.322*	*1.322*	*.908*											*.000*
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	

Exhibit P-21, Production Schedule: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 8001PH1000 / CB Protection & Hazard Mitigation	**Item Number / Title [DODIC]:** MA0401 / CBRN UNIFORM INTEGRATED PROTECTION ENSEMBLE (UIPE)

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Month)			Procurement Leadtime (Months)							
					Initial				Reorder			
		MSR For 2020	1-8-5 For 2020	MAX For 2020	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	Tennessee Apparel Corporation - Tullahoma, TN	1,300	4,000	6,000	0	4	4	8	0	0	1	1

Remarks:
Production rates are monthly for all manufacturers

(‡) Delivery rows marked with this symbol indicate that they are funded through a separate Line Item. See the respective components' exhibits for details, including the full delivery schedule.
"A" in the Delivery Schedule indicates the Contract Award Date.
Note: Due to space limitations, quantities in the Exhibit P-21 delivery calendar are truncated and rounded based on the maximum quantity in the calendar as follows. If the maximum quantity is less than or equal to than 9,999, all quantities are shown as each. If the maximum quantity is between 10,000 and 999,999 all quantities are shown in thousands. If the maximum quantity is between 1,000,000 and 999,999,999 all quantities are shown in millions (rounded to the nearest thousand).If the maximum quantity is equal or greater than 1,000,000,000 all quantities are shown in billions (rounded to the nearest million).

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 8001PH1000 / CB Protection & Hazard Mitigation	**Item Number / Title [DODIC]:** JP1111 / JOINT EXPEDITIONARY COLLECTIVE PROTECTION (JECP)
ID Code (A=Service Ready, B=Not Service Ready) : B		**MDAP/MAIS Code:**

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity *(Units in Each)*	-	-	-	-	-	-
Gross/Weapon System Cost *($ in Millions)*	19.814	9.607	22.752	13.570	-	13.570
Less PY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Net Procurement (P-1) *($ in Millions)*	19.814	9.607	22.752	13.570	-	13.570
Plus CY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Total Obligation Authority *($ in Millions)*	**19.814**	**9.607**	**22.752**	**13.570**	**-**	**13.570**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)						
Initial Spares *($ in Millions)*	-	-	-	-	-	-
Gross/Weapon System Unit Cost *($ in Thousands)*	-	-	-	-	-	-

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*
Hardware Cost																		
Recurring Cost																		
Prior/Future combined efforts	-	-	19.814	-	-	0.000	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
TENT KIT 2(†)	-	-	0.000	-	-	0.000	180.000	29	5.220	185.000	10	1.850	-	-	-	185.000	10	1.850
STRUCTURE KIT IMPROVED(†)	-	-	0.000	138.939	33	4.585	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
TENT STANDALONE LARGE - STANDALONE SHELTER LARGE(†)	-	-	0.000	245.600	5	1.228	300.000	42	12.600	307.000	21	6.447	-	-	-	307.000	21	6.447
TENT STANDALONE LARGE - GFE GENERATORS	-	-	0.000	34.600	5	0.173	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
Engineer Changes/ Modifications	-	-	0.000	-	-	0.118	-	-	0.059	-	-	0.059	-	-	-	-	-	0.059
Subtotal: Recurring Cost	-	-	*19.814*	-	-	*6.104*	-	-	*17.879*	-	-	*8.356*	-	-	-	-	-	*8.356*
Subtotal: Hardware Cost	**-**	**-**	***19.814***	**-**	**-**	***6.104***	**-**	**-**	***17.879***	**-**	**-**	***8.356***	**-**	**-**	**-**	**-**	**-**	***8.356***
Package Fielding Cost																		
Recurring Cost																		
Training / Fielding / CLS	-	-	0.000	-	-	0.910	-	-	1.352	-	-	2.633	-	-	-	-	-	2.633
Subtotal: Recurring Cost	-	-	*0.000*	-	-	*0.910*	-	-	*1.352*	-	-	*2.633*	-	-	-	-	-	*2.633*

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 8001PH1000 / CB Protection & Hazard Mitigation	**Item Number / Title [DODIC]:** JP1111 / JOINT EXPEDITIONARY COLLECTIVE PROTECTION (JECP)
ID Code (A=Service Ready, B=Not Service Ready) : B		**MDAP/MAIS Code:**

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)
Subtotal: Package Fielding Cost	**-**	**-**	***0.000***	**-**	**-**	***0.910***	**-**	**-**	***1.352***	**-**	**-**	***2.633***	**-**	**-**	**-**	**-**	**-**	***2.633***
Logistics Cost																		
Recurring Cost																		
Spares	-	-	0.000	-	-	0.034	-	-	0.008	-	-	0.070	-	-	-	-	-	0.070
Technical Data	-	-	0.000	-	-	0.542	-	-	0.075	-	-	0.080	-	-	-	-	-	0.080
Subtotal: Recurring Cost	-	-	*0.000*	-	-	*0.576*	-	-	*0.083*	-	-	*0.150*	-	-	-	-	-	*0.150*
Subtotal: Logistics Cost	**-**	**-**	***0.000***	**-**	**-**	***0.576***	**-**	**-**	***0.083***	**-**	**-**	***0.150***	**-**	**-**	**-**	**-**	**-**	***0.150***
Support Cost																		
Program Management and Support	-	-	0.000	-	-	1.092	-	-	2.525	-	-	1.506	-	-	-	-	-	1.506
Systems Engineering	-	-	0.000	-	-	0.925	-	-	0.913	-	-	0.925	-	-	-	-	-	0.925
Subtotal: Support Cost	**-**	**-**	***0.000***	**-**	**-**	***2.017***	**-**	**-**	***3.438***	**-**	**-**	***2.431***	**-**	**-**	**-**	**-**	**-**	***2.431***
Gross/Weapon System Cost	**-**	**-**	**19.814**	**-**	**-**	**9.607**	**-**	**-**	**22.752**	**-**	**-**	**13.570**	**-**	**-**	**-**	**-**	**-**	**13.570**

Remarks:

Joint Expeditionary Collective Protection (JECP) provides the Joint expeditionary forces a Collective Protection (CP) capability which is lightweight, compact, modular, and affordable. The JECP Family of Systems (FoS) include tent kits, structure kits, and standalone shelters that allow the application of CP to transportable soft-side shelters, enclosed spaces of opportunity, and remote austere locations as a standalone resource. JECP is capable of protecting personnel groups of varying size, unencumbered by Individual Protective Equipment (IPE), from effects of Chemical and Biological (CB) agents, Radiological (R) particles, Toxic Industrial Materials (TIMs), heat, dust, and sand.

Tent kits consist of a CB protective liner or a tent system containing CB protective material, airlock system, and a CB filtration blower system. Tent Kit-1 and Tent Kit-3 interface with the US Navy's Base-X general purpose tents and all organic Base-X equipment including the Environmental Control Unit (ECU) and power systems. Tent Kit-2 (TK2) interfaces with the Air Force Small Shelter System (ASSS) general purpose tents and all organic ASSS equipment including the ECU and power systems. Tent Kit Single Skin interfaces with Air Force organic equipment including an ECU and power systems.

Structure kits may include a floor less CB protective liner or a CB protective liner with a floor, an airlock system, and a CB filtration blower system. Structure Kit-Improved (SK-I) is retrofitted to structures such as office buildings, warehouses, or hangars that provide coherent walls and roofing, ventilation systems, doors and windows, and power. Structure Kit-Unimproved (SK-UI) are retrofitted to structures such as huts, sheds or other rudimentary structures that do not have any available electrical power but provide environmental and other basic elemental protection. This configuration uses a passive CP system relying on natural airflow through CB protective filtration panels.

Standalone Large (SA-L) shelter is an all-encompassing active CP shelter for up to 20 people. SA-L provides a general purpose tent system, CB protective liner, an airlock system, a CB filtration blower system, an ECU and all necessary power and ancillary equipment.

Justification: FY20 procures 31 JECP systems in the following configurations: 10 TK2s, and 21 SA-Ls to support Initial Operational Capability (IOC) in FY21 and Full Operational Capability (FOC) in FY30.

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 8001PH1000 / CB Protection & Hazard Mitigation	**Item Number / Title [DODIC]:** JP1111 / JOINT EXPEDITIONARY COLLECTIVE PROTECTION (JECP)
ID Code (A=Service Ready, B=Not Service Ready) : B		**MDAP/MAIS Code:**

RDT&E Code B Item: 0604384BP/Proj CO5; 0607384BP/Proj CO7

CO5/JECP: RDT&E FY2017 and Prior - 116.542M; FY2018 - 4.083M; FY2019 - 5.972M; FY2020 - 6.445M; FY2021 - 6.918M; FY2022 - 1.497M
CO7/JECP: RDT&E FY2017 and Prior - 3.448M; FY2018 - 3.628M; FY2019 - 2.824M; FY2020 - 1.997M

DEVELOPMENT/TEST STATUS AND MAJOR MILESTONES

JECP - Phase 1 Full Rate Production Decision: Dec 2016
JECP - Phase 1 Type Classification/Materiel Release Decision: Nov 2017
JECP - Phase 2 Full Rate Production Decision/Type Classification/Materiel Release: Mar 2021
JECP - Initial Operational Capability: Sep 2021
JECP - Full Operational Capability: Sep 2030

P5: Unit cost increases for JECP will change depending on the number and type of variant procured and whether the vendor has to procure additional chemical biological protective fabric.

