Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army											Date: March 2023	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604827A / *Soldier Systems - Warrior Dem/Val*							
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	-	6.219	19.408	11.333	-	11.333	7.338	9.862	14.174	10.206	Continuing	Continuing
EY2: *Integrated Soldier Power Data System - Core*	-	4.165	12.559	4.598	-	4.598	4.699	4.705	4.755	4.808	Continuing	Continuing
EY4: *Universal Battery Charger*	-	0.951	1.022	1.004	-	1.004	1.005	1.005	1.017	1.027	Continuing	Continuing
FK4: *Soldier Borne Sensor (SBS)*	-	1.103	1.682	1.656	-	1.656	1.634	4.152	8.402	4.371	0.000	23.000
S65: *Platoon Power Generator*	-	-	4.145	4.075	-	4.075	-	-	-	-	0.000	8.220

A. Mission Description and Budget Item Justification

A portion of this funding line is a key enabler of the Army Modernization Priorities in support of the Small Unit Power (SUP) program.

This program element contains four active projects:

Project EY2 - Integrated Soldier Power Data System - Core: Supports development of the Integrated Soldier Power and Data Hub, Conformal Wearable Battery (CWB), Soldier and Squad Power Generation, platform power scavenging on the move, and Squad Power Manager (SPM). These capabilities fill the power and energy requirements for critical Integrated Tactical Network Soldier worn systems to include tactical leader radios, Nett Warrior, and the Integrated Visual Augmentation System (IVAS). These capabilities are critical enablers in closing the power and energy gaps created by the increase in mission essential, Soldier portable power consumers, GPS systems, weapon sensors, radios, night vision systems, and other devices.

Project EY4 - Universal Battery Charger (UBC): Supports development of the UBC and Bulk Charger (BC). These capabilities fill the power and energy requirements for critical Integrated Tactical Network Soldier worn systems to include tactical leader radios, Nett Warrior, and the Integrated Visual Augmentation System (IVAS). These capabilities are critical enablers in closing the power and energy gaps created by the increase in mission essential, Soldier portable power consumers, GPS systems, weapon sensors, radios, night vision systems and other devices by providing multiple charging solutions capable of providing power to handheld communication devices and military issued batteries.

Project FK4 - Soldier Borne Sensor (SBS): The SBS is a small unmanned aerial vehicle. The SBS provides a near term solution to three Army War-fighting Challenges at the Infantry Squad level: develop situational understanding, conduct air-ground reconnaissance, and conduct joint combined arms maneuver. The system is simple to deploy and use to support the squad leader's decision-making process. The system allows Soldiers to obtain local situational awareness and understanding of their immediate surroundings while remaining in covered or concealed positions. The SBS program will be procured through multiple phases. We will use the funding in this project to develop, integrate, and qualify additional capabilities for each phase. Funding in this project aligns with the Army's priorities in support of the National Defense Strategy.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army	Date: March 2023
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604827A *I Soldier Systems - Warrior Dem/Val*

S65 - Soldier Power: Soldier Power enables dismounted Soldiers to efficiently execute missions for longer durations by reducing the logistical burden associated with fuel and primary (disposable) batteries. Platoon Power Generation (PPG) - PM E2S2: This project supports the demonstration and development of a PPG. The Small Unit Power (SUP) PPG will provide small units with sufficient portable power to sustain Modified Table of Organizational Equipment (MTOE) unit power demand in support of 48 to 72 hour missions. It will be used for charging batteries and powering various types of Army communications and electronics devices.

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	6.454	11.425	11.573	-	11.573
Current President's Budget	6.219	19.408	11.333	-	11.333
Total Adjustments	-0.235	7.983	-0.240	-	-0.240
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	8.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.235	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	-0.240	-	-0.240
• FFRDC Transfer	-	-0.017	-	-	-

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2022	FY 2023
Project: EY2: *Integrated Soldier Power Data System - Core*		
Congressional Add: *Conformal wearable battery*	-	5.000
Congressional Add: *Wearable fuel cell development*	-	3.000
Congressional Add Subtotals for Project: EY2	-	8.000
Congressional Add Totals for all Projects	-	8.000

Change Summary Explanation

Decreased funding to support higher Army priorities.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604827A / *Soldier Systems - Warrior Dem/Val*	Project (Number/Name) EY2 / *Integrated Soldier Power Data System - Core*	

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
EY2: *Integrated Soldier Power Data System - Core*	-	4.165	12.559	4.598	-	4.598	4.699	4.705	4.755	4.808	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Integrated Soldier Power Data System - Core (ISPDS-C) includes power and data managing/distribution devices, cutting-edge energy storage solutions, and power scavenging devices. These capabilities fill the power and energy gaps created by the increase in mission essential, Soldier portable power consumers, such as heads up displays, situational awareness displays, global positioning systems, weapon sensors, radios, night vision systems, and other devices. This project line develops power sources and power management solutions for the individual Soldier and squad for use in all operating environments. ISPDS-C systems will enable dismounted Soldiers and squads to execute their missions more efficiently, independently, for longer durations and with fewer battery resupplies while reducing the logistical and physical burden associated with moving fuel and batteries. This project also develops and integrates vehicular on-the-move charging.

