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**Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army** **Date:** March 2023

<b>Appropriation/Budget Activity</b> 2040: Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)	<b>R-1 Program Element (Number/Name)</b> PE 0604808A / Landmine Warfare/Barrier - Eng Dev
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COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	28.622	37.150	13.581	-	13.581	23.729	13.565	6.738	6.765	0.000	130.150
016: Close Combat Capabilities <i>ENG DEV</i>	-	25.767	35.000	11.160	-	11.160	21.790	11.624	4.777	4.782	0.000	114.900
CS2: Render Safe Sets Kits and <i>Outfits (RS-SKO)</i>	-	0.883	1.026	1.008	-	1.008	1.939	1.941	1.961	1.983	0.000	10.741
CS3: Next Generation Advanced <i>Bomb Suit (NGABS)</i>	-	1.972	1.124	1.413	-	1.413	-	-	-	-	0.000	4.509

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

This Program Element (PE) provides for the Engineering and Manufacturing Development (EMD) and demonstration of networked munitions, countermine systems, Explosive Ordnance Disposal (EOD) render safe, and counter improvised explosive device capabilities. This PE also implements the National Landmine Policy to develop alternatives to the non-self-destructing counter mobility anti-personnel landmine systems. The PE contributes to area access and area denial (A2/AD) to support unified land operations and improve soldier survivability.

Project 016: Close Combat Capabilities, covers three programs: Next Generation Advanced Bomb Suit (NGABS), Explosive Ordnance Disposal Render Safe (EOD RS) and Enhanced Robotics Payload - Render Safe (ERP-RS). It provides for the Engineering and Manufacturing Development (EMD) and demonstration of capabilities needed for Explosive Ordnance Disposal. Explosive Ordnance Disposal Render Safe (EOD RS) provides for the Engineering and Manufacturing Development (EMD) and demonstration of capabilities needed for Explosive Ordnance Disposal (EOD) teams to Render Safe (RS) US and foreign ordnance and improvised explosive devices, enabling ground force commanders to retain freedom of maneuver and secure lines of communications in multi-domain operations (MDO). Technical refresh of capabilities ensures Army 2030 formations maintain overmatch capability. EOD RS-SKO equips EOD teams with low light visual augmentation system, electronic countermeasures, subsurface explosive and hazard detection, dismounted X-ray imager, X-ray generator, trace explosive, Chemical, Biological, Radiological, and Nuclear (CBRN), and drug detection, unmanned aerial system, power management, gamma and neutron search and detection, and render safe initiation. This project will continue to support cross-service initiatives to increase commonality among information reporting and control systems. Enhanced Robotics Payload - Render Safe is a suite of modular capabilities to provide an increased level of standoff, disruption capability, and dexterity to respond to current and emergent EOD, CBRN and Engineer requirements. The Tech Effects program is in response to Army priorities and guidance to support identified gaps for Army passive defense requirements. Tech Effects executes research, development, test, and evaluation (RDT&E) on passive defense capabilities, next generation devices, and technologies to support Army's ability to meet current and emerging requirements. Tech Effects integrates RDT&E prototypes with component programs for acquisition, sustainment and maintenance.

NGABS will increase the Warfighter lethality and mobility by optimizing Soldier protection for EOD personnel, while effectively managing all life cycle aspects of Personal Protective Equipment (PPE). Warfighter lethality is increased through bomb suit weight reduction utilizing extensive investments in protective material research and development. The result is material solutions that are lighter and are pieced together in a manner which increases Soldier mobility and longevity. EOD Soldier

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<p>situational awareness and exposure to ballistic threats is enhanced through the NGABS HUD which allows the Soldier increased visibility under various obscurants and low/no-light situations.</p> <p>Project 415: This Project provides for Engineering Manufacturing and Development (EMD) for the next generation of capabilities to detect, identify and neutralize hybrid threats and explosive hazards such as Improvised Explosive Devices (IEDs) and landmines. These capabilities are a Family of Systems (FOS) encompassing handheld, vehicle mounted, small robotic mounted, aerial platform mounted and area access, and neutralization systems operating in manned, remotely controlled, semi-autonomous or fully autonomous modes. Continued development of this FOS is necessary to support Route Clearance Platoons located within both Engineer Companies and Brigade Engineering Battalion Brigade Combat Teams.</p> <p>The Husky Mounted Detection System (HMDS) is a counter-explosive device capability that provides standoff detection and marking of metallic encased caches and metallic and low-metallic antitank landmines, unexploded ordnance, trigger mechanisms, and improvised explosive devices (IEDs) in support of route and area-clearance operations. HMDS is a mission equipment package mounted on the Husky route clearance vehicle. The program was restructured in September 2016 to align with emerging shallow buried Wire Detection (WD) capabilities integrated onto the HMDS Increment A1 configuration (includes Ground Penetrating Radar (GPR)). These changes are necessary to adapt to changing IED threats. WD Technology will be fully integrated through Engineering Change Proposals (ECPs) at the end of FY20. Prototypes developed under the concluded HMDS Increment A2 effort may be leveraged in development of future capabilities. Future capabilities may include detection of deep buried IEDs and caches, and semi-autonomous control of the Husky vehicle and HMDS from inside a follow-on vehicle.</p> <p>Route Clearance &amp; Interrogation System (RCIS) Type I consists of a semi-autonomous vehicle and includes designated control vehicles and Operator Control Units (OCUs) which provide a standoff capability to detect and neutralize the full spectrum of explosive hazards. Type I integrates a semi-autonomous kit onto a High Mobility Engineering Excavator (HMEE) for remote control from a Buffalo Mine Protected Clearance Vehicle (MPCV). RCIS Type I semi-autonomous kit will be integrated onto the HMEE and be capable of interrogating and classifying explosive hazards. An OCU will be integrated into a Buffalo MPCV for Type I. RCIS capabilities will be fielded to Route Clearance Squads and Engineer Platoons which includes Tele-operation, RADAR-based Follow-Me, LIDAR obstacle detection, onscreen predictive turning map, and customizable camera views in order to achieve the RCIS mission.</p> <p>Project CS2: Project CS2: Explosive Ordnance Disposal Render Safe (EOD RS) provides for the Engineering and Manufacturing Development (EMD) and demonstration of capabilities needed for Explosive Ordnance Disposal (EOD) teams to Render Safe (RS) US and foreign ordnance and improvised explosive devices, enabling ground force commanders to retain freedom of maneuver and secure lines of communications in multi-domain operations (MDO). Technical refresh of capabilities ensures AimPoint formations maintain overmatch capability. EOD RS-SKO equips EOD teams with low light visual augmentation system, electronic countermeasures, subsurface explosive and hazard detection, dismounted X-ray imager, X-ray generator, trace explosive, Chemical, Biological, Radiological, and Nuclear (CBRN), and drug detection, unmanned aerial system, power management, gamma and neutron search and detection, and render safe initiation. This project will continue to support cross-service initiatives to increase commonality among information reporting and control systems.</p>		