(†) indicates the presence of a P-5a

Exhibit P-5a, Procurement History and Planning: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	P-1 Line Item Number / Title: 8001PH1000 / CB Protection & Hazard Mitigation	Item Number / Title [DODIC]: JP1111 / JOINT EXPEDITIONARY COLLECTIVE PROTECTION (JECP)

Cost Elements	OCO	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost ($ K)	Specs Avail Now?	Date Revision Available	RFP Issue Date
TENT KIT 2		2019	TBD / UNKNOWN	C / FFP	Aberdeen, MD	Apr 2019 (9)	Nov 2020	29	180.000	Y		
TENT KIT 2		2020	TBD / UNKNOWN	C / FFP	Aberdeen, MD	Jan 2020	Jul 2020	10	185.000	Y		
STRUCTURE KIT IMPROVED		2018	Leidos / Abingdon, MD	C / FPIF	Aberdeen, MD	Apr 2018	Nov 2019	33	138.939	Y		
TENT STANDALONE LARGE - STANDALONE SHELTER LARGE(†)		2018	Leidos / Abingdon, MD	C / FPIF	Aberdeen, MD	Apr 2018	Jan 2019	5	245.600	Y		
TENT STANDALONE LARGE - STANDALONE SHELTER LARGE(†)		2019	TBD / UNKNOWN	C / FFP	Aberdeen, MD	Apr 2019	Nov 2019	42	300.000	Y		
TENT STANDALONE LARGE - STANDALONE SHELTER LARGE(†)		2020	TBD / UNKNOWN	C / FFP	Aberdeen, MD	Jan 2020	Jul 2020	21	307.000	Y		

(†) indicates the presence of a P-21

Remarks:
FY19 units will be procured using a new production contract therefore the FY19 and FY20 unit cost are estimated at this time and may change when contract is awarded.

Footnotes:
(9) - FRP Option

Exhibit P-21, Production Schedule: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 8001PH1000 / CB Protection & Hazard Mitigation	**Item Number / Title [DODIC]:** JP1111 / JOINT EXPEDITIONARY COLLECTIVE PROTECTION (JECP)

Cost Elements (Units in Each)							Fiscal Year 2018												Fiscal Year 2019											BALANCE
										Calendar Year 2018														Calendar Year 2019								
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2017	BAL DUE AS OF 1 OCT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
TENT STANDALONE LARGE - STANDALONE SHELTER LARGE																														
	2	2018	CBDP	5	0	5							A	-	-	-	-	-	-	-	-	5									0
Secondary Distribution			*ARMY*	*5*	*0*	*5*							*A*	-	-	-	-	-	-	-	-	*5*									*0*
	1	2019	CBDP	42	0	42																			A	-	-	-	-	-	42
Secondary Distribution			*ARMY*	*42*	*0*	*42*																			*A*	-	-	-	-	-	*42*
	1	2020	CBDP	21	0	21																									21
Secondary Distribution			*ARMY*	*21*	*0*	*21*																									*21*

Exhibit P-21, Production Schedule: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 8001PH1000 / CB Protection & Hazard Mitigation	**Item Number / Title [DODIC]:** JP1111 / JOINT EXPEDITIONARY COLLECTIVE PROTECTION (JECP)

Cost Elements (Units in Each)							Fiscal Year 2020												Fiscal Year 2021												BALANCE
							Calendar Year 2020												Calendar Year 2021													
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2019	BAL DUE AS OF 1 OCT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
TENT STANDALONE LARGE - STANDALONE SHELTER LARGE																														
	2	2018	CBDP	5	5	0																									0
Secondary Distribution			*ARMY*	*5*	*5*	*0*																									*0*
	1	2019	CBDP	42	0	42	-	5	5	5	5	5	5	5	7																0
Secondary Distribution			*ARMY*	*42*	*0*	*42*	*-*	*5*	*5*	*5*	*5*	*5*	*5*	*5*	*7*																*0*
	1	2020	CBDP	21	0	21				A -	-	-	-	-	-	5	5	5	6												0
Secondary Distribution			*ARMY*	*21*	*0*	*21*				*A -*	*-*	*-*	*-*	*-*	*-*	*5*	*5*	*5*	*6*												*0*

Exhibit P-21, Production Schedule: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 8001PH1000 / CB Protection & Hazard Mitigation	**Item Number / Title [DODIC]:** JP1111 / JOINT EXPEDITIONARY COLLECTIVE PROTECTION (JECP)

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Month)			Procurement Leadtime (Months)							
					Initial				Reorder			
		MSR For 2020	1-8-5 For 2020	MAX For 2020	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	TBD - UNKNOWN	5	20	45	0	3	6	9	0	3	6	9
2	Leidos - Abingdon, MD	5	20	45	0	6	9	15	0	3	5	8

Remarks:
Production rates assume each system is manufactured exclusive of the other systems. ** Production rates are monthly for all manufacturers

(‡) Delivery rows marked with this symbol indicate that they are funded through a separate Line Item. See the respective components' exhibits for details, including the full delivery schedule.
"A" in the Delivery Schedule indicates the Contract Award Date.
Note: Due to space limitations, quantities in the Exhibit P-21 delivery calendar are truncated and rounded based on the maximum quantity in the calendar as follows. If the maximum quantity is less than or equal to than 9,999, all quantities are shown as each. If the maximum quantity is between 10,000 and 999,999 all quantities are shown in thousands. If the maximum quantity is between 1,000,000 and 999,999,999 all quantities are shown in millions (rounded to the nearest thousand).If the maximum quantity is equal or greater than 1,000,000,000 all quantities are shown in billions (rounded to the nearest million).

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 8001PH1000 / CB Protection & Hazard Mitigation	**Item Number / Title [DODIC]:** R12301 / CB PROTECTIVE SHELTER (CBPS)
ID Code (A=Service Ready, B=Not Service Ready) : A		**MDAP/MAIS Code:**

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity *(Units in Each)*	-	-	-	-	-	-
Gross/Weapon System Cost *($ in Millions)*	39.774	16.262	17.673	17.622	-	17.622
Less PY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Net Procurement (P-1) *($ in Millions)*	39.774	16.262	17.673	17.622	-	17.622
Plus CY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Total Obligation Authority *($ in Millions)*	**39.774**	**16.262**	**17.673**	**17.622**	**-**	**17.622**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)						
Initial Spares *($ in Millions)*	-	-	-	-	-	-
Gross/Weapon System Unit Cost *($ in Thousands)*	-	-	-	-	-	-

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)
Hardware Cost																		
Recurring Cost																		
Prior/Future combined efforts	-	-	31.429	-	-	0.000	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
CBPS UP-ARMORED(†)	927.222	9	8.345	990.500	6	5.943	961.125	8	7.689	1,190.714	7	8.335	-	-	-	1,190.714	7	8.335
Government Furnished Material	-	-	0.000	-	-	0.658	-	-	0.457	-	-	0.670	-	-	-	-	-	0.670
Subtotal: Recurring Cost	-	-	*39.774*	-	-	*6.601*	-	-	*8.146*	-	-	*9.005*	-	-	-	-	-	*9.005*
Subtotal: Hardware Cost	**-**	**-**	***39.774***	**-**	**-**	***6.601***	**-**	**-**	***8.146***	**-**	**-**	***9.005***	**-**	**-**	**-**	**-**	**-**	***9.005***
Package Fielding Cost																		
Recurring Cost																		
Total Package Fielding (spares)	-	-	0.000	-	-	0.427	-	-	1.183	-	-	0.740	-	-	-	-	-	0.740
Subtotal: Recurring Cost	-	-	*0.000*	-	-	*0.427*	-	-	*1.183*	-	-	*0.740*	-	-	-	-	-	*0.740*
Subtotal: Package Fielding Cost	**-**	**-**	***0.000***	**-**	**-**	***0.427***	**-**	**-**	***1.183***	**-**	**-**	***0.740***	**-**	**-**	**-**	**-**	**-**	***0.740***
Logistics Cost																		
Recurring Cost																		
Care of Supplies in Storage	-	-	0.000	-	-	2.181	-	-	2.748	-	-	1.833	-	-	-	-	-	1.833
Integrated Logistics Support	-	-	0.000	-	-	0.904	-	-	0.520	-	-	0.909	-	-	-	-	-	0.909

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 8001PH1000 / CB Protection & Hazard Mitigation	**Item Number / Title [DODIC]:** R12301 / CB PROTECTIVE SHELTER (CBPS)
ID Code (A=Service Ready, B=Not Service Ready) : A		**MDAP/MAIS Code:**

