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**Department of Defense  
Fiscal Year (FY) 2023 Budget Estimates**

April 2022



**Army**

*Justification Book of  
Procurement of W&TCV, Army*

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Army • Budget Estimates FY 2023 • Procurement

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## Cost Statement

The following Justification Books were prepared at a cost of \$474,495.00: Aircraft (ACFT), Missile (MSLS), Weapons & Tracked Combat Vehicles (WTCV), Ammunition (AMMO), Other Procurement Army (OPA) 1 - Tactical & Support Vehicles, Other Procurement Army (OPA) 2 – Communications & Electronics, Other Procurement Army (OPA) 3 & 4 - Other Support Equipment & Spares, Research, Development, Test and Evaluation (RDTE) for: Budget Activity 1, Budget Activity 2, Budget Activity 3, Budget Activity 4, Budget Activity 5A, Budget Activity 5B, Budget Activity 5C, Budget Activity 6, Budget Activity 7, and Budget Activity 8.

# PROCUREMENT OF W&TCV, ARMY

## Appropriation Language

For construction, procurement, production, and modification of weapons and tracked combat vehicles, equipment, including ordnance, spare parts, and accessories therefore; specialized equipment and training devices; expansion of public and private plants, including the land necessary therefore, for the foregoing purposes, and such lands and interests therein, may be acquired, and construction prosecuted thereon prior to approval of title; and procurement and installation of equipment, appliances, and machine tools in public and private plants; reserve plant and government and contractor-owned equipment layaway; and other expenses necessary for the foregoing purposes, \$3,576,030,000 to remain available for obligation until September 30, 2025.

Fiscal Year (FY) 2023 Overseas Operations Costs funding accounted for in the Base budget include:

- Combat or direct combat support expenses that discontinue once combat operations end at major contingency locations \$0
- In-theater and in-CONUS expenses that remain after combat operations cease and have been previously funded in OCO \$96,019

Department of the Army  
 FY 2023 President's Budget  
 Exhibit P-1 FY 2023 President's Budget  
 Total Obligational Authority  
 (Dollars in Thousands)

Apr 2022

Appropriation: Procurement of W&TCV, Army

<u>Budget Activity</u>	<u>FY 2021 (Base + OCO)</u>	<u>FY 2022 Enactment</u>	<u>FY 2023 Request</u>
01. Tracked Combat Vehicles	3,373,886	3,981,515	3,020,159
02. Weapons and Other Combat Vehicles	246,226	337,567	555,871
<b>Total Procurement of W&amp;TCV, Army</b>	<b>3,620,112</b>	<b>4,319,082</b>	<b>3,576,030</b>

Department of the Army  
 FY 2023 President's Budget  
 Exhibit P-1 FY 2023 President's Budget  
 Total Obligational Authority  
 (Dollars in Thousands)

Apr 2022

Appropriation: 2033A Procurement of W&TCV, Army

Line No	Item Nomenclature	Ident Code	FY 2021 (Base + OCO)		FY 2022 Enactment		FY 2023 Request		S e c
			Quantity	Cost	Quantity	Cost	Quantity	Cost	
<b><u>Budget Activity 01: Tracked Combat Vehicles</u></b>									
<b>Tracked Combat Vehicles</b>									
1	Armored Multi Purpose Vehicle (AMPV)	A		56,000		83,346	72	380,677	U
2	ASSAULT BREACHER VEHICLE (ABV)	A				16,454		3,852	U
3	Mobile Protected Firepower				23	286,977	28	356,708	U
<b>Modification of Tracked Combat Vehicles</b>									
4	Stryker Upgrade	A	259	1,164,152	228	1,082,828	102	671,271	U
5	Bradley Program (MOD)	A		277,259		460,385		279,531	U
6	M109 FOV Modifications	A		26,893		2,534		3,028	U
7	Paladin Integrated Management (PIM)	A	31	463,425	43	662,900	27	493,003	U
8	Improved Recovery Vehicle (M88A2 HERCULES)	A				52,059	12	138,759	U
9	Assault Bridge (Mod)			5,074		2,136			U
10	Assault Breacher Vehicle	A	3	19,500					U
11	M88 FOV MODS	A		18,382					U
12	Joint Assault Bridge	A			17	110,773	6	36,990	U
13	M1 Abrams Tank (MOD)	A		375,107					U
14	Abrams Upgrade Program	A	102	968,094	90	1,145,837	22	656,340	U
15	VEHICLE PROTECTION SYSTEMS (VPS)					75,286			U
<b>Total Tracked Combat Vehicles</b>				<b>3,373,886</b>		<b>3,981,515</b>		<b>3,020,159</b>	
<b><u>Budget Activity 02: Weapons and Other Combat Vehicles</u></b>									
<b>Weapons &amp; Other Combat Vehicles</b>									
16	M240 Medium Machine Gun (7.62mm)	A		12,500		10,500			U