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army** **Date:** March 2023

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<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024 Base</b>	<b>FY 2024 OCO</b>	<b>FY 2024 Total</b>
Previous President's Budget	29.137	12.150	12.473	-	12.473
Current President's Budget	28.622	37.150	13.581	-	13.581
Total Adjustments	-0.515	25.000	1.108	-	1.108
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	25.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.515	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	1.108	-	1.108

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

**Project:** 016: *Close Combat Capabilities ENG DEV*

Congressional Add: *Prototype Integration for Multi-Domain Operations - Congressional Add*

Congressional Add: *Congressional Add: Prototype Integration*

Congressional Add Subtotals for Project: 016

Congressional Add Totals for all Projects

FY 2022	FY 2023
15.000	-
-	25.000
15.000	25.000
15.000	25.000

**Change Summary Explanation**

Increase is due to an increased and accelerated need at the Army Service Component Commands (ASCCs) based on increasing and accelerated threat capability. Increase allows accelerated capacity development for program/project management and for the industrial base allowing for accelerated research, development, testing, training, and fielding to the operational forces.

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2024 Army										<b>Date:</b> March 2023		
<b>Appropriation/Budget Activity</b> 2040 / 5					<b>R-1 Program Element (Number/Name)</b> PE 0604808A / Landmine Warfare/Barrier - Eng Dev				<b>Project (Number/Name)</b> 016 / Close Combat Capabilities ENG DEV			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024 Base</b>	<b>FY 2024 OCO</b>	<b>FY 2024 Total</b>	<b>FY 2025</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>FY 2028</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
016: Close Combat Capabilities ENG DEV	-	25.767	35.000	11.160	-	11.160	21.790	11.624	4.777	4.782	0.000	114.900
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

Project 016 Close Combat Capabilities, covers three programs: Next Generation Advanced Bomb Suit (NGABS), Explosive Ordnance Disposal Render Safe (EOD RS) and Enhanced Robotics Payload - Render Safe (ERP-RS).

NGABS directly contributes to Soldier lethality and ground force commander freedom of maneuver by providing next generation sensor and optics in the cutting-edge Heads-Up-Display (HUD) while integrating the Government's latest investments in protective material for the modular, scalable NGABS bomb suit development. NGABS will increase the Warfighter survivability and mobility by optimizing Soldier protection for EOD personnel, while effectively managing all life cycle aspects of Personal Protective Equipment (PPE). Warfighter lethality is increased through bomb suit weight reduction utilizing extensive investments in protective material research and development. The result is material solutions that are lighter and are pieced together in a manner which increases Soldier mobility and longevity. EOD Soldier situational awareness and exposure to ballistic threats is enhanced through the NGABS HUD which allows the Soldier increased visibility under various obscurants and low/no-light situations. Funds were transferred from APE 0604808016 to APE 0604808CS3 to clearly define the functions that are being completed with the NGABS funding line.

Enhanced Robotics Payload - Render Safe (ERP-RS) will enable EOD teams to access, render safe, and dispose of explosive ordnances (EO) while removing Soldiers from the direct effects of explosive blast and fragmentation. ERP-RS consists of three modules that will mount on existing Host Unmanned Ground Vehicles (HUGVs) in EOD units: (1) Highly Dexterous Manipulation System that has increased lift capacity and dexterity over current manipulators, using dual arm manipulation, will contribute to access, render safe, and disposal of sensitive EO, (2) a Multi-Shot Disruptor Module that provides remote selectable and precise disruption of surface laid or suspended EO, and (3) a Precision Aim module to provide accurate disruption of surface laid or suspended EO with the Multi-Shot Disrupter Module. These ERP-RS capabilities will provide a level of access, render safe, and disposal of EO that would currently require a Soldier to expose themselves to explosive hazards.