Justification: FY24 funding develops and evaluates capabilities to fill the power and energy requirements for critical Integrated Tactical Network Soldier worn systems to include tactical radios, assured position navigation and timing, Next Generation Squad Weapon, Nett Warrior, Enhanced Night Vision Goggle, and the Integrated Visual Augmentation System (IVAS).

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Test and Evaluation	0.693	0.806	0.943
Description: Test and validate power and energy solutions from new battery chemistries, fuel cells, and scavenging devices and integrating the solutions using common interfaces with the Power and Data Hub and Squad Power Manager. ***FY 2023 Plans:*** Continue to develop and test new power distribution technology, characterize Soldier peripherals, improve current power source chemistries, and improve protective materials and integrate into functional battery packs and pouches. ***FY 2024 Plans:*** Continue to develop and test new power distribution technology, characterize Soldier peripherals, improve current power source chemistries, and improve protective materials and integrate into functional battery packs and pouches. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Silicone anode battery testing and increased fuel cell testing expected in FY 2024.			
Title: System Engineering & Program Management	0.203	0.826	0.601

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604827A / *Soldier Systems - Warrior Dem/Val*	**Project (Number/Name)** EY2 / *Integrated Soldier Power Data System - Core*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Description: Conduct system engineering and project management for ISDPS-C efforts and power characterization efforts. ***FY 2023 Plans:*** Continue to conduct system engineering, project management, and additional R&D center power characterization studies for dismounted Soldier equipment and ISPDS-C efforts. ***FY 2024 Plans:*** Continue to conduct system engineering, project management, and additional research and development center power characterization studies for dismounted Soldier equipment and ISPDS-C efforts. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Slight decrease as a result of reduced system engineering and project management in FY 2024.			
Title: ISPDS-C/CWB Capability Improvements Integration ***Description:*** Evaluate higher energy density power and alternative energy solutions. ***FY 2023 Plans:*** Continued integration of alternative power technologies and higher energy density batteries and cells for the dismounted Soldier. Conduct battery chemistry development activities for advanced CWBs. ***FY 2024 Plans:*** Continued integration of alternative power technologies and higher energy density batteries and cells for the dismounted Soldier. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase in funding reflects planned lifecycle efforts.	0.766	1.935	2.291
Title: Develop alternative CWB sources. ***Description:*** Develop alternative CWB sources. ***FY 2023 Plans:*** Continue to develop and evaluate incremental improvements in alternative power storage technologies to increase overall power and energy capacity. Conduct advanced fuel cell development. ***FY 2024 Plans:*** Continue to develop and evaluate incremental improvements in alternative power storage technologies to increase overall power and energy capacity. ***FY 2023 to FY 2024 Increase/Decrease Statement:***	2.503	0.826	0.763

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604827A / *Soldier Systems - Warrior Dem/Val*	**Project (Number/Name)** EY2 / *Integrated Soldier Power Data System - Core*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Decrease in funding reflects planned lifecycle efforts.			
Title: SBIR/STTR ***Description:*** Funding transferred in accordance with Title 15 USC 638 ***FY 2023 Plans:*** Funding transferred in accordance with Title 15 USC 638 ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding transferred in accordance with Title 15 USC 638	-	0.166	-
Accomplishments/Planned Programs Subtotals	4.165	4.559	4.598

	FY 2022	FY 2023
Congressional Add: Conformal wearable battery ***FY 2023 Plans:*** Funding will be used for the development of advanced battery technology in support of Conformal Wearable Battery program.	-	5.000
Congressional Add: Wearable fuel cell development ***FY 2023 Plans:*** Funding will be used for the development of wearable fuel cell technologies to reduce size, weight, and manufacturing complexity.	-	3.000
Congressional Adds Subtotals	-	8.000

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• R08090: *Integrated Soldier Power Data System - Core*	5.947	6.725	6.703	-	6.703	7.870	6.496	6.500	6.506	0.000	46.747

Remarks

D. Acquisition Strategy

Pursue a variety of Soldier power products under full and open competition. Initiatives range from Commercial-Off-The-Shelf (COTS) solutions to developmental efforts. The type of solicitation depends on the maturity of the technology. The power initiatives will be evaluated through scheduled lab and/operational test and evaluation events, and if successful, selected for procurement and subsequent fielding and sustainment. The acquisition strategy varies by product. For example, the CWB

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604827A / *Soldier Systems - Warrior Dem/Val*	**Project (Number/Name)** EY2 / *Integrated Soldier Power Data System - Core*

acquisition strategy consists of two phases: Phase one includes the purchase of test articles. Phase two establishes an Indefinite Delivery Indefinite Quantity (IDIQ) contract through the Army Contracting Command (ACC) which maximizes competition to transition to production.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604827A / *Soldier Systems - Warrior Dem/Val*	Project (Number/Name) EY2 / *Integrated Soldier Power Data System - Core*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
System Engineering & Program Management Support	MIPR	Various : Various	2.686	0.203	Feb 2022	0.826	Jan 2023	0.601	Jan 2024	-		0.601	Continuing	Continuing	-
		Subtotal	2.686	0.203		0.826		0.601		-		0.601	Continuing	Continuing	N/A

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ISPDS-C, CWB Capability Improvements Integration	MIPR	Various : Various	8.257	0.766	Jul 2022	7.101	Feb 2023	2.291	Feb 2024	-		2.291	Continuing	Continuing	-
Develop alternative CWB sources	MIPR	Various : Various	1.460	2.503	May 2022	3.826	Feb 2023	0.763	Feb 2024	-		0.763	Continuing	Continuing	-
		Subtotal	9.717	3.269		10.927		3.054		-		3.054	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test and Evaluation	MIPR	Various : Various	1.995	0.693	Jul 2022	0.806	Mar 2023	0.943	Mar 2024	-		0.943	Continuing	Continuing	-
		Subtotal	1.995	0.693		0.806		0.943		-		0.943	Continuing	Continuing	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	14.398	4.165		12.559		4.598		-		4.598	Continuing	Continuing	N/A

Remarks

Cost elements may contain multiple awards. In such cases, the latest award date is listed.