Department of the Army  
 FY 2023 President's Budget  
 Exhibit P-1 FY 2023 President's Budget  
 Total Obligational Authority  
 (Dollars in Thousands)

Apr 2022

Appropriation: 2033A Procurement of W&TCV, Army

Line No	Item Nomenclature	Ident Code	FY 2021 (Base + OCO)		FY 2022 Enactment		FY 2023 Request		S e c
			Quantity	Cost	Quantity	Cost	Quantity	Cost	
17	MULTI-ROLE ANTI-ARMOR ANTI-PERSONNEL WEAPON S	A		22,629		31,623		26,627	U
18	Mortar Systems			20,748		32,985		8,516	U
19	LOCATION & AZIMUTH DETERMINATION SYSTEM (LADS	A						48,301	U
20	XM320 Grenade Launcher Module (GLM)	A		5,969		8,666		11,703	U
21	Precision Sniper Rifle	A		8,895		9,240		6,436	U
22	COMPACT SEMI-AUTOMATIC SNIPER SYSTEM	A		999					U
23	Carbine	A		5,411		4,434			U
24	Next Generation Squad Weapon	A		35,822		97,087		221,293	U
25	Common Remotely Operated Weapons Station			24,534					U
26	Handgun	A		4,662		4,930			U
<b>Mod of Weapons and Other Combat Veh</b>									
27	MK-19 Grenade Machine Gun MODS			6,444		23,027			U
28	M777 Mods	A		9,783		16,576		3,374	U
29	M4 Carbine Mods	A		4,824					U
30	M2 50 Cal Machine Gun MODS	B				6,612			U
31	M240 Medium Machine Gun MODS	A		6,385					U
32	Sniper Rifles Modifications			1,898					U
33	M119 Modifications	A		2,009				2,263	U
34	Mortar Modification	A		1,689					U
35	Modifications Less Than \$5.0m (WOCV-WTCV)			2,604					U
<b>Support Equipment &amp; Facilities</b>									
36	Items Less Than \$5.0m (WOCV-WTCV)			2,763		1,068		2,138	U

Department of the Army  
 FY 2023 President's Budget  
 Exhibit P-1 FY 2023 President's Budget  
 Total Obligational Authority  
 (Dollars in Thousands)

Apr 2022

Appropriation: 2033A Procurement of W&TCV, Army

Line No	Item Nomenclature	Ident Code	FY 2021 (Base + OCO)		FY 2022 Enactment		FY 2023 Request		S e c
			Quantity	Cost	Quantity	Cost	Quantity	Cost	
37	Production Base Support (WOCV-WTCV)			65,658		90,819		225,220	U
Total Weapons and Other Combat Vehicles				246,226		337,567		555,871	
Total Procurement of W&TCV, Army				3,620,112		4,319,082		3,576,030	

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Army • Budget Estimates FY 2023 • Procurement