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)
New Equipment Training	-	-	0.000	-	-	1.197	-	-	1.210	-	-	1.004	-	-	-	-	-	1.004
Subtotal: Recurring Cost	-	-	*0.000*	-	-	*4.282*	-	-	*4.478*	-	-	*3.746*	-	-	-	-	-	*3.746*
Subtotal: Logistics Cost	**-**	**-**	***0.000***	**-**	**-**	***4.282***	**-**	**-**	***4.478***	**-**	**-**	***3.746***	**-**	**-**	**-**	**-**	**-**	***3.746***
Support Cost																		
Engineering Support	-	-	0.000	-	-	0.832	-	-	1.904	-	-	1.339	-	-	-	-	-	1.339
Management Support	-	-	0.000	-	-	2.356	-	-	1.962	-	-	2.792	-	-	-	-	-	2.792
ColPro System Repairs	-	-	0.000	-	-	1.764	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
Subtotal: Support Cost	**-**	**-**	***0.000***	**-**	**-**	***4.952***	**-**	**-**	***3.866***	**-**	**-**	***4.131***	**-**	**-**	**-**	**-**	**-**	***4.131***
Gross/Weapon System Cost	**-**	**-**	**39.774**	**-**	**-**	**16.262**	**-**	**-**	**17.673**	**-**	**-**	**17.622**	**-**	**-**	**-**	**-**	**-**	**17.622**

Remarks:

The Chemical and Biological Protective Shelter (CBPS) satisfies The Services need for a highly mobile, self-contained collective protection system which can provide a contamination free working area for Echelon I and II medical treatment facilities and other selected units. The system consists of a Collectively Protected (CP) shelter modularized and integrated into a service selected prime-mover. The system is completely self contained, self powered, mobile, and adaptable to a variety of missions. CBPS relieves medical, combat service, and combat service support personnel from wearing chemical and biological protective clothing. The system is capable of operating continuously for 72 hours providing a contamination free environmentally controlled working area.

The Army will continue to provide Other Procurement, Army (OPA) funds to support continued future production.

Justification: FY20 procures 7 CBPS CB modules, provides total package fielding, new equipment training, and engineering support.

DEVELOPMENT/TEST STATUS AND MAJOR MILESTONES

CBPS - First Unit Equipped (FUE): Mar 2003
CBPS - Urgent Materiel Release (UMR): Mar 2003
CBPS - M8 Full Materiel Release (Jun 2003 to Dec 2003)
CBPS - Contract Award (M8E1): Mar 2006
CBPS - M8E1 Contract MOD (Up-armor-M8E1) (Jun 2006 to Sep 2006)
CBPS - M8E1 Contract MOD (2-Primes--M8E1): Mar 2008
CBPS - M8E1 First Article Test (FAT) (Dec 2009 to Jun 2010)
CBPS - M8E1 Production (Sep 2010 to Sep 2016)
CBPS - M8E1 Production (Organic): Jan 2016

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 8001PH1000 / CB Protection & Hazard Mitigation	**Item Number / Title [DODIC]:** R12301 / CB PROTECTIVE SHELTER (CBPS)
ID Code (A=Service Ready, B=Not Service Ready) : A		**MDAP/MAIS Code:**

P5: Unit costs for CBPS will increase or decrease depending on the number of systems procured.

(†) indicates the presence of a P-5a

Exhibit P-5a, Procurement History and Planning: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	P-1 Line Item Number / Title: 8001PH1000 / CB Protection & Hazard Mitigation	Item Number / Title [DODIC]: R12301 / CB PROTECTIVE SHELTER (CBPS)

Cost Elements	OCO	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost ($ K)	Specs Avail Now?	Date Revision Available	RFP Issue Date
CBPS UP-ARMORED(†)		2017	Pine Bluff Arsenal / Pine Bluff, AR	PO	Not Applicable	Jun 2017	Dec 2017	9	927.222	Y		
CBPS UP-ARMORED(†)		2018	Pine Bluff Arsenal / Pine Bluff, AR	PO	Not Applicable	Jan 2018	Mar 2019	6	990.500	Y		
CBPS UP-ARMORED(†)		2019	Pine Bluff Arsenal / Pine Bluff, AR	PO	Not Applicable	Dec 2018	Oct 2019	8	961.125	Y		
CBPS UP-ARMORED(†)		2020	Pine Bluff Arsenal / Pine Bluff, AR	PO	Not Applicable	Jan 2020	Jan 2021	7	1,189.286	Y		

(†) indicates the presence of a P-21

Remarks:
FY20 unit cost increase attributed to standard inflation and reduction in total yearly production quantities between PDW and OPA funds.

Exhibit P-21, Production Schedule: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 8001PH1000 / CB Protection & Hazard Mitigation	**Item Number / Title [DODIC]:** R12301 / CB PROTECTIVE SHELTER (CBPS)

Cost Elements (Units in Each)							Fiscal Year 2017												Fiscal Year 2018												BALANCE
										Calendar Year 2017														Calendar Year 2018									
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2016	BAL DUE AS OF 1 OCT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
CBPS UP-ARMORED																															
	1	2017	CBDP	9	0	9									A -	-	-	-	-	-	3	3	3								0
Secondary Distribution			*ARMY*	*9*	*0*	*9*									*A -*	-	-	-	-	-	*3*	*3*	*3*								*0*
	1	2018	CBDP	6	0	6																A -	-	-	-	-	-	-	-	-	6
Secondary Distribution			*ARMY*	*6*	*0*	*6*																*A -*	-	-	-	-	-	-	-	-	*6*
	1	2019	CBDP	8	0	8																									8
Secondary Distribution			*ARMY*	*8*	*0*	*8*																									*8*
	1	2020	CBDP	7	0	7																									7
Secondary Distribution			*ARMY*	*7*	*0*	*7*																									*7*
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	

Exhibit P-21, Production Schedule: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 8001PH1000 / CB Protection & Hazard Mitigation	**Item Number / Title [DODIC]:** R12301 / CB PROTECTIVE SHELTER (CBPS)

Cost Elements (Units in Each)							Fiscal Year 2019												Fiscal Year 2020													
							Calendar Year 2019												Calendar Year 2020														
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2018	BAL DUE AS OF 1 OCT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	BALANCE
CBPS UP-ARMORED																															
	1	2017	CBDP	9	9	0																									0
Secondary Distribution			*ARMY*	*9*	*9*	*0*																									*0*
	1	2018	CBDP	6	0	6	-	-	-	-	-	4	2																		0
Secondary Distribution			*ARMY*	*6*	*0*	*6*	-	-	-	-	-	*4*	*2*																		*0*
	1	2019	CBDP	8	0	8			A -	-	-	-	-	-	-	-	-	-	3	3	2										0
Secondary Distribution			*ARMY*	*8*	*0*	*8*			*A* -	-	-	-	-	-	-	-	-	-	*3*	*3*	*2*										*0*
	1	2020	CBDP	7	0	7																A -	-	-	-	-	-	-	-	-	7
Secondary Distribution			*ARMY*	*7*	*0*	*7*																*A* -	-	-	-	-	-	-	-	-	*7*

Exhibit P-21, Production Schedule: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 8001PH1000 / CB Protection & Hazard Mitigation	**Item Number / Title [DODIC]:** R12301 / CB PROTECTIVE SHELTER (CBPS)

Cost Elements (Units in Each)							Fiscal Year 2021												Fiscal Year 2022												
										Calendar Year 2021														Calendar Year 2022								
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2020	BAL DUE AS OF 1 OCT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	BALANCE
CBPS UP-ARMORED																														
	1	2017	CBDP	9	9	0																								0
Secondary Distribution			*ARMY*	*9*	*9*	*0*																								*0*
	1	2018	CBDP	6	6	0																								0
Secondary Distribution			*ARMY*	*6*	*6*	*0*																								*0*
	1	2019	CBDP	8	8	0																								0
Secondary Distribution			*ARMY*	*8*	*8*	*0*																								*0*
	1	2020	CBDP	7	0	7	-	-	-	3	3	1																		0
Secondary Distribution			*ARMY*	*7*	*0*	*7*	-	-	-	*3*	*3*	*1*																		*0*
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	

Exhibit P-21, Production Schedule: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 8001PH1000 / CB Protection & Hazard Mitigation	**Item Number / Title [DODIC]:** R12301 / CB PROTECTIVE SHELTER (CBPS)

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Month)			Procurement Leadtime (Months)							
					Initial				Reorder			
		MSR For 2020	1-8-5 For 2020	MAX For 2020	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	Pine Bluff Arsenal - Pine Bluff, AR	1	5	5	0	3	12	15	0	3	12	15

Remarks:
Schedules reflect current contracts which include modifications and system design changes to meet up-armor requirements. ** Production rates are monthly for all manufacturers

(‡) Delivery rows marked with this symbol indicate that they are funded through a separate Line Item. See the respective components' exhibits for details, including the full delivery schedule.
"A" in the Delivery Schedule indicates the Contract Award Date.
Note: Due to space limitations, quantities in the Exhibit P-21 delivery calendar are truncated and rounded based on the maximum quantity in the calendar as follows. If the maximum quantity is less than or equal to than 9,999, all quantities are shown as each. If the maximum quantity is between 10,000 and 999,999 all quantities are shown in thousands. If the maximum quantity is between 1,000,000 and 999,999,999 all quantities are shown in millions (rounded to the nearest thousand).If the maximum quantity is equal or greater than 1,000,000,000 all quantities are shown in billions (rounded to the nearest million).