Explosive Ordnance Disposal Render Safe (EOD RS) provides for the Engineering and Manufacturing Development (EMD) and demonstration of capabilities needed for Explosive Ordnance Disposal (EOD) teams to Render Safe (RS) US and foreign ordnance and improvised explosive devices, enabling ground force commanders to retain freedom of maneuver and secure lines of communications in multi-domain operations (MDO). Technical refresh of capabilities ensures Army 2030 formations maintain overmatch capability. EOD RS-SKO equips EOD teams with low light visual augmentation system, electronic countermeasures, subsurface explosive and hazard detection, dismounted X-ray imager, X-ray generator, trace explosive, Chemical, Biological, Radiological, and Nuclear (CBRN), and drug detection, unmanned aerial system, power management, gamma and neutron search and detection, and render safe initiation. This project will continue to support cross-service initiatives to increase commonality among information reporting and control systems. Funds were transferred from APE 0604808016 to APE 0604808CS2 in FY 2023.

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

	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
<b>Title:</b> SBIR/STTR Transfer	-	0.365	-

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
<p><b>FY 2023 Plans:</b> Funding transferred in accordance with Title 15 USC 638.</p> <p><b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> Funding transferred in accordance with Title 15 USC 638.</p>			
<p><b>Title:</b> Prototype Integration for Multi-Domain Operations</p> <p><b>Description:</b> Integrating prototype efforts to support force protection and signature management related to critical mission threads, operational constructs (Multi-Domain Operations) and key weapon system including responding to impending Army requirements. Effort will support capability and capacity to meet Army strategic guidance in support of the National Defense Strategy and other related Army efforts.</p> <p>The Tech Effects program is in response to Army priorities and guidance to support identified gaps for Army passive defense requirements. Tech Effects executes research, development, test, and evaluation (RDT&amp;E) on passive defense capabilities, next generation devices, and technologies to support Army's ability to meet current and emerging requirements. Tech Effects integrates RDT&amp;E prototypes with component programs for acquisition, sustainment and maintenance.</p> <p><b>FY 2023 Plans:</b> FY 2023 funding in the amount of \$10 million will continue the integration of prototype efforts to support force protection and signature management related to critical mission threads, operational constructs (Multi-Domain Operations) and key weapon systems. This effort supports the Secretariat and Global Security Initiatives in identified Army Research, Development, Test and Evaluation (RDTE) requirements to ensure capability, capacity and readiness of Army Military capabilities. Includes next generation devices and technologies to support Army's ability to meet current and emerging requirements, integrating RDTE prototypes with Component programs for acquisition, sustainment and maintenance. Funding includes supporting capability and capacity to meet Army strategic guidance in support of the National Defense Strategy, and other related Army efforts.</p> <p><b>FY 2024 Plans:</b> Will research and prototype singular and hybrid signature management capabilities to meet Army guidance. Will test and evaluate previously developed prototypes within realistic operational environments. Will coordinate current and future priorities with Joint Staff J8, HQDA G/3/5/7 and TRADOC/CAC on investment pathways for technology development, insertion and/or integration. Will integrate best practices, technical innovations, and development pathways with key stakeholders across Joint Staff, Army, and other Service elements.</p> <p><b>FY 2023 to FY 2024 Increase/Decrease Statement:</b></p>	10.695	9.635	3.566

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
Decrease in funding due to a reduction of research and prototyping singular hybrid signature management capabilities.				
<b>Title:</b> Enhanced Robotics Payload - Render Safe (ERP-RS)		-	-	7.594
<b>Description:</b> Develop a suite of three modular capabilities to provide an increased level of standoff, disruption capability, and dexterity to respond to current and emergent EOD, Chemical, Biological, Radiological and Nuclear (CBRN), and Engineer requirements.				
<b>FY 2024 Plans:</b> FY 2024 funding will be used to enter Milestone B to create integrated prototype within the Engineering and Manufacturing Development phase. Program will award contracts to continue development of the precision aim module and the multi-shot disruptor module for Phase 1 development to support force protection and provide the Warfighter with safe, standoff detection, and render safe capabilities against Explosive Ordnance. Program will also begin a competitive source selection effort for the Highly Dexterous Manipulation System.				
<b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> Enhanced Robotics Payload - Render Safe is a new start in FY 2024.				
<b>Title:</b> Explosive Ordnance Disposal (EOD) Render Safe (RS)		0.072	-	-
<b>Description:</b> Render Safe (RS) procedures require technicians to employ a wide variety of capabilities and explosives.				
<b>Accomplishments/Planned Programs Subtotals</b>		10.767	10.000	11.160
		<b>FY 2022</b>	<b>FY 2023</b>	
<b>Congressional Add:</b> Prototype Integration for Multi-Domain Operations - Congressional Add		15.000	-	
<b>FY 2022 Accomplishments:</b> FY 2022 Congressional Add funding supported integrating additional prototype efforts to enable Army operational initiative, freedom of movement, and system survivability aligned to Army 6+2 modernization priorities. Integration provided enhanced force protection and signature management related to critical mission threads, operational constructs (Multi-Domain Operations) and key weapon systems. Provided research, development, test, evaluation, support and training of information operations related technology and activities. Continued development of multiple systems aligned to full-spectrum signature management in coordination with relevant stakeholders. Conducted Research, Development, Test and Evaluation efforts toward new systems, to include next generation efforts as recommended during the POM review.				
<b>Congressional Add:</b> Congressional Add: Prototype Integration		-	25.000	

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2024 Army		<b>Date:</b> March 2023
<b>Appropriation/Budget Activity</b> 2040 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604808A / Landmine Warfare/Barrier - Eng Dev	<b>Project (Number/Name)</b> 016 / Close Combat Capabilities ENG DEV

	<b>FY 2022</b>	<b>FY 2023</b>
<b>FY 2023 Plans:</b> FY2023 Congressional Add funding will provide research, development, test, evaluation, support, and procurement of information operations related technology and activities.		
<b>Congressional Adds Subtotals</b>	15.000	25.000