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

***Appropriation 2033A: Procurement of W&TCV, Army***

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<b>Line #</b>	<b>BA</b>	<b>BSA</b>	<b>Line Item Number</b>	<b>Line Item Title</b>	<b>Page</b>
1	01	10	2944G80819	Armored Multi Purpose Vehicle (AMPV).....	1
2	01	10	4872G84900	ASSAULT BREACHER VEHICLE (ABV).....	11
3	01	10	7181G80820	Mobile Protected Firepower.....	13
4	01	20	0363G85200	Stryker Upgrade.....	22
5	01	20	1678GZ2400	Bradley Program (MOD).....	36
6	01	20	2072GA0400	M109 FOV Modifications.....	55
7	01	20	2073GZ0410	Paladin Integrated Management (PIM).....	57
8	01	20	3700GA0570	Improved Recovery Vehicle (M88A2 HERCULES).....	68
9	01	20	4520GZ3250	Assault Bridge (Mod).....	77
10	01	20	4872G82925	Assault Breacher Vehicle.....	78
11	01	20	5129G80571	M88 FOV MODS.....	80
12	01	20	5225GZ3001	Joint Assault Bridge.....	81
13	01	20	6406GA0700	M1 Abrams Tank (MOD).....	89
14	01	20	6500GA0750	Abrams Upgrade Program.....	91
15	01	20	6652GM1900	VEHICLE PROTECTION SYSTEMS (VPS).....	102

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***Appropriation 2033A: Procurement of W&TCV, Army***

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<b>Line #</b>	<b>BA</b>	<b>BSA</b>	<b>Line Item Number</b>	<b>Line Item Title</b>	<b>Page</b>
16	02	10	2472G13000	M240 Medium Machine Gun (7.62mm).....	104
17	02	10	3736G13101	MULTI-ROLE ANTI-ARMOR ANTI-PERSONNEL WEAPON SYSTEM.....	106
18	02	10	6580G02200	Mortar Systems.....	112
19	02	10	6659G08100	LOCATION & AZIMUTH DETERMINATION SYSTEM (LADS).....	118
20	02	10	8181G01501	XM320 Grenade Launcher Module (GLM).....	126
21	02	10	8190G01506	Precision Sniper Rifle.....	132
22	02	10	8194G01507	COMPACT SEMI-AUTOMATIC SNIPER SYSTEM.....	137
23	02	10	8201G13501	Carbine.....	138
24	02	10	8205G14510	Next Generation Squad Weapon.....	139
25	02	10	8310G04700	Common Remotely Operated Weapons Station.....	162
26	02	10	8635G15325	Handgun.....	163
27	02	20	3000GB3000	MK-19 Grenade Machine Gun MODS.....	164
28	02	20	3005GZ1700	M777 Mods.....	166
29	02	20	3010GB3007	M4 Carbine Mods.....	168
30	02	20	3015GB4000	M2 50 Cal Machine Gun MODS.....	169
31	02	20	3030GZ1300	M240 Medium Machine Gun MODS.....	171

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***Appropriation 2033A: Procurement of W&TCV, Army***

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<b>Line #</b>	<b>BA</b>	<b>BSA</b>	<b>Line Item Number</b>	<b>Line Item Title</b>	<b>Page</b>
32	02	20	3181GZ1500	Sniper Rifles Modifications.....	173
33	02	20	3640GC0401	M119 Modifications.....	175
34	02	20	7054G02100	Mortar Modification.....	177
35	02	20	9280GC0925	Modifications Less Than \$5.0m (WOCV-WTCV).....	178
36	02	30	1862GL3200	Items Less Than \$5.0m (WOCV-WTCV).....	179
37	02	30	3270GC0050	Production Base Support (WOCV-WTCV).....	181

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<b>Line Item Title</b>	<b>Line Item Number</b>	<b>Line #</b>	<b>BA</b>	<b>BSA</b>	<b>Page</b>
ASSAULT BREACHER VEHICLE (ABV)	4872G84900	2	01	10.....	11
Abrams Upgrade Program	6500GA0750	14	01	20.....	91
Armored Multi Purpose Vehicle (AMPV)	2944G80819	1	01	10.....	1
Assault Breacher Vehicle	4872G82925	10	01	20.....	78
Assault Bridge (Mod)	4520GZ3250	9	01	20.....	77
Bradley Program (MOD)	1678GZ2400	5	01	20.....	36
COMPACT SEMI-AUTOMATIC SNIPER SYSTEM	8194G01507	22	02	10.....	137
Carbine	8201G13501	23	02	10.....	138
Common Remotely Operated Weapons Station	8310G04700	25	02	10.....	162
Handgun	8635G15325	26	02	10.....	163
Improved Recovery Vehicle (M88A2 HERCULES)	3700GA0570	8	01	20.....	68
Items Less Than \$5.0m (WOCV-WTCV)	1862GL3200	36	02	30.....	179
Joint Assault Bridge	5225GZ3001	12	01	20.....	81
LOCATION & AZIMUTH DETERMINATION SYSTEM (LADS)	6659G08100	19	02	10.....	118
M1 Abrams Tank (MOD)	6406GA0700	13	01	20.....	89
M109 FOV Modifications	2072GA0400	6	01	20.....	55
M119 Modifications	3640GC0401	33	02	20.....	175