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604827A / *Soldier Systems - Warrior Dem/Val*	**Project (Number/Name)** EY2 / *Integrated Soldier Power Data System - Core*

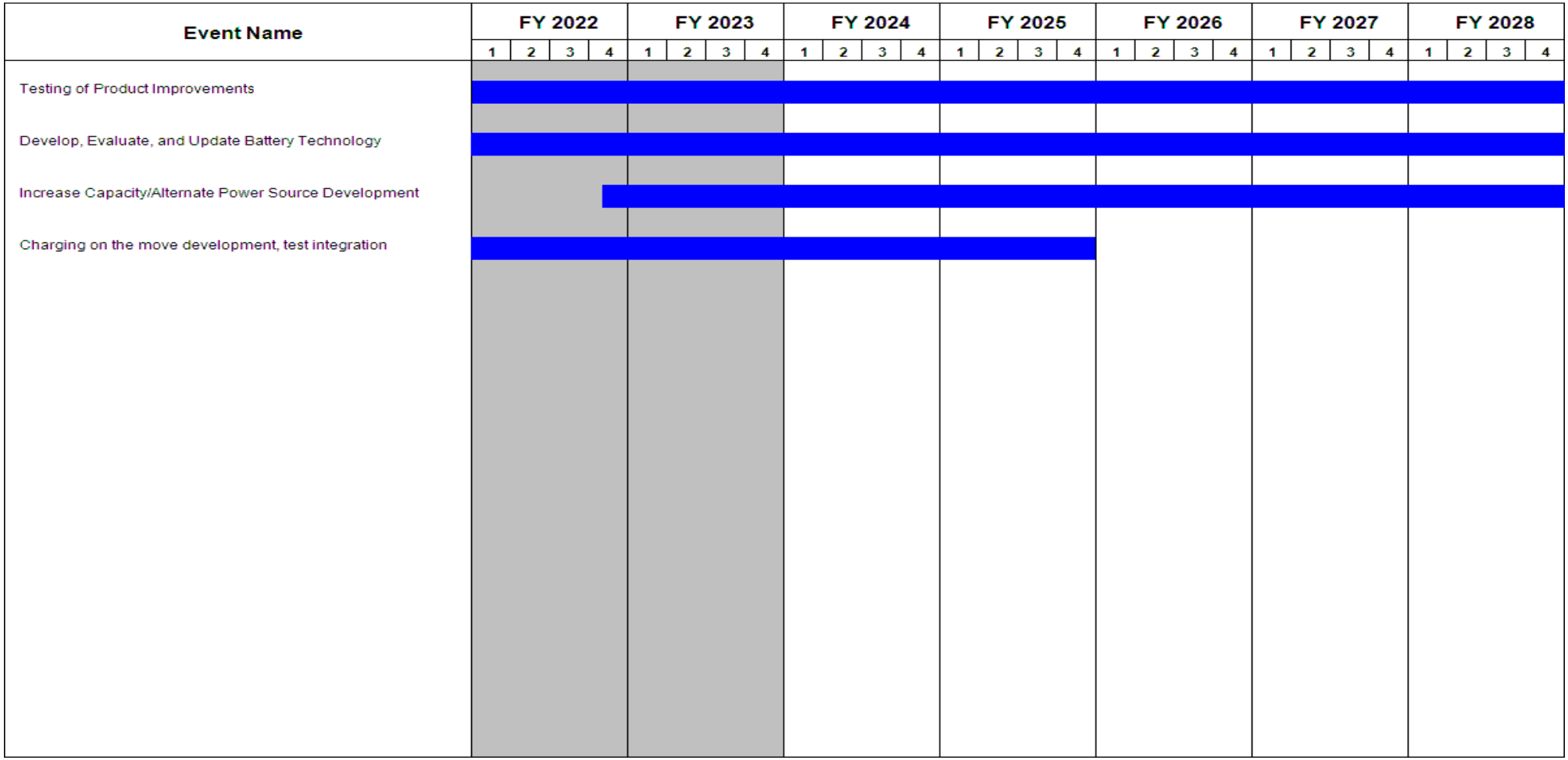

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604827A / *Soldier Systems - Warrior Dem/Val*	**Project (Number/Name)** EY2 / *Integrated Soldier Power Data System - Core*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Testing of Product Improvements	1	2020	4	2035
Develop, Evaluate, and Update Battery Technology	2	2020	4	2035
Increase Capacity/Alternate Power Source Development	4	2022	4	2035
Charging on the move development, test integration	3	2021	4	2025

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604827A / *Soldier Systems - Warrior Dem/Val*	Project (Number/Name) EY4 / *Universal Battery Charger*	