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

<u>Line Item</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u> <u>Base</u>	<u>FY 2024</u> <u>OCO</u>	<u>FY 2024</u> <u>Total</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• R63610: <i>Render Safe Sets kits Outfits</i>	84.000	-	0.000	-	0.000	13.749	10.617	12.646	12.657	Continuing	Continuing
• CS2: <i>Render Safe Sets Kits and Outfits (RS-SKO)</i>	0.883	1.026	1.008	-	1.008	1.939	1.941	1.961	1.983	0.000	10.741

**Remarks**

**D. Acquisition Strategy**

The Next Generation Advanced Bomb Suit (NGABS) Program utilizes a competitive, developmental, innovative and efficient Other Transaction Authority (OTA) in EMD through the Fort Belvoir Sensor Communication and Electronic Consortium (SCEC) which will result in a production ready prototype leading to a Production and Deployment (PD) phase for full capability while ensuring best value to the Army. Milestone (MS) B / Material Development Decision (MDD) occurred in FY 2018 and MS C is scheduled for FY 2022.

The Explosive Ordnance Disposal (EOD) Render Safe (RS) program utilizes existing government contract vehicles to acquire Electronic Countermeasure (ECM) prototype systems for testing and evaluation of the systems for down selection and inclusion in the capabilities package during Engineering and Manufacturing Development. The program will continue to use the existing government contract vehicles for the production and deployment phase as well as to continue the development of capabilities during the 5 phase technical refresh.

The Multi-Domain Operations (MDO) program utilizes existing government contract vehicles to integrate prototype efforts to support force protection and signature management related to critical mission threads, operational constructs and key weapons systems.

The Enhanced Robotics Payload - Render Safe (ERP-RS) will utilize existing and/or new government contracts to integrate technologies and test competitive prototypes of the Precision Aim Module and Multi-Shot Disruptor Module in Phase 1. New contracts are anticipated for the integration and test of the High Dexterous Manipulation System Module in Phase 2. The Phase 2 contracts allow for further assessment and understanding of performance and integration challenges of competitive prototypes. Existing government contracts will be utilized for the production and deployment of each module. Initial first article test samples will undergo IOT&E prior to full production.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army												Date: March 2023			
Appropriation/Budget Activity				R-1 Program Element (Number/Name)				Project (Number/Name)							
2040 / 5				PE 0604808A / Landmine Warfare/Barrier - Eng Dev				016 / Close Combat Capabilities ENG DEV							
<b>Management Services (\$ in Millions)</b>				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
SBIR/STTR Transfer	TBD	Various : Various	-	-		0.365		-		-		-	Continuing	Continuing	Continuing
<b>Subtotal</b>			-	-		0.365		-		-		-	Continuing	Continuing	N/A
<b>Product Development (\$ in Millions)</b>				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Prototype Integration for Multi-Domain Operations	TBD	TBD : TBD	10.535	10.695	Jan 2022	9.635	May 2023	3.566	Jan 2024	-		3.566	0.000	34.431	Continuing
ERP RS Development Contract	TBD	TBD : TBD	-	-		-		6.624	Mar 2024	-		6.624	0.000	6.624	-
Prototype Integration for Multi-Domain Operations - Cong Add	Option/IDIQ	Huntsville Alabama : Huntsville AL	15.000	15.000	Apr 2022	25.000	May 2023	-		-		-	0.000	55.000	-
<b>Subtotal</b>			25.535	25.695		34.635		10.190		-		10.190	0.000	96.055	N/A
<b>Support (\$ in Millions)</b>				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
ERP RS	MIPR	DEVCOM Armaments Center : Picatinny Arsenal, NJ	-	-		-		0.670	Oct 2023	-		0.670	0.000	0.670	-
EOD RS	MIPR	DEVCOM Armaments Center : Picatinny Arsenal, NJ	0.072	0.072	Jun 2022	-		-		-		-	0.000	0.144	Continuing
<b>Subtotal</b>			0.072	0.072		-		0.670		-		0.670	0.000	0.814	N/A



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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2024 Army</b>		<b>Date: March 2023</b>
<b>Appropriation/Budget Activity</b> 2040 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604808A / Landmine Warfare/Barrier - Eng Dev	<b>Project (Number/Name)</b> 016 / Close Combat Capabilities ENG DEV

Event Name	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
<b>Next Generation Advanced Bomb Suit (NGABS)</b>																												
NGABS Support Contract	█																											
Prototype Integration (PI) for Multi-Domain Operations (MDO)									█																			
Prototype Integration (PI) for Multi-Domain Operations (...)					█																							
<b>ERP RS</b>																												
ERP RS Phase I Development Contract									█																			
ERP RS Phase I Prototype Testing													█															
ERP RS Phase I Critical Design Review													█															
ERP RS Phase I Operational Assessment													█															
ERP RS Milestone C																	▲											
ERP RS Phase I Multi-Shot Procurement																					█							
ERP RS Phase I PAM Procurement																					█							
ERP RS Phase I Initial Operational Test and Evaluation																					█							



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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2024 Army</b>			<b>Date: March 2023</b>		
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Event Name	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
EOD RS Phase 0 Prototype Testing	■																											
EOD RS Phase 0 Solution Down Selection	▲																											
EOD RS Phase 0 Loadset Development		■	■	■																								
EOD RS SKO Phase 0 ECM Final Prototype Design Build		■	■	■																								
EOD RS Phase 0 ECM ECM Test and Evaluation			■	■																								
EOD RS Phase 0 ECM Critical Design Review				■																								
EOD RS Technical Refresh (Multi Phase)																												
EOD RS Initial Technical Refresh																												
EOD RS Technical Refresh Phase 1																												
EOD RS Technical Refresh Phase 2																												
EOD RS Technical Refresh Phase 3																												
EOD RS Technical Refresh Phase 4																												
EOD RS Technical Refresh Phase 5																												