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<b>Line Item Title</b>	<b>Line Item Number</b>	<b>Line #</b>	<b>BA</b>	<b>BSA</b>	<b>Page</b>
M2 50 Cal Machine Gun MODS	3015GB4000	30	02	20.....	169
M240 Medium Machine Gun (7.62mm)	2472G13000	16	02	10.....	104
M240 Medium Machine Gun MODS	3030GZ1300	31	02	20.....	171
M4 Carbine Mods	3010GB3007	29	02	20.....	168
M777 Mods	3005GZ1700	28	02	20.....	166
M88 FOV MODS	5129G80571	11	01	20.....	80
MK-19 Grenade Machine Gun MODS	3000GB3000	27	02	20.....	164
MULTI-ROLE ANTI-ARMOR ANTI-PERSONNEL WEAPON SYSTEM	3736G13101	17	02	10.....	106
Mobile Protected Firepower	7181G80820	3	01	10.....	13
Modifications Less Than \$5.0m (WOCV-WTCV)	9280GC0925	35	02	20.....	178
Mortar Modification	7054G02100	34	02	20.....	177
Mortar Systems	6580G02200	18	02	10.....	112
Next Generation Squad Weapon	8205G14510	24	02	10.....	139
Paladin Integrated Management (PIM)	2073GZ0410	7	01	20.....	57
Precision Sniper Rifle	8190G01506	21	02	10.....	132
Production Base Support (WOCV-WTCV)	3270GC0050	37	02	30.....	181
Sniper Rifles Modifications	3181GZ1500	32	02	20.....	173
Stryker Upgrade	0363G85200	4	01	20.....	22
VEHICLE PROTECTION SYSTEMS (VPS)	6652GM1900	15	01	20.....	102
XM320 Grenade Launcher Module (GLM)	8181G01501	20	02	10.....	126

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Exhibit P-1M, Procurement Programs - Modification Summary  
(Listing by Model)

**Lookup Matrix by Model**

<b>Model:</b>	M2 & M3 Bradley Vehicle Variants		
<b>P-3a Individual Modifications</b>			
<b>Modification Number</b>	<b>Modification Title</b>		<b>Applies to Multiple Models</b>
GZ2400	Bradley Program (MOD)		No

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 Exhibit P-1M, Procurement Programs - Modification Summary  
 (Funding for Modifications)

**Funding (\$ M)**

P-3a Modification Title	PYS	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027
<b>Exhibit P-3a</b>										
Bradley Program (MOD)	6,461.764	277.259	460.385	279.531	-	279.531	56.037	30.989	30.951	30.946
<b>Totals (Total Obligation Authority)</b>										
<b>Total Obligation Authority</b>	<b>6,461.764</b>	<b>277.259</b>	<b>460.385</b>	<b>279.531</b>	<b>0.000</b>	<b>279.531</b>	<b>56.037</b>	<b>30.989</b>	<b>30.951</b>	<b>30.946</b>

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**Exhibit P-40, Budget Line Item Justification:** PB 2023 Army **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A: Procurement of W&TCV, Army / BA 01: Tracked Combat Vehicles / BSA 10: Tracked Combat Vehicles  
**P-1 Line Item Number / Title:** 2944G80819 / Armored Multi Purpose Vehicle (AMPV)