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
EY4: *Universal Battery Charger*	-	0.951	1.022	1.004	-	1.004	1.005	1.005	1.017	1.027	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Universal Battery Charger: Universal Battery Charger (UBC) fills the power and energy gap created by the increase in mission essential, Soldier portable power consumers, by providing a variety of charging solutions capable of providing power to handheld communication devices and military batteries to support mounted and dismounted formations. The UBC is suited for mounted and dismounted operations at the company level and below in multi-domain and austere operating environments. The system can draw power from wall outlets, vehicle power, generators, and solar power sources. The UBC enables dismounted Soldiers to execute their missions with fewer battery resupplies, thus reducing the logistical burden associated with moving fuel and batteries. The UBC capability allows dismounted Soldiers to operate independently for longer missions. The UBC fills the power and energy gap associated with bulk charging.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Test & Evaluation ***Description:*** Develop and evaluate improved UBC products, including bulk charging and power on the move charging systems. ***FY 2023 Plans:*** Continue to evaluate improved UBC products, including bulk charging, and integrate platform on the move charging systems. ***FY 2024 Plans:*** Continue to evaluate improved UBC products, including bulk charging, and integrate platform power on the move charging systems. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Decrease due to initial developments of bulk charging capability ends in FY 2024, reducing the test and evaluation requirement for that year.	0.951	0.757	0.735
Title: System Engineering & Program Management ***Description:*** Description: Conduct system engineering and project management for UBC efforts. ***FY 2023 Plans:*** Conduct systems engineering, project management, and logistics management for UBC product line. ***FY 2024 Plans:***	-	0.228	0.269

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604827A / *Soldier Systems - Warrior Dem/Val*	**Project (Number/Name)** EY4 / *Universal Battery Charger*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Conduct systems engineering, project management, and logistics management for UBC product line. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase in logistics management requirements for UBC family of systems			
Title: SBIR/STTR ***Description:*** Funding transferred in accordance with Title 15 USC 638 ***FY 2023 Plans:*** Funding transferred in accordance with Title 15 USC 638 ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding transferred in accordance with Title 15 USC 638	-	0.037	-
Accomplishments/Planned Programs Subtotals	0.951	1.022	1.004

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• R09103: *Universal Battery Charger*	11.868	9.208	9.264	-	9.264	7.773	7.506	7.511	7.518	0.000	60.648

Remarks

D. Acquisition Strategy

Contracts will be awarded to test, evaluate, and procure the next generation battery chargers to meet the increased power demand on the Soldier. The PM will initiate efforts to establish a new competitively awarded multiple award IDIQ contract no earlier than FY 2024 through the Army Contracting Command (ACC) Aberdeen Proving Grounds.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604827A / *Soldier Systems - Warrior Dem/Val*	Project (Number/Name) EY4 / *Universal Battery Charger*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
System Engineering/ Program Management Support	MIPR	Various : Various	0.877	-		0.228	Jan 2023	0.269	Jan 2024	-		0.269	Continuing	Continuing	-
		Subtotal	0.877	-		0.228		0.269		-		0.269	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test & Evaluation	MIPR	Various : Various	4.247	0.951	Aug 2022	0.794	Feb 2023	0.735	Mar 2024	-		0.735	Continuing	Continuing	-
		Subtotal	4.247	0.951		0.794		0.735		-		0.735	Continuing	Continuing	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	5.124	0.951		1.022		1.004		-		1.004	Continuing	Continuing	N/A

Remarks

Cost elements may contain multiple awards. In such cases, the latest award date is listed.

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604827A / *Soldier Systems - Warrior Dem/Val*	**Project (Number/Name)** EY4 / *Universal Battery Charger*