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<b>Exhibit R-4A, RDT&amp;E Schedule Details: PB 2024 Army</b>		<b>Date:</b> March 2023
<b>Appropriation/Budget Activity</b> 2040 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604808A / Landmine Warfare/Barrier - Eng Dev	<b>Project (Number/Name)</b> 016 / Close Combat Capabilities ENG DEV

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Next Generation Advanced Bomb Suit (NGABS)	1	2017	4	2022
NGABS Materiel Development Decision (MDD)	2	2018	2	2018
NGABS OTA phase 1 (suit, sensors, HUD PDR/CDR)	4	2019	2	2020
NGABS OTA phase 2 (sensor, HUD CDR, suit HFE)	2	2020	4	2020
NGABS OTA phase 3 (integration, developmental test)	4	2020	3	2021
NGABS Support Contract	1	2022	1	2022
Prototype Integration (PI) for Multi-Domain Operations (MDO)	3	2023	3	2024
Prototype Integration (PI) for Multi-Domain Operations (MDO) - Cong Add	3	2022	3	2023
ERP RS	1	2025	4	2026
ERP RS Phase I Development Contract	2	2024	4	2024
ERP RS Phase I Prototype Testing	1	2025	3	2025
ERP RS Phase I Critical Design Review	4	2025	4	2025
ERP RS Phase I Operational Assessment	1	2026	2	2026
ERP RS Milestone C	4	2026	4	2026
ERP RS Phase I Multi-Shot Procurement	4	2026	3	2029
ERP RS Phase I PAM Procurement	4	2026	4	2029
ERP RS Phase I Initial Operational Test and Evaluation	2	2027	3	2027
ERP RS Phase I Material Release	3	2027	4	2027
ERP RS Phase I Initial Operational Capability	3	2028	3	2028
ERP RS Phase I Full Operational Capability	2	2030	2	2030
ERP RS Phase II EMD Source Selection	4	2024	2	2025
ERP RS Phase II Preliminary Design Review	3	2025	3	2025

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**Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army** **Date:** March 2023

<b>Appropriation/Budget Activity</b> 2040 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604808A / Landmine Warfare/Barrier - Eng Dev	<b>Project (Number/Name)</b> 016 / Close Combat Capabilities ENG DEV
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Events	Start		End	
	Quarter	Year	Quarter	Year
ERP RS Phase II Prototype Testing	2	2026	3	2026
ERP RS Phase II Critical Design Review	4	2026	4	2026
ERP RS Phase II Operational Assessment	1	2027	2	2027
ERP RS Phase II Down-Selection	3	2027	3	2027
ERP RS Phase II Milestone C	4	2027	4	2027
ERP RS Phase II Procurement	1	2028	4	2033
ERP RS Phase II Initial Operational Test and Evaluation	3	2028	4	2028
ERP RS Phase II Material Release	4	2028	1	2029
ERP RS Phase II Initial Operational Capability	2	2029	2	2029
ERP RS Phase II Full Operational Capability	4	2033	4	2033
Explosive Ordnance Disposal (EOD) Render Safe (RS)	1	2020	4	2027
EOD RS Phase 0 Market Survey	4	2020	4	2020
EOD RS Phase 0 Development Contracts	4	2020	3	2021
EOD RS Phase 0 Prototype Testing	2	2021	1	2022
EOD RS Phase 0 ECM Preliminary Design Review	4	2021	4	2021
EOD RS Phase 0 Solution Down Selection	1	2022	1	2022
EOD RS Phase 0 Loadset Development	2	2022	4	2023
EOD RS SKO Phase 0 ECM Final Prototype Design Build	2	2022	4	2022
EOD RS Phase 0 ECM ECM Test and Evaluation	3	2022	4	2022
EOD RS Phase 0 ECM Critical Design Review	4	2022	4	2022
EOD RS Technical Refresh (Multi Phase)	1	2023	4	2028
EOD RS Initial Technical Refresh	1	2023	4	2023
EOD RS Technical Refresh Phase 1	1	2024	4	2024
EOD RS Technical Refresh Phase 2	1	2025	4	2025
EOD RS Technical Refresh Phase 3	1	2026	4	2026

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2024 Army		<b>Date:</b> March 2023
<b>Appropriation/Budget Activity</b> 2040 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604808A / <i>Landmine Warfare/Barrier - Eng Dev</i>	<b>Project (Number/Name)</b> 016 / <i>Close Combat Capabilities ENG DEV</i>

Events	Start		End	
	Quarter	Year	Quarter	Year
EOD RS Technical Refresh Phase 4	1	2027	4	2027
EOD RS Technical Refresh Phase 5	1	2028	4	2028

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2024 Army										<b>Date:</b> March 2023		
<b>Appropriation/Budget Activity</b> 2040 / 5					<b>R-1 Program Element (Number/Name)</b> PE 0604808A / Landmine Warfare/Barrier - Eng Dev				<b>Project (Number/Name)</b> CS2 / Render Safe Sets Kits and Outfits (RS-SKO)			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024 Base</b>	<b>FY 2024 OCO</b>	<b>FY 2024 Total</b>	<b>FY 2025</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>FY 2028</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
CS2: Render Safe Sets Kits and Outfits (RS-SKO)	-	0.883	1.026	1.008	-	1.008	1.939	1.941	1.961	1.983	0.000	10.741
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