**ID Code** (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0605028A

**Line Item MDAP/MAIS Code:** 471

Resource Summary	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	447	-	-	72	-	72	131	131	131	131	1,854	2,897
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	1,438.537	56.000	83.346	380.677	-	380.677	682.429	678.352	677.655	677.722	10,659.603	15,334.321
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	1,438.537	56.000	83.346	380.677	-	380.677	682.429	678.352	677.655	677.722	10,659.603	15,334.321
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>1,438.537</b>	<b>56.000</b>	<b>83.346</b>	<b>380.677</b>	<b>-</b>	<b>380.677</b>	<b>682.429</b>	<b>678.352</b>	<b>677.655</b>	<b>677.722</b>	<b>10,659.603</b>	<b>15,334.321</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	3,218.204	-	-	5,287.181	-	5,287.181	5,209.382	5,178.260	5,172.939	5,173.450	5,749.516	5,293.173

**Description:**

This funding line is directly aligned to the Army Next Generation Combat Vehicle (NGCV) Line of Effort 3 Modernization Priority.

The Armored Multi-Purpose Vehicle (AMPV) is the materiel solution for replacement of the Army's Armored Personnel Carrier (M113) Family of Vehicles (FoV) within the Armored Brigade Combat Team (ABCT). It will mitigate current and future capability gaps in force protection, mobility, reliability, and interoperability across the Spectrum of Conflict. The AMPV will replace five mission roles currently performed by the M113 Family of Vehicles by transferring the current M113 Mission Equipment Packages (MEP) to a new Military Vehicle Derivative (MVD) platform.

In total, the AMPV Family of Vehicles will account for approximately 30% of the Armored Brigade Combat Team's tracked fleet and consists of the following five variants:

1. Mission Command (MCmd) Variant: This platform enables effective mission command planning and execution for both the Tactical Operations Center (TOC) and Tactical Command Vehicle (TAC) versions of the Mission Command Variant. It will host current Battle Command Systems, future replacements, and upgrades of hardware and software.
2. Medical Treatment (MT) Variant: This platform will provide a protected surgical environment, with adequate lighting and accessible medical equipment. It will provide a capability for immediate medical care for one patient by a medical crew of four.
3. Medical Evacuation (ME) Variant: This platform will conduct ambulance type activities and provide casualty evacuation for up to four litter (tactical stretcher) or six ambulatory patients, with a crew of three medical attendants.
4. General Purpose (GP) Variant: This platform will operate throughout the battle space by conducting re-supply, maintenance, casualty evacuation, and other tasks within the formation.
5. Mortar Carrier (MC) Variant: This platform will provide immediate responsive fire support to conduct fast-paced offensive operations.

Secondary Distribution	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027
Army Quantity	-	-	72	-	72	131	131	131	131

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**Exhibit P-40, Budget Line Item Justification:** PB 2023 Army **Date:** April 2022

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A: Procurement of W&TCV, Army / BA 01: Tracked Combat Vehicles / BSA 10: Tracked Combat Vehicles	<b>P-1 Line Item Number / Title:</b> 2944G80819 / Armored Multi Purpose Vehicle (AMPV)
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> 0605028A
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**Line Item MDAP/MAIS Code:** 471

Secondary Distribution		FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027
	Total Obligation Authority	56.000	83.346	380.677	-	380.677	682.429	678.352	677.655	677.722
<b>Total:</b>	<b>Quantity</b>	-	-	72	-	72	131	131	131	131
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>56.000</b>	<b>83.346</b>	<b>380.677</b>	<b>-</b>	<b>380.677</b>	<b>682.429</b>	<b>678.352</b>	<b>677.655</b>	<b>677.722</b>

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**Exhibit P-40, Budget Line Item Justification:** PB 2023 Army **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A: Procurement of W&TCV, Army / BA 01: Tracked Combat Vehicles / BSA 10: Tracked Combat Vehicles  
**P-1 Line Item Number / Title:** 2944G80819 / Armored Multi Purpose Vehicle (AMPV)

**ID Code** (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0605028A

**Line Item MDAP/MAIS Code:** 471

Exhibits Schedule					Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 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	G80819 / Armored Multi Purpose Vehicle (AMPV)	P-5a, P-21	A		447 / 1,438.537	- / 56.000	- / 83.346	72 / 380.677	- / -	72 / 380.677
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>447 / 1,438.537</b>	<b>- / 56.000</b>	<b>- / 83.346</b>	<b>72 / 380.677</b>	<b>- / -</b>	<b>72 / 380.677</b>

\*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:**  
 FY 2023 procurement dollars in the amount of \$380.677 million procures 72 Armored Multi-Purpose Vehicles (AMPVs). Accordingly, the FY 2023 procurement covers government program management efforts, contractor efforts related to current production, production support, and testing/training/fielding/deprocessing efforts from both the government and contractor. Additionally, funding supports user requested system enhancements stemming from the program's test plan as well as obsolescence management to identify diminishing manufacturing and material sources to enable uninterrupted production. AMPV will mitigate current and future capability gaps in force protection, mobility, reliability, and interoperability across the Spectrum of Conflict.