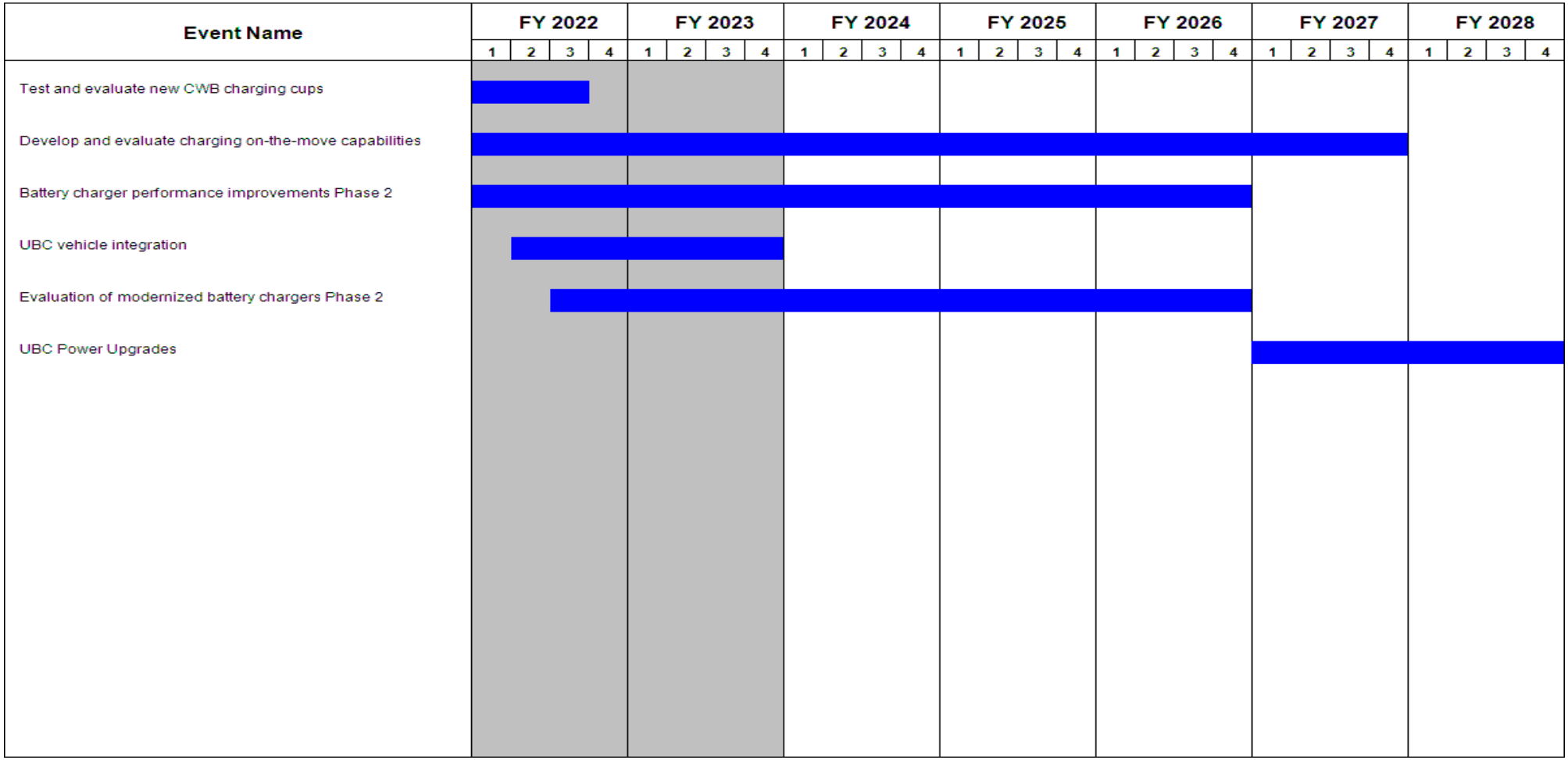

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604827A / *Soldier Systems - Warrior Dem/Val*	**Project (Number/Name)** EY4 / *Universal Battery Charger*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Test and evaluate new CWB charging cups	1	2022	3	2022
Develop and evaluate charging on-the-move capabilities	1	2021	4	2027
Battery charger performance improvements Phase 2	1	2022	4	2026
UBC vehicle integration	2	2022	4	2023
Evaluation of modernized battery chargers Phase 2	3	2022	4	2026
UBC Power Upgrades	1	2027	4	2028

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604827A / *Soldier Systems - Warrior Dem/Val*	Project (Number/Name) FK4 / *Soldier Borne Sensor (SBS)*	

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
FK4: *Soldier Borne Sensor (SBS)*	-	1.103	1.682	1.656	-	1.656	1.634	4.152	8.402	4.371	0.000	23.000
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Project FK4 - Soldier Borne Sensor (SBS): The SBS is a small unmanned aerial vehicle. The SBS provides a near term solution to three Army War-fighting Challenges at the Infantry Squad level: develop situational understanding, conduct air-ground reconnaissance, and conduct joint combined arms maneuver. The system is simple to deploy and use to support the squad leader's decision-making process. The system allows Soldiers to obtain local situational awareness and understanding of their immediate surroundings while remaining in covered or concealed positions. The SBS program will be procured through multiple phases. We will use the funding in this project to develop, integrate, and qualify additional capabilities for each phase.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Soldier Borne Sensor (SBS) ***Description:*** The SBS provides the squad a "quick look" capability providing Situational Awareness (SA). ***FY 2023 Plans:*** This program will develop and test Phase 2 systems with improved-thermal imager, battery life, and interoperability. The program will incorporate advanced obstacle avoidance, autonomous behaviors, edge processing, and novel battery chemistries. The program will integrate S&T portfolio work on efficient target detection. Additionally, the program plans to integrate SBS with systems such as Enhanced Night Vision Goggle - Binocular (ENVG-B) and Integrated Visual Augmentation System (IVAS). ***FY 2024 Plans:*** This program will complete the development and testing of Phase 2 systems. This program will continue to incorporate and test advanced obstacle avoidance, autonomous behaviors, edge processing, Robotics and Autonomous Systems - Air (RAS-A) interoperability, and novel battery chemistries. The program will continue to integrate S&T portfolio work on efficient target detection, and to integrate SBS with systems such as Enhanced Night Vision Goggle - Binocular (ENVG-B) and Integrated Visual Augmentation System (IVAS). ***FY 2023 to FY 2024 Increase/Decrease Statement:*** The increase in funding from FY2023 to FY2024 represents the planned lifecycle of the effort.	1.103	1.621	1.656
Title: SBIR/STTR Transfer ***Description:*** Funding transferred in accordance with Title 15 USC 638	-	0.061	-

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604827A / *Soldier Systems - Warrior Dem/Val*	**Project (Number/Name)** FK4 / *Soldier Borne Sensor (SBS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
FY 2023 Plans: Funding transferred in accordance with Title 15 USC 638 ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding transferred in accordance with Title 15 USC 638			
Accomplishments/Planned Programs Subtotals	1.103	1.682	1.656