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 8001PH1000 / CB Protection & Hazard Mitigation	**Item Number / Title [DODIC]:** JD0050 / DECONTAMINATION FAMILY OF SYSTEMS (DFoS)
ID Code (A=Service Ready, B=Not Service Ready) : B		**MDAP/MAIS Code:**

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity *(Units in Each)*	-	-	-	-	-	-
Gross/Weapon System Cost *($ in Millions)*	9.704	3.447	13.035	17.050	-	17.050
Less PY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Net Procurement (P-1) *($ in Millions)*	9.704	3.447	13.035	17.050	-	17.050
Plus CY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Total Obligation Authority *($ in Millions)*	**9.704**	**3.447**	**13.035**	**17.050**	**-**	**17.050**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)						
Initial Spares *($ in Millions)*	-	-	-	-	-	-
Gross/Weapon System Unit Cost *($ in Thousands)*	-	-	-	-	-	-

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)
Hardware Cost																		
Recurring Cost																		
Prior/Future combined efforts	-	-	9.704	-	-	0.000	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
DFoS CIDAS - LARGE SCALE APPLICATOR REUSABLE - Reusable	-	-	0.000	-	-	0.000	4.348	400	1.739	4.436	495	2.196	-	-	-	4.436	495	2.196
DFoS CIDAS - LARGE SCALE APPLICATOR TACTICAL - Tactical	-	-	0.000	-	-	0.000	0.544	364	0.198	-	-	0.000	-	-	-	-	-	0.000
DFoS CIDAS - NERVE INDICATOR KITS LARGE - Large Scale Nerve Training Kits	-	-	0.000	0.536	192	0.103	0.519	1,200	0.623	0.580	317	0.184	-	-	-	0.580	317	0.184
DFoS CIDAS - NERVE INDICATOR KITS LARGE - Large Scale Nerve Kits	-	-	0.000	1.172	192	0.225	1.254	800	1.003	1.393	354	0.493	-	-	-	1.393	354	0.493
DFoS CIDAS - NERVE INDICATOR KITS SMALL - Small Scale Nerve Training Kits	-	-	0.000	0.151	192	0.029	0.155	1,219	0.189	0.172	709	0.122	-	-	-	0.172	709	0.122
DFoS CIDAS - NERVE INDICATOR	-	-	0.000	0.182	192	0.035	0.198	3,200	0.634	0.220	1,862	0.410	-	-	-	0.220	1,862	0.410

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 8001PH1000 / CB Protection & Hazard Mitigation	**Item Number / Title [DODIC]:** JD0050 / DECONTAMINATION FAMILY OF SYSTEMS (DFoS)
ID Code (A=Service Ready, B=Not Service Ready) : B		**MDAP/MAIS Code:**

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)
KITS SMALL - Small Scale Nerve Kits																		
DFoS GPD - DFoS General Purpose Decontaminants	-	-	0.000	-	-	0.000	0.013	300,000	3.813	0.014	291,547	4.081	-	-	-	0.014	291,547	4.081
DFoS JSEW - Equipment Decontamination Wipes	-	-	0.000	0.009	274,080	2.434	0.009	301,260	2.678	0.009	383,770	3.636	-	-	-	0.009	383,770	3.636
DFoS CIDAS Surveillance Testing	-	-	0.000	-	-	0.042	-	-	0.197	-	-	0.050	-	-	-	-	-	0.050
DFoS CIDAS Production Lot Testing	-	-	0.000	-	-	0.000	-	-	0.012	-	-	0.125	-	-	-	-	-	0.125
DFoS GPD Production Lot Testing	-	-	0.000	-	-	0.000	-	-	0.075	-	-	0.415	-	-	-	-	-	0.415
Subtotal: Recurring Cost	-	-	*9.704*	-	-	*2.868*	-	-	*11.161*	-	-	*11.712*	-	-	-	-	-	*11.712*
Non Recurring Cost																		
DFoS GPD Production Line (Organic Line)	-	-	0.000	-	-	0.000	-	-	0.000	-	-	1.000	-	-	-	-	-	1.000
DFoS GPD Packaging Retrofit	-	-	0.000	-	-	0.076	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
Subtotal: Non Recurring Cost	-	-	*0.000*	-	-	*0.076*	-	-	*0.000*	-	-	*1.000*	-	-	-	-	-	*1.000*
Subtotal: Hardware Cost	**-**	**-**	***9.704***	**-**	**-**	***2.944***	**-**	**-**	***11.161***	**-**	**-**	***12.712***	**-**	**-**	**-**	**-**	**-**	***12.712***
Logistics Cost																		
Recurring Cost																		
DFoS CIDAS Transportation and Shipping	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.100	-	-	-	-	-	0.100
DFoS JSEW Contract Delivery Requirements	-	-	0.000	-	-	0.005	-	-	0.065	-	-	0.150	-	-	-	-	-	0.150
Subtotal: Recurring Cost	-	-	*0.000*	-	-	*0.005*	-	-	*0.065*	-	-	*0.250*	-	-	-	-	-	*0.250*
Non Recurring Cost																		
DFoS JSEW Transportation and Shipping	-	-	0.000	-	-	0.020	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
Subtotal: Non Recurring Cost	-	-	*0.000*	-	-	*0.020*	-	-	*0.000*	-	-	*0.000*	-	-	-	-	-	*0.000*
Subtotal: Logistics Cost	**-**	**-**	***0.000***	**-**	**-**	***0.025***	**-**	**-**	***0.065***	**-**	**-**	***0.250***	**-**	**-**	**-**	**-**	**-**	***0.250***
Support Cost																		

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 8001PH1000 / CB Protection & Hazard Mitigation	**Item Number / Title [DODIC]:** JD0050 / DECONTAMINATION FAMILY OF SYSTEMS (DFoS)
ID Code (A=Service Ready, B=Not Service Ready) : B		**MDAP/MAIS Code:**

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)
DFoS CIDAS Program Management Support	-	-	0.000	-	-	0.175	-	-	0.318	-	-	0.710	-	-	-	-	-	0.710
DFoS CIDAS Engineering Support	-	-	0.000	-	-	0.074	-	-	0.790	-	-	0.932	-	-	-	-	-	0.932
DFoS GPD Engineering Support	-	-	0.000	-	-	0.172	-	-	0.322	-	-	0.600	-	-	-	-	-	0.600
DFoS GPD Program Management Support	-	-	0.000	-	-	0.000	-	-	0.130	-	-	0.939	-	-	-	-	-	0.939
DFoS JSEW Engineering Support	-	-	0.000	-	-	0.023	-	-	0.159	-	-	0.280	-	-	-	-	-	0.280
DFoS JSEW Program Management Support	-	-	0.000	-	-	0.034	-	-	0.090	-	-	0.627	-	-	-	-	-	0.627
Subtotal: Support Cost	**-**	**-**	***0.000***	**-**	**-**	***0.478***	**-**	**-**	***1.809***	**-**	**-**	***4.088***	**-**	**-**	**-**	**-**	**-**	***4.088***
Gross/Weapon System Cost	**-**	**-**	**9.704**	**-**	**-**	**3.447**	**-**	**-**	**13.035**	**-**	**-**	**17.050**	**-**	**-**	**-**	**-**	**-**	**17.050**

Remarks:

The Decontamination Family of Systems (DFoS) - General Purpose Decontaminant (GPD) Program will provide thorough and operational decontamination capabilities for Hardened Military Equipment (HME), to include tactical vehicles, shipboard surfaces, crew-served weapons, and individual weapons, in hostile and non-hostile environments where it is reasonable to expect chemical, biological, radiological, and nuclear (CBRN) and Non-Traditional Agents (NTA) weapons will be employed or Toxic Industrial Materials (TIMs) may be encountered. The DFoS GPD will be employed within the integrated battle space as a means to decontaminate hazards posing threats to military personnel and operations including peacekeeping, stability and support, or consequence management operations. The DFoS GPD will be applied directly to the contaminated surface and be capable of reducing/neutralizing Chemical and Biological (CB) contamination to thorough levels within thirty (30) minutes of application. The DFoS GPD will be compatible with hardened materials consistent with those found on a Detailed Equipment Decontamination (DED) line. The DFoS GPD will be safe, suitable and compatible with HME and be operable in all operational environments that have been exposed to CB contamination.

The Decontamination Family of Systems (DFoS) - Joint Service Equipment Wipe (JSEW) Program will provide Warfighters with an immediate/operational decontamination capability for sensitive and non-sensitive equipment that has been exposed to chemical agents/contamination. There is currently no documented decontamination capability that is non-destructive to sensitive equipment. The DFoS JSEW will be applied directly to contaminated sensitive and non-sensitive equipment and will be capable of removing gross contamination and reducing contact hazard immediately without leaving a residue. The DFoS JSEW will provide the means to minimize or negate the vulnerability to and effects of chemical attacks for peacekeeping, stability and support or consequence management operations.