In accordance with Section 1815 of the FY 2008 National Defense Authorization Act (P.L. 110-181), this item is necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities.

Army Acquisition Objective (AAO): 2897 vehicles

This funding line is directly aligned to the Army Next Generation Combat Vehicle (NGCV) Line of Effort 3 Modernization Priority.

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<b>Exhibit P-5, Cost Analysis: PB 2023 Army</b>		<b>Date:</b> April 2022
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 01 / 10		<b>P-1 Line Item Number / Title:</b> 2944G80819 / Armored Multi Purpose Vehicle (AMPV)
		<b>Item Number / Title [DODIC]:</b> G80819 / Armored Multi Purpose Vehicle (AMPV)

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A	<b>MDAP/MAIS Code:</b>
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Resource Summary	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Procurement Quantity (Units in Each)	447	-	-	72	-	72
Gross/Weapon System Cost (\$ in Millions)	1,438.537	56.000	83.346	380.677	-	380.677
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	1,438.537	56.000	83.346	380.677	-	380.677
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>1,438.537</b>	<b>56.000</b>	<b>83.346</b>	<b>380.677</b>	<b>-</b>	<b>380.677</b>

*(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)	3,218.204	-	-	5,287.181	-	5,287.181

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

Cost Elements	Prior Years			FY 2021			FY 2022			FY 2023 Base			FY 2023 OCO			FY 2023 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)
Flyaway Cost																		
Recurring Cost																		
Vehicle Manufacturing - Contractor <sup>(t)</sup>	3,082.436	447	1,377.849	-	-	-	-	-	-	3,548.417	72	255.486	-	-	-	3,548.417	72	255.486
Government Furnished Material (GFM)	-	-	-	-	-	-	-	-	-	-	-	47.635	-	-	-	-	-	47.635
Engineering Change Orders	-	-	1.862	-	-	18.600	-	-	10.219	-	-	22.057	-	-	-	-	-	22.057
Sys Eng / Prog Mgmt (Government)	-	-	27.747	-	-	19.108	-	-	20.024	-	-	21.311	-	-	-	-	-	21.311
Sys Test & Evaluation (Government)	-	-	-	-	-	-	-	-	-	-	-	1.935	-	-	-	-	-	1.935
Training Devices	-	-	4.332	-	-	13.312	-	-	12.076	-	-	1.214	-	-	-	-	-	1.214
Total Package Fielding (TPF)	-	-	20.052	-	-	2.038	-	-	8.887	-	-	7.955	-	-	-	-	-	7.955
System Technical Support (STS)	-	-	6.695	-	-	2.942	-	-	32.140	-	-	23.084	-	-	-	-	-	23.084
<i>Subtotal: Recurring Cost</i>	<i>-</i>	<i>-</i>	<i>1,438.537</i>	<i>-</i>	<i>-</i>	<i>56.000</i>	<i>-</i>	<i>-</i>	<i>83.346</i>	<i>-</i>	<i>-</i>	<i>380.677</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>380.677</i>
<i>Subtotal: Flyaway Cost</i>	<i>-</i>	<i>-</i>	<i>1,438.537</i>	<i>-</i>	<i>-</i>	<i>56.000</i>	<i>-</i>	<i>-</i>	<i>83.346</i>	<i>-</i>	<i>-</i>	<i>380.677</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>380.677</i>
<b>Gross/Weapon System Cost</b>	<b>3,218.204</b>	<b>447</b>	<b>1,438.537</b>	<b>-</b>	<b>-</b>	<b>56.000</b>	<b>-</b>	<b>-</b>	<b>83.346</b>	<b>5,287.181</b>	<b>72</b>	<b>380.677</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>5,287.181</b>	<b>72</b>	<b>380.677</b>