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• W63798: *Soldier Borne Sensor (SBS)*	18.654	20.376	22.565	-	22.565	21.959	-	-	12.732	Continuing	Continuing

Remarks

D. Acquisition Strategy

The program will evaluate potential improved phase 2 systems as well as options to fund hardware and software developments that support advanced autonomy and interoperability in FY24 and beyond.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604827A / *Soldier Systems - Warrior Dem/Val*	**Project (Number/Name)** FK4 / *Soldier Borne Sensor (SBS)*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Admin (PMA)	MIPR	ASC : Ft Belvoir	0.204	0.075	Mar 2022	0.077	Jan 2023	0.080	Jan 2024	-		0.080	0.000	0.436	-
		Subtotal	0.204	0.075		0.077		0.080		-		0.080	0.000	0.436	N/A

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Phase 2 Prototype	C/FFP	Vantage Robotics : San Leandro, CA 95577	1.948	0.200	Jan 2022	0.489	Feb 2023	0.322	Feb 2024	-		0.322	0.000	2.959	2.534
Phase 2 Prototype	C/FFP	Teledyne FLIR : Wilsonville, OR 97070	-	0.158	Jan 2022	0.249	Feb 2023	0.322	Feb 2024	-		0.322	0.000	0.729	-
Autonomy and Interoperability Development and Integration	TBD	Various : Various	-	0.421	Aug 2022	0.085	Feb 2023	0.134	Nov 2023	-		0.134	0.000	0.640	-
		Subtotal	1.948	0.779		0.823		0.778		-		0.778	0.000	4.328	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Matrix Support	Various	Various : Multiple	0.418	0.032	Aug 2022	-		0.080	Nov 2023	-		0.080	0.000	0.530	-
		Subtotal	0.418	0.032		-		0.080		-		0.080	0.000	0.530	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604827A / *Soldier Systems - Warrior Dem/Val*	Project (Number/Name) FK4 / *Soldier Borne Sensor (SBS)*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Phase 2- Technology Integration and Testing	TBD	Various : Various	0.303	0.217	Nov 2021	0.782	Feb 2023	0.718	Nov 2023	-		0.718	0.000	2.020	-
		Subtotal	0.303	0.217		0.782		0.718		-		0.718	0.000	2.020	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	2.873	1.103		1.682		1.656		-		1.656	0.000	7.314	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604827A / *Soldier Systems - Warrior Dem/Val*	**Project (Number/Name)** FK4 / *Soldier Borne Sensor (SBS)*