Project CS2: Explosive Ordnance Disposal Render Safe (EOD RS) provides for the Engineering and Manufacturing Development (EMD) and demonstration of capabilities needed for Explosive Ordnance Disposal (EOD) teams to Render Safe (RS) US and foreign ordnance and improvised explosive devices, enabling ground force commanders to retain freedom of maneuver and secure lines of communications in multi-domain operations (MDO). Technical refresh of capabilities ensures Army 2030 formations maintain overmatch capability. EOD RS-SKO equips EOD teams with low light visual augmentation system, electronic countermeasures, subsurface explosive and hazard detection, dismounted X-ray imager, X-ray generator, trace explosive, Chemical, Biological, Radiological, and Nuclear (CBRN), and drug detection, unmanned aerial system, power management, gamma and neutron search and detection, and render safe initiation. This project will continue to support cross-service initiatives to increase commonality among information reporting and control systems. FY2024 request will continue support the yearly review of capabilities for tech refresh needs focusing on the threat overmatch or technology obsolescence of the fielded equipment.

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

	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
<p><b>Title:</b> Explosive Ordnance Disposal (EOD) Render Safe (RS)</p> <p><b>FY 2023 Plans:</b> FY 2023 funding will support the build of production representative systems and their technical evaluation. FY 2023 funding will also support the first phase of technical refresh of RS SKO capabilities to ensure AimPoint formations maintain overmatch capability.</p> <p><b>FY 2024 Plans:</b> FY 2024 funding will support the tech refresh of the RS SKO capabilities to ensure Army 2030 formations maintain overmatch capability, address technology obsolescence and assess solutions to provide increased effectiveness of the RS SKO components by focusing on objective space requirements.</p> <p><b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> FY 2024 request has decreased to continue support the yearly review of capabilities for tech refresh needs.</p>	0.883	0.989	1.008
<p><b>Title:</b> Small Business Innovation Research (SBIR)/Small Business Technology Transfer (STTR)</p> <p><b>Description:</b> Funding transferred in accordance with Title 15 USC 638.</p> <p><b>FY 2023 Plans:</b></p>	-	0.037	-

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2024 Army	<b>Date:</b> March 2023
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<b>Appropriation/Budget Activity</b> 2040 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604808A / Landmine Warfare/Barrier - Eng Dev	<b>Project (Number/Name)</b> CS2 / Render Safe Sets Kits and Outfits (RS-SKO)
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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	FY 2022	FY 2023	FY 2024
Funding transferred in accordance with Title 15 USC 638.			
<b><i>FY 2023 to FY 2024 Increase/Decrease Statement:</i></b> Funding transferred in accordance with Title 15 USC 638.			
<b>Accomplishments/Planned Programs Subtotals</b>	0.883	1.026	1.008

<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<u>Line Item</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u> <u>Base</u>	<u>FY 2024</u> <u>OCO</u>	<u>FY 2024</u> <u>Total</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• 016: Close Combat Capabilities ENG DEV	25.767	35.000	11.160	-	11.160	21.790	11.624	4.777	4.782	0.000	114.900
• R63701: Render Safe Sets Kits Outfits	84.000	-	0.000	-	0.000	13.749	10.617	12.646	12.657	Continuing	Continuing

**Remarks**

**D. Acquisition Strategy**  
The Explosive Ordnance Disposal (EOD) Render Safe (RS) program utilizes existing government contract vehicles to acquire RS SKO Kits. The program will continue to use the existing government contract vehicles for the production and deployment phase as well as to continue the development of capabilities during the 5-phase technical refresh.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army												Date: March 2023			
Appropriation/Budget Activity				R-1 Program Element (Number/Name)				Project (Number/Name)							
2040 / 5				PE 0604808A / Landmine Warfare/Barrier - Eng Dev				CS2 / Render Safe Sets Kits and Outfits (RS-SKO)							
<b>Management Services (\$ in Millions)</b>				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
SBIR/STTR Transfer	TBD	TBD : TBD	-	-		0.037		-		-		-	0.000	0.037	-
<b>Subtotal</b>			-	-		0.037		-		-		-	0.000	0.037	N/A
<b>Product Development (\$ in Millions)</b>				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Prototype Manufacturing	MIPR	U.S. ARMY TANK-AUTOMOTIVE & ARMAMENTS COMMAND : Warren, MI	-	0.269	Jun 2022	-		-		-		-	0.000	0.269	-
<b>Subtotal</b>			-	0.269		-		-		-		-	0.000	0.269	N/A
<b>Support (\$ in Millions)</b>				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
EOD RS - Engineering Support	MIPR	DEVCOM C5ISR Center : Aberdeen Proving Ground (APG), MD	-	0.078	Sep 2022	0.579	Feb 2023	0.200	Nov 2023	-		0.200	Continuing	Continuing	-
EOD-RS - Engineering Support	MIPR	DEVCOM Armaments Center : Picatinny Arsenal, NJ	-	0.300	May 2022	0.215	Oct 2022	0.684	Nov 2023	-		0.684	Continuing	Continuing	-
EOD-RS - Engineering Support	MIPR	Naval Air Warfare Center Weapons Division : Patuxent River, MD	-	0.236	Jun 2022	-		-		-		-	0.000	0.236	-
<b>Subtotal</b>			-	0.614		0.794		0.884		-		0.884	Continuing	Continuing	N/A