Remarks:

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2023 Army</b>		<b>Date:</b> April 2022
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 01 / 10	<b>P-1 Line Item Number / Title:</b> 2944G80819 / Armored Multi Purpose Vehicle (AMPV)	<b>Item Number / Title [DODIC]:</b> G80819 / Armored Multi Purpose Vehicle (AMPV)

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A	<b>MDAP/MAIS Code:</b>
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Army Acquisition Objective (AAO): 2897 vehicles. To date, the AMPV program has 457 Vehicles on contract with BAE Systems.

The Vehicle Manufacturing cost element increased from prior year to \$303.121 million (sums both Vehicle Manufacturing and Government Furnished Material) to procure 72 Full Rate Production vehicles. Unit price has increased due to strong inflationary pressures on commodity prices, reusable parts supply expended from exchange vehicles during LRIP, and purchasing AMPVs at a lower production rate than in the past (previous contract action procured 160 AMPVs vs an estimated 72 for FY 2023).

The Engineering Change Orders cost element of \$22.057 million addresses user requested changes stemming from Limited User Testing (LUT) and anticipated changes stemming from Production Qualification Testing (PQT) and Initial Operational Testing (IOT).

The Sys Eng / Prog Mgmt cost element of \$21.311 million held consistent as the program completes the Low Rate Initial Production in FY 2022 to the Production and Deployment phase in FY 2023. These costs will be funded with WTCV procurement dollars going forward.

The Sys Test & Evaluation cost element increased to \$1.935 million to support follow on production related testing to ensure vehicles received from the production line are meeting quality standards.

The Training Device cost element decreased to \$1.214 million after majority of the Training Devices were awarded in FY 2022. This cost element will be used to update training devices and desk top trainers to the latest vehicle configuration.

The Total Packaging Fielding (TPF) cost element of \$7.955 million held consistent as the program is primarily focused on completing fielding to the First Unit Equipped (FUE) in FY 2023. This cost element provides fielding team support, training material refinement, and initial spare parts to support the Army's fielding plans.

The System Technical Support (STS) cost element of \$23.084 million is to support Low Rate Initial Production vehicle delivery rates in FY 2023 as well as identify production process improvements, manage obsolescence, maintain software, fix issues stemming from test, provide logistics support, and perform problem investigations.

Secondary Distribution		FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Army	Quantity	-	-	72	-	72
	Total Obligation Authority	56.000	83.346	380.677	-	380.677
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	-	-	<b>72</b>	-	<b>72</b>
	<b>Total Obligation Authority</b>	<b>56.000</b>	<b>83.346</b>	<b>380.677</b>	-	<b>380.677</b>

(t) indicates the presence of a P-5a

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<b>Exhibit P-5a, Procurement History and Planning:</b> PB 2023 Army							<b>Date:</b> April 2022				
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 01 / 10			<b>P-1 Line Item Number / Title:</b> 2944G80819 / Armored Multi Purpose Vehicle (AMPV)				<b>Item Number / Title [DODIC]:</b> G80819 / Armored Multi Purpose Vehicle (AMPV)				

Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty <i>(Each)</i>	Unit Cost <i>(\$ K)</i>	Specs Avail Now?	Date Revision Available	RFP Issue Date
Vehicle Manufacturing - Contractor <sup>(†)</sup>		2020	BAE Land Systems / York, PA	Option / FPIF	Warren, MI	Jan 2020	May 2024	77	2,817.883	N		
Vehicle Manufacturing - Contractor <sup>(†)</sup>		2023	BAE Land Systems / York, PA	Option / FPIF	Warren, MI	Feb 2023	Dec 2024	72	3,548.417	N		

<sup>(†)</sup> indicates the presence of a P-21

**Remarks:**  
There are no planned vehicle production contracts in FY 2021 or FY 2022.



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<b>Exhibit P-21, Production Schedule:</b> PB 2023 Army															<b>Date:</b> April 2022														
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 01 / 10										<b>P-1 Line Item Number / Title:</b> 2944G80819 / Armored Multi Purpose Vehicle (AMPV)										<b>Item Number / Title [DODIC]:</b> G80819 / Armored Multi Purpose Vehicle (AMPV)									