The Decontamination Family of Systems (DFoS) Contamination Indicator Decontamination Assurance System (CIDAS) Program will provide the Joint Forces with a new capability to reduce the logistics burden of decontamination by indicating presence and location of traditional (Nerve and Blister) and non-traditional chemical agents on militarily relevant surfaces pre- and post-decontamination. It will consist of an indicator and an applicator, for which there will be three applicator configurations (small scale, tactical large scale, and reusable large scale) and three indicator formulations (nerve training, nerve and blister). Post application, the DFoS CIDAS will not cause material degradation other than that which is allowable in service platforms' specifications to complete primary mission functions. DFoS CIDAS reusable large scale applicators must achieve an Operational Availability of 0.90, measured continuously during a thorough decontamination mission pulse in accordance with the DFoS CIDAS Army Operational Mode Summary / Mission Profile. The DFoS CIDAS indicator will not degrade Individual Protection Equipment (IPE), below minimum required IPE Chemical Warfare Agent protection performance, in less than 12 hours or according to IPE CWA protection time requirements whichever is less.

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	P-1 Line Item Number / Title: 8001PH1000 / CB Protection & Hazard Mitigation	Item Number / Title [DODIC]: JD0050 / DECONTAMINATION FAMILY OF SYSTEMS (DFoS)
ID Code (A=Service Ready, B=Not Service Ready) : B		MDAP/MAIS Code:

Justification: FY20 funds will procure items for the following efforts:
- FY20 funds will procure 383,770 DFoS JSEW chemical agent equipment decontamination wipes. These funds are required for Warfighters to have immediate/operational decontamination capabilities for sensitive and non-sensitive equipment exposed to traditional and non-traditional chemical contamination. DFoS JSEW will be employed as a means to decontaminate hazards posing threats to military operations including peacekeeping, stability and support or consequence management operations.
- FY20 funds will procure 291,547 gallons of DFoS GPD chemical and biological (CB) agent thorough decontaminant for hardened military equipment (HME). These funds are required for Warfighters to have a thorough decontaminant for HME that has a significantly reduced logistics footprint for tactical vehicles, shipboard surfaces, crew-served weapons, and individual/personal weapons in hostile and non-hostile environments that have been exposed to biological, and traditional and non-traditional chemical agents/contamination.
- FY20 funds will procure 495 reusable DFoS CIDAS large scale applicators, 354 DFoS CIDAS large scale nerve kits, 317 DFoS CIDAS large scale nerve training kits, 1,862 DFoS CIDAS small scale nerve kits, and 709 DFoS CIDAS small scale nerve training kits. These funds are required for Warfighters to have contamination indication/decontamination assurance technology and applicators for visually indicating traditional and nontraditional chemical warfare agents on tactical vehicles, aircraft, ships, crew-served and individual weapons exposed to chemical contamination.

RDT&E Code B Item: 0604384BP/Proj DE5

DE5/DFoS CIDAS: RDT&E FY2017 and Prior - 20.525M; FY2018 - 6.611M; FY2019 - 4.757M; FY2020 - 4.892M; FY2021 - 5.490M; FY2022 - 0.785M
DE5/DFoS GPD: RDT&E FY2017 and Prior - 11.410M; FY2018 - 0.545M
DE5/DFoS JSEW: RDT&E FY2017 and Prior - 5.176M

DEVELOPMENT/TEST STATUS AND MAJOR MILESTONES

DFoS CIDAS - CIDAS SSA-Nerve OT (Jul 2018 to Sep 2018)
DFoS CIDAS - CIDAS SSA-Nerve MS C/FRP: Jun 2019
DFoS CIDAS - CIDAS SSA-Nerve IOC: Mar 2021
DFoS CIDAS - CIDAS SSA-Nerve FOC: Sep 2025
DFoS CIDAS - CIDAS SSA-Blister DT (May 2019 to Jun 2020)
DFoS CIDAS - CIDAS SSA-Blister MS C/LRIP: Nov 2020
DFoS CIDAS - CIDAS SSA-Blister OT (Nov 2021 to Dec 2021)
DFoS CIDAS - CIDAS SSA-Blister FRP: Nov 2022
DFoS CIDAS - CIDAS SSA-Blister IOC: Dec 2023
DFoS CIDAS - CIDAS SSA-Blister FOC: Dec 2027
DFoS CIDAS - CIDAS LSA DT (Apr 2019 to Mar 2020)
DFoS CIDAS - CIDAS LSA OT (Jul 2019 to Aug 2019)
DFoS CIDAS - CIDAS LSA FRP: Jun 2020
DFoS GPD - GPD MS C/LRIP: Apr 2017
DFoS GPD - GPD LRIP Deliveries (Feb 2019 to Sep 2019)
DFoS GPD - GPD IOC: Sep 2019
DFoS GPD - GPD FRP: Oct 2019
DFoS GPD - GDP FRP Deliveries (Nov 2019 to Aug 2024)
DFoS GPD - GPD FOC: Aug 2024
DFoS JSEW - JSEW FRP: Dec 2017
DFoS JSEW - JSEW IOC (Navy): Mar 2018

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 8001PH1000 / CB Protection & Hazard Mitigation	**Item Number / Title [DODIC]:** JD0050 / DECONTAMINATION FAMILY OF SYSTEMS (DFoS)
ID Code (A=Service Ready, B=Not Service Ready) : B		**MDAP/MAIS Code:**

DFoS JSEW - JSEW IOC (Army): Dec 2018
DFoS JSEW - JSEW FOC: Jun 2020

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 8001PH1000 / CB Protection & Hazard Mitigation	**Item Number / Title [DODIC]:** JD0070 / JOINT BIOLOGICAL AGENT DECONTAMINATION SYSTEM (JBADS)
ID Code (A=Service Ready, B=Not Service Ready) : B		**MDAP/MAIS Code:**

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity *(Units in Each)*	-	-	-	-	-	-
Gross/Weapon System Cost *($ in Millions)*	0.000	0.917	1.000	24.608	-	24.608
Less PY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Net Procurement (P-1) *($ in Millions)*	0.000	0.917	1.000	24.608	-	24.608
Plus CY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Total Obligation Authority *($ in Millions)*	**0.000**	**0.917**	**1.000**	**24.608**	**-**	**24.608**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)						
Initial Spares *($ in Millions)*	-	-	-	-	-	-
Gross/Weapon System Unit Cost *($ in Thousands)*	-	-	-	-	-	-

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)
Hardware Cost																		
Recurring Cost																		
Prior/Future combined efforts	-	-	-	-	-	0.000	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
JBADS Hardware(†)	-	-	0.000	-	-	0.000	-	-	0.000	8,500.000	1	8.500	-	-	-	8,500.000	1	8.500
Subtotal: Recurring Cost	-	-	*0.000*	-	-	*0.000*	-	-	*0.000*	-	-	*8.500*	-	-	-	-	-	*8.500*
Non Recurring Cost																		
Production Contractor Engineering and Logistics Support	-	-	0.000	-	-	0.000	-	-	0.000	-	-	7.344	-	-	-	-	-	7.344
Production Verification Testing	-	-	0.000	-	-	0.000	-	-	0.000	-	-	2.442	-	-	-	-	-	2.442
Modification/ Refurbishment	-	-	0.000	-	-	0.000	-	-	0.000	-	-	1.000	-	-	-	-	-	1.000
Subtotal: Non Recurring Cost	-	-	*0.000*	-	-	*0.000*	-	-	*0.000*	-	-	*10.786*	-	-	-	-	-	*10.786*
Subtotal: Hardware Cost	**-**	**-**	***0.000***	**-**	**-**	***0.000***	**-**	**-**	***0.000***	**-**	**-**	***19.286***	**-**	**-**	**-**	**-**	**-**	***19.286***
Package Fielding Cost																		
Non Recurring Cost																		
Total Package Fielding	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.800	-	-	-	-	-	0.800
Subtotal: Non Recurring Cost	-	-	*0.000*	-	-	*0.000*	-	-	*0.000*	-	-	*0.800*	-	-	-	-	-	*0.800*

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 8001PH1000 / CB Protection & Hazard Mitigation	**Item Number / Title [DODIC]:** JD0070 / JOINT BIOLOGICAL AGENT DECONTAMINATION SYSTEM (JBADS)
ID Code (A=Service Ready, B=Not Service Ready) : B		**MDAP/MAIS Code:**

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ K)	Qty (Each)	Total Cost ($ M)
Subtotal: Package Fielding Cost	**-**	**-**	***0.000***	**-**	**-**	***0.000***	**-**	**-**	***0.000***	**-**	**-**	***0.800***	**-**	**-**	**-**	**-**	**-**	***0.800***
Support Cost																		
Engineering Support	-	-	0.000	-	-	0.817	-	-	0.849	-	-	2.037	-	-	-	-	-	2.037
Program Management	-	-	0.000	-	-	0.100	-	-	0.151	-	-	2.485	-	-	-	-	-	2.485
Subtotal: Support Cost	**-**	**-**	***0.000***	**-**	**-**	***0.917***	**-**	**-**	***1.000***	**-**	**-**	***4.522***	**-**	**-**	**-**	**-**	**-**	***4.522***
Gross/Weapon System Cost	**-**	**-**	**0.000**	**-**	**-**	**0.917**	**-**	**-**	**1.000**	**-**	**-**	**24.608**	**-**	**-**	**-**	**-**	**-**	**24.608**

Remarks:

The Joint Biological Agent Decontamination System (JBADS) will provide the capability to conduct biological agent decontamination of the interior and exterior of the C-130 aircraft. The JBADS is a capability set that will include a shelter to encapsulate an airframe, a decontamination delivery system (e.g. hot-humid air-blower, etc.), environmental control and monitoring system(s), and other ancillary components required to ensure efficacious biological agent decontamination. It will provide the capability to decontaminate biologically contaminated airframes to safe levels and allow more rapid return to service. Future capability may address biological decontamination of other airframes and vehicles.