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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2024 Army</b>		<b>Date:</b> March 2023
<b>Appropriation/Budget Activity</b> 2040 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604808A / Landmine Warfare/Barrier - Eng Dev	<b>Project (Number/Name)</b> CS2 / Render Safe Sets Kits and Outfits (RS-SKO)

Event Name	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
<b>Explosive Ordnance Disposal (EOD) Render Safe (RS)</b>																												
EOD RS Phase 0 Prototype Testing	■																											
EOD RS Phase 0 Solution Down Selecting	1																											
EOD RS Phase 0 Loadset Development	■																											
EOD RS Phase 0 ECM Final Prototype Design Build	■																											
EOD RS Phase 0 ECM Test and Evaluation	■																											
EOD RS Phase 0 Critical Design Review	■																											
EOD RS Technical Refresh (Multi Phase)					■																							
EOD RS Initial Technical Refresh					■																							
EOD RS Technical Refresh Phase 1									■																			
EOD RS Technical Refresh Phase 2													■															
EOD RS Technical Refresh Phase 3																	■											
EOD RS Technical Refresh Phase 4																					■							

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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2024 Army</b>			<b>Date:</b> March 2023
<b>Appropriation/Budget Activity</b> 2040 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604808A / Landmine Warfare/Barrier - Eng Dev	<b>Project (Number/Name)</b> CS2 / Render Safe Sets Kits and Outfits (RS-SKO)	

Event Name	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
EOD RS Technical Refresh Phase 5																									Phase 5 Tech Refresh			

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2024 Army		<b>Date:</b> March 2023
<b>Appropriation/Budget Activity</b> 2040 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604808A / <i>Landmine Warfare/Barrier - Eng Dev</i>	<b>Project (Number/Name)</b> CS2 / <i>Render Safe Sets Kits and Outfits (RS-SKO)</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Explosive Ordnance Disposal (EOD) Render Safe (RS)	1	2020	4	2025
EOD RS Phase 0 Market Survey	4	2020	4	2020
EOD RS Phase 0 Development Contracts	4	2020	3	2021
EOD RS Phase 0 Prototype Testing	2	2021	1	2022
EOD RS Phase 0 ECM Preliminary Design Review	4	2021	4	2021
EOD RS Phase 0 Solution Down Selecting	1	2022	1	2022
EOD RS Phase 0 Loadset Development	2	2022	4	2023
EOD RS Phase 0 ECM Final Prototype Design Build	2	2022	4	2022
EOD RS Phase 0 ECM Test and Evaluation	3	2022	4	2022
EOD RS Phase 0 Critical Design Review	4	2022	4	2022
EOD RS Technical Refresh (Multi Phase)	1	2023	4	2028
EOD RS Initial Technical Refresh	1	2023	4	2023
EOD RS Technical Refresh Phase 1	1	2024	4	2024
EOD RS Technical Refresh Phase 2	1	2025	4	2025
EOD RS Technical Refresh Phase 3	1	2026	4	2026
EOD RS Technical Refresh Phase 4	1	2027	4	2027
EOD RS Technical Refresh Phase 5	1	2028	4	2028

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2024 Army										<b>Date:</b> March 2023		
<b>Appropriation/Budget Activity</b> 2040 / 5					<b>R-1 Program Element (Number/Name)</b> PE 0604808A / Landmine Warfare/Barrier - Eng Dev				<b>Project (Number/Name)</b> CS3 / Next Generation Advanced Bomb Suit (NGABS)			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024 Base</b>	<b>FY 2024 OCO</b>	<b>FY 2024 Total</b>	<b>FY 2025</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>FY 2028</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
CS3: Next Generation Advanced Bomb Suit (NGABS)	-	1.972	1.124	1.413	-	1.413	-	-	-	-	0.000	4.509
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

Funding in this project supports the Soldier Lethality Cross Functional Team (CFT).

The NGABS program directly contributes to Soldier lethality and ground force commander freedom of maneuver by providing next generation sensor and optics in the cutting-edge Heads-Up-Display (HUD) while integrating the Government's latest investments in protective material for the modular, scalable NGABS bomb suit development. NGABS will increase the Warfighter survivability and mobility by optimizing Soldier protection for EOD personnel, while effectively managing all life cycle aspects of Personal Protective Equipment (PPE). Warfighter lethality is increased through bomb suit weight reduction utilizing extensive investments in protective material research and development. The result is material solutions that are lighter and are pieced together in a manner which increases Soldier mobility and longevity. EOD Soldier situational awareness and exposure to ballistic threats is enhanced through the NGABS HUD which allows the Soldier increased visibility under various obscurants and low/no-light situations.

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

	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
<b>Title:</b> Next Generation Advanced Bomb Suit (NGABS)	1.972	1.083	1.413
<b>Description:</b> The objective of this effort is to increase the Warfighter lethality, modularity, and mobility, by optimizing Soldier protection and situational awareness for EOD personnel. The mission of this program is to enhance the tactical utility and applicability of this bomb suit concept by incorporating modularity/scalability and sensor technologies that are non-existent in legacy designs. This new, tailorable, full body protective system will provide a significantly increased capability at a reduced weight.			
<b>FY 2023 Plans:</b> During FY23, the NGABS program will accomplish Pre-Planned Product Improvements (P3I) that will focus on improving situational awareness and cooling system improvements that can be on-ramped onto the NGABS production contract. The TRADOC Proponent Office - Explosive Ordnance Disposal (TPO-EOD) has already identified the daylight camera, adding USB/HDMI port, smaller and higher resolution sensors, and the cooling system as candidates for the NGABS program to upgrade and improve capabilities.			
<b>FY 2024 Plans:</b> The NGABS program will continue Pre Planned Product Improvement (P3I) that will focus on improving situational awareness and reduce head/neck borne weight that can be on-ramped onto the NGABS production contract. For improving situational awareness,			