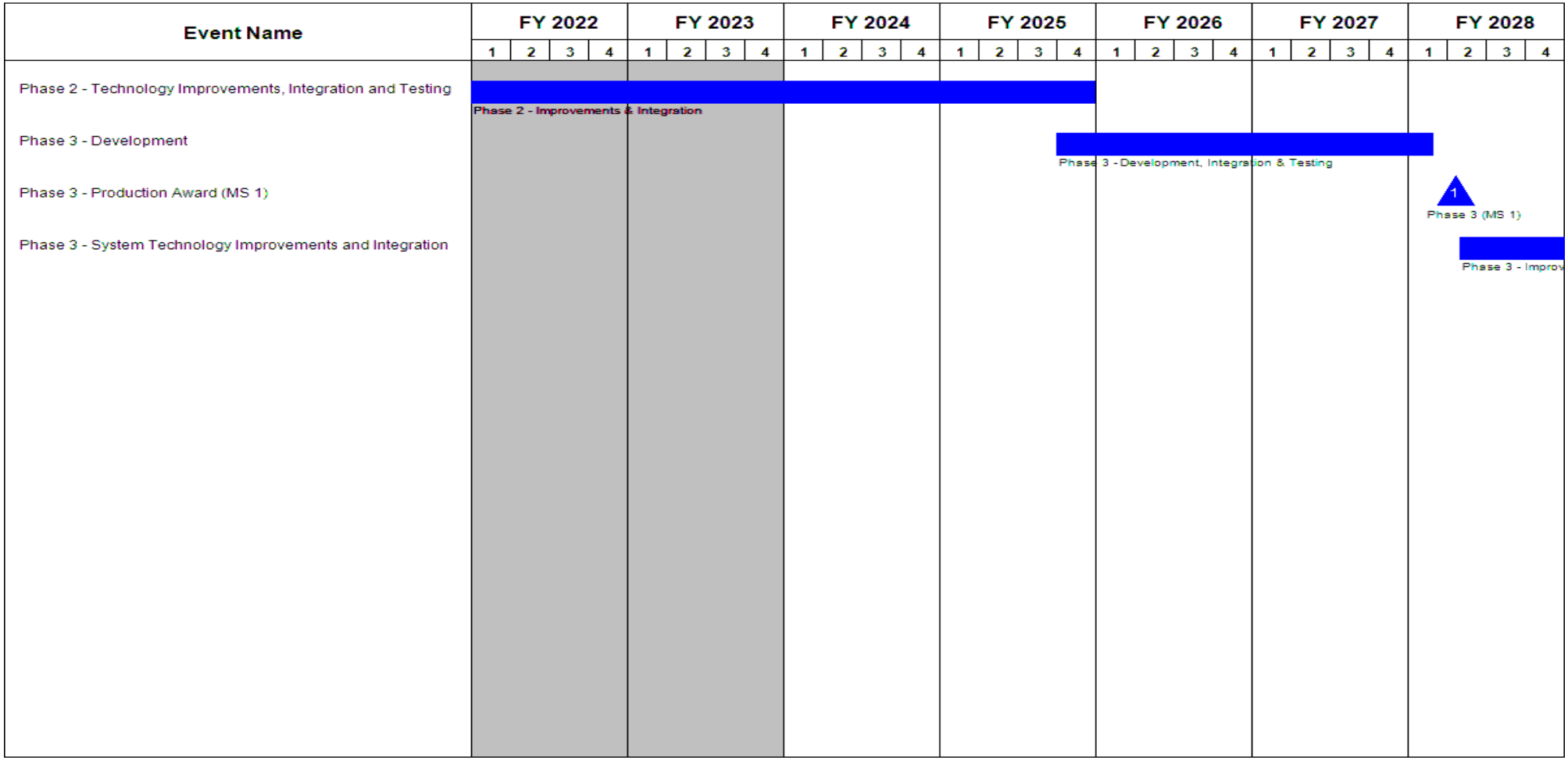

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604827A / *Soldier Systems - Warrior Dem/Val*	**Project (Number/Name)** FK4 / *Soldier Borne Sensor (SBS)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Phase 2 - Technology Improvements, Integration and Testing	3	2020	4	2025
Phase 3 - Development	4	2025	1	2028
Phase 3 - Production Award (MS 1)	2	2028	2	2028
Phase 3 - System Technology Improvements and Integration	2	2028	4	2029

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604827A / *Soldier Systems - Warrior Dem/Val*	Project (Number/Name) S65 / *Platoon Power Generator*	

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
S65: *Platoon Power Generator*	-	-	4.145	4.075	-	4.075	-	-	-	-	0.000	8.220
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Platoon Power Generation - PM E2S2: This project supports the demonstration and development of Platoon Power Generation (PPG). PPG will provide small units with portable power to sustain Modified Table of Organizational Equipment (MTOE) unit power demand in support of 48 to 72 hour missions. It will be used for charging batteries and powering various types of Army communications and electronics devices. It will provide sufficient power to recharge and power all Platoon equipment and fulfill residual power gaps at the Squad and Soldier level. The generator will provide Platoon power for charging batteries when away from vehicles in all Brigade Combat Teams (Stryker, Armor and Infantry), Rangers and Special Forces in austere environments.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: S65-Platoon Power Generator	-	3.993	4.075
Description: Utilize Small Business Innovation Research (SBIR) Phase III contract vehicle to develop and test prototypes. ***FY 2023 Plans:*** Award Phase III contract to develop initial design and fuel cell prototypes in the range of 1.5-2kW to mature technology and reduce risk. ***FY 2024 Plans:*** Optimize fuel cell prototype design based on user feedback and improve upon prototypes to prepare the system for test and evaluation. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** FY24 funding increase to optimize prototypes based on Soldier feedback to prepare the system for developmental testing and commercialization.			
Title: SBIR/STTR transfer	-	0.152	-
Description: Funding transferred in accordance with Title 15 USC 638 ***FY 2023 Plans:*** Funding transferred in accordance with Title 15 USC 638 ***FY 2023 to FY 2024 Increase/Decrease Statement:***			

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604827A / *Soldier Systems - Warrior Dem/Val*	**Project (Number/Name)** S65 / *Platoon Power Generator*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Funding transferred in accordance with Title 15 USC 638			
Accomplishments/Planned Programs Subtotals	-	4.145	4.075

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• R08090: *Integrated Soldier Power Data System - Core*	5.947	6.725	6.703	-	6.703	7.870	6.496	6.500	6.506	0.000	46.747
• R09103: *Universal Battery Charger*	11.868	9.208	9.264	-	9.264	7.773	7.506	7.511	7.518	0.000	60.648
• EY2: *Integrated Soldier Power Data System - Core*	4.165	12.559	4.598	-	4.598	4.699	4.705	4.755	4.808	Continuing	Continuing
• EY4: *Universal Battery Charger*	0.951	1.022	1.004	-	1.004	1.005	1.005	1.017	1.027	Continuing	Continuing

Remarks

D. Acquisition Strategy

PEO CS/CSS Effort on the Platoon Power Generation - PM E2S2: Small Business Innovation Research (SBIR) Phase III contract vehicle will be awarded in FY23 to develop and test prototypes. The prototypes will be optimized based on user feedback, tested, and incorporated into soldier touch points. The results of the contract, testing and soldier touch points will inform the Milestone C Low Rate Initial Production decision.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604827A / *Soldier Systems - Warrior Dem/Val*	Project (Number/Name) S65 / *Platoon Power Generator*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Platoon Power Generation	Various	PM E2S2 : Fort Belvoir, VA	0.764	-		0.750	Mar 2023	0.750	Feb 2024	-		0.750	Continuing	Continuing	Continuing
SBIR/STTR	C/Various	VAR : VAR	-	-		0.152		-		-		-	0.000	0.152	-
		Subtotal	0.764	-		0.902		0.750		-		0.750	Continuing	Continuing	N/A