Justification: In FY20, JBADS procurement funds purchase 1 system and Production Verification Testing (PVT), modification/refurbishment, and fielding activities for that 1 system through FY22.

RDT&E Code B Item: 0603884BP/Proj DE4; 0604384BP/Proj DE5

DE4/JBADS: RDT&E FY2017 and Prior - 7.052M
DE5/JBADS: RDT&E FY2017 and Prior - 10.521M; FY2018 - 2.849M; FY2019 - 8.167M; FY2020 - 0.222M

DEVELOPMENT/TEST STATUS AND MAJOR MILESTONES

JBADS - Capability Development Document (Nov 2016 to Dec 2016)
JBADS - MS B: May 2017
JBADS - Contractor Specification Testing (Feb 2019 to Dec 2019)
JBADS - MIL-STD 810-G Testing (Jul 2019 to Sep 2019)
JBADS - First System Build (Dec 2019 to May 2020)
JBADS - Product Verification Testing (May 2020 to Aug 2020)
JBADS - FRP: Jan 2022
JBADS - IOC: Jan 2022
JBADS - FOC: Sep 2023

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 8001PH1000 / CB Protection & Hazard Mitigation	**Item Number / Title [DODIC]:** JD0070 / JOINT BIOLOGICAL AGENT DECONTAMINATION SYSTEM (JBADS)
ID Code (A=Service Ready, B=Not Service Ready) : B		**MDAP/MAIS Code:**

P5: $4,826K has been realigned out of program FY18 TOA as of 22 Oct 2018

(†) indicates the presence of a P-5a

Exhibit P-5a, Procurement History and Planning: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 8001PH1000 / CB Protection & Hazard Mitigation	**Item Number / Title [DODIC]:** JD0070 / JOINT BIOLOGICAL AGENT DECONTAMINATION SYSTEM (JBADS)

Cost Elements	OCO	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost ($ K)	Specs Avail Now?	Date Revision Available	RFP Issue Date
JBADS Hardware(†)		2020	TBD / UNKNOWN	C / CPIF	Natick, MA	Nov 2019	May 2020	1	8,500.000	N		

(†) indicates the presence of a P-21

Remarks:
In FY20, the system will be tested, modified/refurbished then fielded in FY22.

Exhibit P-21, Production Schedule: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 8001PH1000 / CB Protection & Hazard Mitigation	**Item Number / Title [DODIC]:** JD0070 / JOINT BIOLOGICAL AGENT DECONTAMINATION SYSTEM (JBADS)

Cost Elements (Units in Each)							Fiscal Year 2020												Fiscal Year 2021												BALANCE
							Calendar Year 2020												Calendar Year 2021													
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2019	BAL DUE AS OF 1 OCT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
JBADS Hardware																															
	1	2020	CBDP	1	0	1		A -	-	-	-	-	-	1																	0
Secondary Distribution			*AF*	*1*	*0*	*1*		*A -*	-	-	-	-	-	*1*																	*0*
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	

Exhibit P-21, Production Schedule: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 8001PH1000 / CB Protection & Hazard Mitigation	**Item Number / Title [DODIC]:** JD0070 / JOINT BIOLOGICAL AGENT DECONTAMINATION SYSTEM (JBADS)

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Month)			Procurement Leadtime (Months)							
					Initial				Reorder			
		MSR For 2020	1-8-5 For 2020	MAX For 2020	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	TBD - UNKNOWN	1	1	1	0	1	6	7	0	1	6	7

Remarks:
Production rates are monthly for all manufacturers

(‡) Delivery rows marked with this symbol indicate that they are funded through a separate Line Item. See the respective components' exhibits for details, including the full delivery schedule.
"A" in the Delivery Schedule indicates the Contract Award Date.
Note: Due to space limitations, quantities in the Exhibit P-21 delivery calendar are truncated and rounded based on the maximum quantity in the calendar as follows. If the maximum quantity is less than or equal to than 9,999, all quantities are shown as each. If the maximum quantity is between 10,000 and 999,999 all quantities are shown in thousands. If the maximum quantity is between 1,000,000 and 999,999,999 all quantities are shown in millions (rounded to the nearest thousand).If the maximum quantity is equal or greater than 1,000,000,000 all quantities are shown in billions (rounded to the nearest million).

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 8001PH1000 / CB Protection & Hazard Mitigation	**Item Number / Title [DODIC]:** JM6677 / ADVANCED ANTICONVULSANT SYSTEM (AAS)

ID Code (A=Service Ready, B=Not Service Ready) : B | **MDAP/MAIS Code:**

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity *(Units in Each)*	-	-	-	-	-	-
Gross/Weapon System Cost *($ in Millions)*	0.000	0.000	0.360	5.352	-	5.352
Less PY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Net Procurement (P-1) *($ in Millions)*	0.000	0.000	0.360	5.352	-	5.352
Plus CY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Total Obligation Authority *($ in Millions)*	**0.000**	**0.000**	**0.360**	**5.352**	**-**	**5.352**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)						
Initial Spares *($ in Millions)*	-	-	-	-	-	-
Gross/Weapon System Unit Cost *($ in Thousands)*	-	-	-	-	-	-

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*
Hardware Cost																		
Recurring Cost																		
Prior/Future combined efforts	-	-	-	-	-	0.000	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
AAS(†)	-	-	0.000	-	-	0.000	0.017	21,000	0.360	0.019	279,000	5.352	-	-	-	0.019	279,000	5.352
Subtotal: Recurring Cost	-	-	*0.000*	-	-	*0.000*	-	-	*0.360*	-	-	*5.352*	-	-	-	-	-	*5.352*
Subtotal: Hardware Cost	**-**	**-**	***0.000***	**-**	**-**	***0.000***	**-**	**-**	***0.360***	**-**	**-**	***5.352***	**-**	**-**	**-**	**-**	**-**	***5.352***
Gross/Weapon System Cost	**-**	**-**	**0.000**	**-**	**-**	**0.000**	**-**	**-**	**0.360**	**-**	**-**	**5.352**	**-**	**-**	**-**	**-**	**-**	**5.352**

Remarks:

The Advanced Anticonvulsant System (AAS) will consist of the drug midazolam in an autoinjector for use in treating nerve agent induced seizures and will replace the currently fielded Convulsant Antidote for Nerve Agent (CANA) autoinjector, which uses diazepam. Procurement funds will support Initial Operational Capability (IOC) supporting the AAS phase-in/CANA phase-out plan along with transitioning the program to the Defense Logistics Agency (DLA) for sustainment. FDA approval anticipated 2QFY20 with IOC in FY20 and FOC in FY23.

Justification: FY20 funding supports procurement of 279,000 autoinjectors consisting of midazolam.

FDA approval anticipated 2QFY20 with IOC (300K units) being completed by end of FY20 and FOC (750K units) completed by FY23.