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2024 Army		<b>Date:</b> March 2023
<b>Appropriation/Budget Activity</b> 2040 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604808A / Landmine Warfare/Barrier - Eng Dev	<b>Project (Number/Name)</b> CS3 / Next Generation Advanced Bomb Suit (NGABS)

<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
the NGABS program will continue to upgrade and improve the daylight camera, and to upgrade to smaller and higher resolution sensors. For reducing the head/neck borne weight the NGABS program will explore approaches to shift the weight of the NGABS helmet, to include all components, from the head/neck to the shoulders and/or hips.  <b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> The increase in funding from FY23 to FY24 is due to the implementation of the head/neck borne weight P3I scheduled for FY24.			
<b>Title:</b> SBIR/STTR  <b>Description:</b> Funding transferred in accordance with Title 15 USC 638  <b>FY 2023 Plans:</b> Funding transferred in accordance with Title 15 USC 638  <b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> Funding transferred in accordance with Title 15 USC 638	-	0.041	-
<b>Accomplishments/Planned Programs Subtotals</b>	1.972	1.124	1.413

<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<u>Line Item</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u> <u>Base</u>	<u>FY 2024</u> <u>OCO</u>	<u>FY 2024</u> <u>Total</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• OMA - 121017000: Central Issue Facilities/Initial Issue: Organizational Clothing and Equip	-	-	17.205	-	17.205	-	-	-	-	0.000	17.205

**Remarks**

**D. Acquisition Strategy**  
The Next Generation Advanced Bomb Suit (NGABS) Program utilizes a competitive, developmental, innovative and efficient Other Transaction Authority (OTA) in EMD through the Fort Belvoir Sensor Communication and Electronic Consortium (SCEC) which will result in a production ready prototype leading to a Production and Deployment (PD) phase for full capability while ensuring best value to the Army.

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army** **Date:** March 2023

<b>Appropriation/Budget Activity</b> 2040 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604808A / Landmine Warfare/Barrier - Eng Dev	<b>Project (Number/Name)</b> CS3 / Next Generation Advanced Bomb Suit (NGABS)
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<b>Management Services (\$ in Millions)</b>				<b>FY 2022</b>		<b>FY 2023</b>		<b>FY 2024 Base</b>		<b>FY 2024 OCO</b>		<b>FY 2024 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>			
NGABS	Allot	PdM SPE : Fort Belvoir	-	0.338		-		-		-		-	0.000	0.338	Continuing
Program Management Support	Allot	PdM SPE : Fort Belvoir	-	-		0.256		0.303		-		0.303	0.000	0.559	Continuing
SBIR/STTR Transfer	TBD	To Be Determined : To Be Determined	-	-		0.041		-		-		-	0.000	0.041	Continuing
<b>Subtotal</b>			-	0.338		0.297		0.303		-		0.303	0.000	0.938	N/A

<b>Product Development (\$ in Millions)</b>				<b>FY 2022</b>		<b>FY 2023</b>		<b>FY 2024 Base</b>		<b>FY 2024 OCO</b>		<b>FY 2024 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>			
NGABS - Production Prototype Development	C/FFP	TBD : Manufacturing Techniques Inc. (MTEQ), Lorton, VA	-	1.009		0.684		0.981		-		0.981	0.000	2.674	Continuing
<b>Subtotal</b>			-	1.009		0.684		0.981		-		0.981	0.000	2.674	N/A

<b>Support (\$ in Millions)</b>				<b>FY 2022</b>		<b>FY 2023</b>		<b>FY 2024 Base</b>		<b>FY 2024 OCO</b>		<b>FY 2024 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>			
NGABS Support Costs	MIPR	TBD : Various	-	0.467		-		-		-		-	0.000	0.467	Continuing
<b>Subtotal</b>			-	0.467		-		-		-		-	0.000	0.467	N/A

<b>Test and Evaluation (\$ in Millions)</b>				<b>FY 2022</b>		<b>FY 2023</b>		<b>FY 2024 Base</b>		<b>FY 2024 OCO</b>		<b>FY 2024 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>			
NGABS Test & Evaluation	Allot	TBD : Various	-	0.158		0.143		0.129		-		0.129	0.000	0.430	Continuing
<b>Subtotal</b>			-	0.158		0.143		0.129		-		0.129	0.000	0.430	N/A



**UNCLASSIFIED**

<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2024 Army</b>			<b>Date:</b> March 2023
<b>Appropriation/Budget Activity</b> 2040 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604808A / Landmine Warfare/Barrier - Eng Dev	<b>Project (Number/Name)</b> CS3 / Next Generation Advanced Bomb Suit (NGABS)	

Event Name	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
P3I Reduce head/neck borne weight					NGABS Pre Planned Product Improvements																							
P3I Improving situational awareness					NGABS Pre Planned Product Improvements																							

**UNCLASSIFIED**

<b>Exhibit R-4A, RDT&amp;E Schedule Details: PB 2024 Army</b>		<b>Date:</b> March 2023
<b>Appropriation/Budget Activity</b> 2040 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604808A / <i>Landmine Warfare/Barrier - Eng Dev</i>	<b>Project (Number/Name)</b> CS3 / <i>Next Generation Advanced Bomb Suit (NGABS)</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
P3I Reduce head/neck borne weight	1	2023	4	2024
P3I Improving situational awareness	1	2023	4	2024