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Platoon Power Generation	C/FFP	Picatinny : Contractor Sites	9.358	-		2.848	May 2023	1.415	Feb 2024	-		1.415	Continuing	Continuing	Continuing
		Subtotal	9.358	-		2.848		1.415		-		1.415	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Platoon Power Generation	MIPR	APG : APG	3.419	-		0.395	Aug 2023	0.410	Feb 2024	-		0.410	Continuing	Continuing	Continuing
		Subtotal	3.419	-		0.395		0.410		-		0.410	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Platoon Power Generation	MIPR	Ft. Benning : Ft. Benning	1.340	-		-		1.500	Feb 2024	-		1.500	Continuing	Continuing	Continuing
		Subtotal	1.340	-		-		1.500		-		1.500	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604827A / *Soldier Systems - Warrior Dem/Val*	Project (Number/Name) S65 / *Platoon Power Generator*	

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	14.881	-		4.145		4.075		-		4.075	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604827A / *Soldier Systems - Warrior Dem/Val*	**Project (Number/Name)** S65 / *Platoon Power Generator*

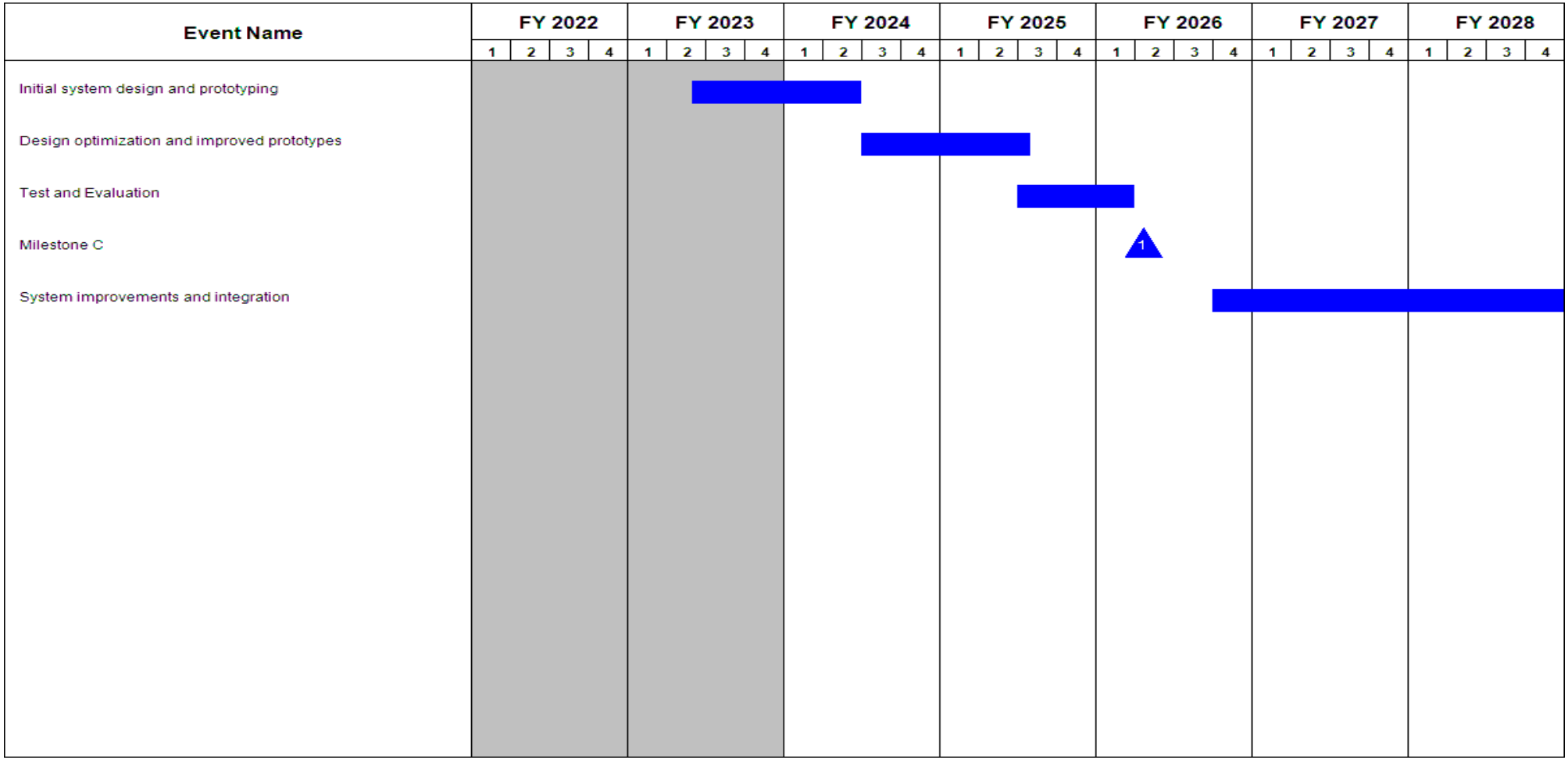

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604827A / *Soldier Systems - Warrior Dem/Val*	**Project (Number/Name)** S65 / *Platoon Power Generator*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Initial system design and prototyping	2	2023	2	2024
Design optimization and improved prototypes	3	2024	3	2025
Test and Evaluation	3	2025	1	2026
Milestone C	2	2026	2	2026
System improvements and integration	4	2026	4	2028