MC5/AAS: RDT&E FY2017 and Prior - 58.634M; FY2019 - 9.640M

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 8001PH1000 / CB Protection & Hazard Mitigation	**Item Number / Title [DODIC]:** JM6677 / ADVANCED ANTICONVULSANT SYSTEM (AAS)
ID Code (A=Service Ready, B=Not Service Ready) : B		**MDAP/MAIS Code:**

DEVELOPMENT/TEST STATUS AND MAJOR MILESTONES

AAS - Milestone C: Jun 2013

(†) indicates the presence of a P-5a

Exhibit P-5a, Procurement History and Planning: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 8001PH1000 / CB Protection & Hazard Mitigation	**Item Number / Title [DODIC]:** JM6677 / ADVANCED ANTICONVULSANT SYSTEM (AAS)

Cost Elements	OCO	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost ($ K)	Specs Avail Now?	Date Revision Available	RFP Issue Date
AAS(†)		2019	Meridian Medical Technologies Inc. / Columbia, MD	C / FFP	ACC-APG-NCD, Ft. Detrick, MD	Jul 2019	Sep 2019	21,000	0.017	Y		
AAS(†)		2020	Meridian Medical Technologies Inc. / Columbia, MD	C / FFP	ACC-APG-NCD, Ft. Detrick, MD	Nov 2019 (10)	Feb 2020	279,000	0.019	Y		

(†) indicates the presence of a P-21

Footnotes:
(10) - OPTION

Exhibit P-21, Production Schedule: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 8001PH1000 / CB Protection & Hazard Mitigation	**Item Number / Title [DODIC]:** JM6677 / ADVANCED ANTICONVULSANT SYSTEM (AAS)

Cost Elements (Units in Thousands)							Fiscal Year 2019												Fiscal Year 2020												BALANCE
							Calendar Year 2019												Calendar Year 2020													
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2018	BAL DUE AS OF 1 OCT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
AAS																															
	1	2019	CBDP	21.000	.000	21.000										A -	-	21.000													.000
Secondary Distribution			*OSD*	*21.000*	*.000*	*21.000*										*A -*	-	*21.000*													*.000*
	1	2020	CBDP	279.000	.000	279.000														A -	-	-	79.000	-	-	-	-	-	-	200.000	.000
Secondary Distribution			*OSD*	*279.000*	*.000*	*279.000*														*A -*	-	-	*79.000*	-	-	-	-	-	-	*200.000*	*.000*

OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP

Exhibit P-21, Production Schedule: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 8001PH1000 / CB Protection & Hazard Mitigation	**Item Number / Title [DODIC]:** JM6677 / ADVANCED ANTICONVULSANT SYSTEM (AAS)

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Month)			Procurement Leadtime (Months)							
					Initial				Reorder			
		MSR For 2020	1-8-5 For 2020	MAX For 2020	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	Meridian Medical Technologies Inc. - Columbia, MD	10,000	40,000	300,000	0	6	2	8	0	11	3	14

Remarks:
Procurement option CLINs will be exercised on the competitively awarded development contract with Meridian Medical Technologies Inc. ** Production rates are monthly for all manufacturers

(‡) Delivery rows marked with this symbol indicate that they are funded through a separate Line Item. See the respective components' exhibits for details, including the full delivery schedule.
"A" in the Delivery Schedule indicates the Contract Award Date.
Note: Due to space limitations, quantities in the Exhibit P-21 delivery calendar are truncated and rounded based on the maximum quantity in the calendar as follows. If the maximum quantity is less than or equal to than 9,999, all quantities are shown as each. If the maximum quantity is between 10,000 and 999,999 all quantities are shown in thousands. If the maximum quantity is between 1,000,000 and 999,999,999 all quantities are shown in millions (rounded to the nearest thousand).If the maximum quantity is equal or greater than 1,000,000,000 all quantities are shown in billions (rounded to the nearest million).

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 8001PH1000 / CB Protection & Hazard Mitigation	**Item Number / Title [DODIC]:** JX0005 / DOD BIOLOGICAL VACCINE PROCUREMENT (VACCINES)
ID Code (A=Service Ready, B=Not Service Ready) : B		**MDAP/MAIS Code:**

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity *(Units in Each)*	-	-	-	-	-	-
Gross/Weapon System Cost *($ in Millions)*	0.370	0.183	0.183	3.674	-	3.674
Less PY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Net Procurement (P-1) *($ in Millions)*	0.370	0.183	0.183	3.674	-	3.674
Plus CY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Total Obligation Authority *($ in Millions)*	**0.370**	**0.183**	**0.183**	**3.674**	**-**	**3.674**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)						
Initial Spares *($ in Millions)*	-	-	-	-	-	-
Gross/Weapon System Unit Cost *($ in Thousands)*	-	-	-	-	-	-

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*
Hardware Cost																		
Recurring Cost																		
Prior/Future combined efforts	-	-	0.370	-	-	0.000	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
VAC BOT - JX0005	-	-	0.000	-	-	0.000	-	-	0.000	44.791	67	3.001	-	-	-	44.791	67	3.001
VAC PLG - JX0005	-	-	0.000	-	-	0.000	-	-	0.000	5.000	100	0.500	-	-	-	5.000	100	0.500
Subtotal: Recurring Cost	-	-	*0.370*	-	-	*0.000*	-	-	*0.000*	-	-	*3.501*	-	-	-	-	-	*3.501*
Subtotal: Hardware Cost	**-**	**-**	***0.370***	**-**	**-**	***0.000***	**-**	**-**	***0.000***	**-**	**-**	***3.501***	**-**	**-**	**-**	**-**	**-**	***3.501***
Package Fielding Cost																		
Recurring Cost																		
Vaccinia Immune Globulin-Support Costs	-	-	0.000	-	-	0.183	-	-	0.183	-	-	0.173	-	-	-	-	-	0.173
Subtotal: Recurring Cost	-	-	*0.000*	-	-	*0.183*	-	-	*0.183*	-	-	*0.173*	-	-	-	-	-	*0.173*
Subtotal: Package Fielding Cost	**-**	**-**	***0.000***	**-**	**-**	***0.183***	**-**	**-**	***0.183***	**-**	**-**	***0.173***	**-**	**-**	**-**	**-**	**-**	***0.173***
Gross/Weapon System Cost	**-**	**-**	**0.370**	**-**	**-**	**0.183**	**-**	**-**	**0.183**	**-**	**-**	**3.674**	**-**	**-**	**-**	**-**	**-**	**3.674**

Remarks:
The Biological Vaccine Procurement Program is critical for national defense. These products directly support the Secretary of Defense program to maintain a DoD capability to acquire and stockpile adequate quantities of all Biological Warfare (BW) vaccines to protect the programmed force against validated BW agents. Items currently in the stockpile are the FDA licensed Anthrax Vaccine Adsorbed (AVA), Smallpox vaccine, and Vaccinia Immune Globulin Intravenous (VIGIV). Funding supports vaccine and licensed biologic production, quality assurance and control, equipment validation, process change management,

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	P-1 Line Item Number / Title: 8001PH1000 / CB Protection & Hazard Mitigation	Item Number / Title [DODIC]: JX0005 / DOD BIOLOGICAL VACCINE PROCUREMENT (VACCINES)
ID Code (A=Service Ready, B=Not Service Ready) : B		MDAP/MAIS Code:

documentation control, and all FDA license maintenance and post-approval commitments (Phase 4 clinical trials). The annual vaccination program for the Services is funded by the Defense Health Program. The Recombinant Botulinum A/B Vaccine (VAC BOT) program is a joint acquisition program to deliver a new vaccine to the warfighter with the intent to protect against aerosolized exposure to botulinum neurotoxins, serotypes A and B. The Recombinant Plague (VAC PLG) vaccine program is a joint acquisition program to deliver a new vaccine to the warfighter to prevent pneumonic plague from aerosolized exposure to Yersinia pestis bacteria. Following the validation of the manufacturing process, vaccines will be manufactured to support achieving IOC, emergency use of the product prior to FDA licensure, warm base manufacturing to keep manufacturing facilities operational in preparation for Pre-inspection Approval (PAI) by the FDA. VAC BOT IOC is 3QFY24; VAC Plague IOC is 4QFY23.

Justification: FY20 funds support production of 67 Recombinant Botulinum A/B Vaccines (VAC BOT), 100 Recombinant Plague (VAC PLG) vaccines, and provide support for VIGIV associated with emergency use product.

RDT&E Code B Item: 0604384BP/Proj MB5

MB5/VAC BOT: RDT&E FY2017 and Prior - 342.933M; FY2018 - 39.126M; FY2019 - 34.649M; FY2020 - 40.499M; FY2021 - 27.447M; FY2022 - 14.325M; FY2023 - 12.950M
MB5/VAC PLG: RDT&E FY2017 and Prior - 381.775M; FY2018 - 15.238M; FY2019 - 44.915M; FY2020 - 26.956M; FY2021 - 27.807M; FY2022 - 15.305M; FY2023 - 4.252M

DEVELOPMENT/TEST STATUS AND MAJOR MILESTONES

VAC BOT - Phase 2 Clinical Trial (A/B) (Sep 2008 to Mar 2012)
VAC BOT - Ongoing Manufacturing, Testing Efforts/Regulatory (Oct 2015 to Jul 2023)
VAC BOT - Manufacturing & Production of Consistency Lots (Mar 2014 to Jul 2018)
VAC BOT - Milestone C/LRIP: Jul 2019
VAC BOT - Phase 3 Clinical Trial (A/B) (Oct 2020 to Aug 2022)
VAC BOT - Biological Licensure Application (BLA) Submission (Mar 2023 to May 2023)
VAC BOT - FDA Licensure (Sep 2023 to Aug 2023)
VAC PLG - FDA Required Passive Transfer Studies (Aug 2012 to Sep 2014)
VAC PLG - Milestone C/LRIP (Dec 2019 to Oct 2020)
VAC PLG - Phase 3 Clinical Trial (Feb 2020 to Sep 2022)
VAC PLG - Duration of Protection (Mar 2020 to Mar 2022)
VAC PLG - IND Preparation/Submission of Consistency Lot Production/Testing Results to FDA (Mar 2014 to Dec 2014)
VAC PLG - Milestone B: Jun 2006
VAC PLG - Biological Licensure Application (BLA) Submission: Dec 2022
VAC PLG - FDA Licensure: Sep 2023

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 8001PH1000 / CB Protection & Hazard Mitigation	**Item Number / Title [DODIC]:** JD0404 / CONTAMINATED HUMAN REMAINS SYSTEM (CHRS)

ID Code (A=Service Ready, B=Not Service Ready) : B | **MDAP/MAIS Code:**

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity *(Units in Each)*	-	-	-	-	-	-
Gross/Weapon System Cost *($ in Millions)*	0.000	0.000	0.750	2.107	-	2.107
Less PY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Net Procurement (P-1) *($ in Millions)*	0.000	0.000	0.750	2.107	-	2.107
Plus CY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Total Obligation Authority *($ in Millions)*	**0.000**	**0.000**	**0.750**	**2.107**	**-**	**2.107**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)						
Initial Spares *($ in Millions)*	-	-	-	-	-	-
Gross/Weapon System Unit Cost *($ in Thousands)*	-	-	-	-	-	-

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*
Hardware Cost																		
Recurring Cost																		
Prior/Future combined efforts	-	-	-	-	-	0.000	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
CHRT	-	-	0.000	-	-	0.000	-	-	0.000	8.910	200	1.782	-	-	-	8.910	200	1.782
CHRT Sealing Systems	-	-	0.000	-	-	0.000	-	-	0.000	11.000	4	0.044	-	-	-	11.000	4	0.044
Subtotal: Recurring Cost	-	-	*0.000*	-	-	*0.000*	-	-	*0.000*	-	-	*1.826*	-	-	-	-	-	*1.826*
Subtotal: Hardware Cost	**-**	**-**	***0.000***	**-**	**-**	***0.000***	**-**	**-**	***0.000***	**-**	**-**	***1.826***	**-**	**-**	**-**	**-**	**-**	***1.826***
Support Cost																		
Program Management and Support	-	-	0.000	-	-	0.000	-	-	0.750	-	-	0.281	-	-	-	-	-	0.281
Subtotal: Support Cost	**-**	**-**	***0.000***	**-**	**-**	***0.000***	**-**	**-**	***0.750***	**-**	**-**	***0.281***	**-**	**-**	**-**	**-**	**-**	***0.281***
Gross/Weapon System Cost	**-**	**-**	**0.000**	**-**	**-**	**0.000**	**-**	**-**	**0.750**	**-**	**-**	**2.107**	**-**	**-**	**-**	**-**	**-**	**2.107**

Remarks:
The Contaminated Human Remains System (CHRS) program will procure systems with the capability to protect personnel handling and processing human remains contaminated with Chemical Biological Radiological (CBR) contamination for safe transport from OCONUS to CONUS. The CHRS program provides the warfighter the capability to safely handle, transport, and temporarily store or inter contaminated human remains in a theater of operations or in the United States.

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 8001PH1000 / CB Protection & Hazard Mitigation	**Item Number / Title [DODIC]:** JD0404 / CONTAMINATED HUMAN REMAINS SYSTEM (CHRS)
ID Code (A=Service Ready, B=Not Service Ready) : B		**MDAP/MAIS Code:**

The CHRS will address one capability identified within the Contamination Mitigation (ConMit) Initial Capabilities Document: a Contaminated Human Remains Transfer Case (CHRT) packaging solution to safely repatriate chemical, biological, or radiological contaminated human remains to the Continental United States. The CHRT is a triple layer hazardous material transport container that must adhere to federal and international requirements for transport. The CHRT will address the capability gap for contaminated human remains repatriation identified in the Contamination Mitigation Initial Capabilities Document.

Justification: FY20 procures 200 CHRT systems and 4 CHRT Sealing systems in order to support Initial Operational Capability (IOC) in FY21 and Full Operational Capability (FOC) in FY22.

Full Rate Production will occur FY20.

RDT&E Code B Item: 0603884BP/Proj DE4; 0604384BP/Proj DE5

DEVELOPMENT/TEST STATUS AND MAJOR MILESTONES

CHRS - Milestone A - CHRT: Jan 2018
CHRS - Contract Award - CHRT: Aug 2018
CHRS - Development Test (DT) - CHRT (Sep 2018 to Feb 2019)
CHRS - In Process Review (IPR) - CHRT: Jun 2019
CHRS - Operational Test (OT) - CHRT (Aug 2019 to Sep 2019)
CHRS - MS C/Full Rate Production (FRP) - CHRT: May 2020
CHRS - Initial Operational Capability (IOC) - CHRT: Mar 2021
CHRS - Full Operational Capability (FOC) - CHRT: Dec 2021

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 8001PH1000 / CB Protection & Hazard Mitigation	**Item Number / Title [DODIC]:** MA0400 / PROTECTIVE CLOTHING (JSLIST)

ID Code (A=Service Ready, B=Not Service Ready) : A | **MDAP/MAIS Code:**

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity *(Units in Each)*	-	-	-	-	-	-
Gross/Weapon System Cost *($ in Millions)*	0.000	5.000	2.000	0.000	-	0.000
Less PY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Net Procurement (P-1) *($ in Millions)*	0.000	5.000	2.000	0.000	-	0.000
Plus CY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Total Obligation Authority *($ in Millions)*	**0.000**	**5.000**	**2.000**	**0.000**	**-**	**0.000**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)						
Initial Spares *($ in Millions)*	-	-	-	-	-	-
Gross/Weapon System Unit Cost *($ in Thousands)*	-	-	-	-	-	-

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ K)*	Qty *(Each)*	Total Cost *($ M)*
Hardware Cost																		
Recurring Cost																		
PROTECTIVE SUIT - JSLIST Garment[(†)]	-	-	0.000	0.428	9,137	3.907	0.351	5,532	1.940	-	-	0.000	-	-	-	-	-	0.000
Subtotal: Recurring Cost	-	-	*0.000*	-	-	*3.907*	-	-	*1.940*	-	-	*0.000*	-	-	-	-	-	*0.000*
Subtotal: Hardware Cost	**-**	**-**	***0.000***	**-**	**-**	***3.907***	**-**	**-**	***1.940***	**-**	**-**	***0.000***	**-**	**-**	**-**	**-**	**-**	***0.000***
Support Cost																		
Program Mgmt Support	-	-	0.000	-	-	0.937	-	-	0.060	-	-	0.000	-	-	-	-	-	0.000
Engineering Support	-	-	0.000	-	-	0.156	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
Subtotal: Support Cost	**-**	**-**	***0.000***	**-**	**-**	***1.093***	**-**	**-**	***0.060***	**-**	**-**	***0.000***	**-**	**-**	**-**	**-**	**-**	***0.000***
Gross/Weapon System Cost	**-**	**-**	**0.000**	**-**	**-**	**5.000**	**-**	**-**	**2.000**	**-**	**-**	**0.000**	**-**	**-**	**-**	**-**	**-**	**0.000**

Remarks:
The Joint Service Lightweight Integrated Suit Technology (JSLIST) is a Joint Service chemical protective ensemble and production program. The protective clothing program integrates technological improvements in protective military garments, providing service members chemical/biological (CB) protection in all combat theaters. The JSLIST provides state-of-the-art chemical percutaneous protection as well as reduced heat stress, weight and bulk with increased durability and improved fit over fielded legacy systems. In addition, the JSLIST provides commonality and standardization by fielding the same suit to the Joint Forces.

Justification:

Exhibit P-5, Cost Analysis: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	**P-1 Line Item Number / Title:** 8001PH1000 / CB Protection & Hazard Mitigation	**Item Number / Title [DODIC]:** MA0400 / PROTECTIVE CLOTHING (JSLIST)
ID Code (A=Service Ready, B=Not Service Ready) : A		**MDAP/MAIS Code:**

DEVELOPMENT/TEST STATUS AND MAJOR MILESTONES

PROT CLTH - JSLIST - Full Rate Production (FRP) AFS (Jun 2007 to Sep 2011)
PROT CLTH - JSLIST - FRP Block II Glove nFR (Jun 2007 to Sep 2011)

(†) indicates the presence of a P-5a

Exhibit P-5a, Procurement History and Planning: PB 2020 Chemical and Biological Defense Program		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 03 / 1	P-1 Line Item Number / Title: 8001PH1000 / CB Protection & Hazard Mitigation	Item Number / Title [DODIC]: MA0400 / PROTECTIVE CLOTHING (JSLIST)

Cost Elements	OCO	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost ($ K)	Specs Avail Now?	Date Revision Available	RFP Issue Date
PROTECTIVE SUIT - JSLIST Garment		2018	ReadyOne Industries / El Paso, TX	Reqn	DLA Troop Support, Philadelphia, PA	Dec 2017	Dec 2017	9,137	0.428	Y		

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