Cost Elements <i>(Units in Each)</i>					Fiscal Year 2020															Fiscal Year 2021															BALANCE		
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2019	BAL DUE AS OF 1 OCT	Calendar Year 2020															Calendar Year 2021															
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P							
Vehicle Manufacturing - Contractor																																					
Prior Years Deliveries: 370																																					
	1	2020	ARMY	77	0	77				A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	77			
	1	2023	ARMY	72	0	72																												72			
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P							

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<b>Exhibit P-21, Production Schedule:</b> PB 2023 Army															<b>Date:</b> April 2022														
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 01 / 10										<b>P-1 Line Item Number / Title:</b> 2944G80819 / Armored Multi Purpose Vehicle (AMPV)										<b>Item Number / Title [DODIC]:</b> G80819 / Armored Multi Purpose Vehicle (AMPV)									

Cost Elements <i>(Units in Each)</i>					Fiscal Year 2022															Fiscal Year 2023															B A L A N C E		
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEP T P R I O R T O 1 O C T 2 0 2 1	BAL D U E A S O F 1 O C T	Calendar Year 2022															Calendar Year 2023															
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P							
Vehicle Manufacturing - Contractor																																					
Prior Years Deliveries: 370																																					
1	2020	ARMY		77	0	77	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
1	2023	ARMY		72	0	72																															
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P							

**UNCLASSIFIED**

<b>Exhibit P-21, Production Schedule:</b> PB 2023 Army																		<b>Date:</b> April 2022											
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 01 / 10										<b>P-1 Line Item Number / Title:</b> 2944G80819 / Armored Multi Purpose Vehicle (AMPV)										<b>Item Number / Title [DODIC]:</b> G80819 / Armored Multi Purpose Vehicle (AMPV)									

Cost Elements <i>(Units in Each)</i>					Fiscal Year 2024														Fiscal Year 2025												B A L A N C E		
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCE PT PRI OR TO 1 OCT 2023	BAL DUE AS OF 1 OCT	Calendar Year 2024														Calendar Year 2025												
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P			

Vehicle Manufacturing - Contractor																																		
Prior Years Deliveries: 370																																		
1	2020	ARMY	77	0	77	-	-	-	-	-	-	-	-	6	11	11	11	11	11	11	11	11	11	11	11	11	11	11	5					0
1	2023	ARMY	72	0	72	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	11	11	11	11	11	11	11						0
						O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					

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<b>Exhibit P-21, Production Schedule:</b> PB 2023 Army		<b>Date:</b> April 2022
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 01 / 10		<b>P-1 Line Item Number / Title:</b> 2944G80819 / Armored Multi Purpose Vehicle (AMPV)
		<b>Item Number / Title [DODIC]:</b> G80819 / Armored Multi Purpose Vehicle (AMPV)

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Month)			Procurement Leadtime (Months)							
		MSR For 2023	1-8-5 For 2023	MAX For 2023	Initial				Reorder			
					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	BAE Land Systems - York, PA	3	10	16	0	10	19	29	0	6	18	24

**Remarks:**  
There are no planned Vehicle Production Contracts in FY 2021 or FY 2022.

"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).

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**Exhibit P-40, Budget Line Item Justification:** PB 2023 Army **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:**  
2033A: Procurement of W&TCV, Army / BA 01: Tracked Combat Vehicles / BSA 10: Tracked Combat Vehicles

**P-1 Line Item Number / Title:**  
4872G84900 / ASSAULT BREACHER VEHICLE (ABV)

**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 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	36	12	-	12	-	-	12	12	-	72
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	-	-	16.454	3.852	-	3.852	-	-	10.361	10.362	-	41.029
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	-	-	16.454	3.852	-	3.852	-	-	10.361	10.362	-	41.029
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	-	-	<b>16.454</b>	<b>3.852</b>	-	<b>3.852</b>	-	-	<b>10.361</b>	<b>10.362</b>	-	<b>41.029</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	-	-	457.056	321.000	-	321.000	-	-	863.417	863.500	-	569.847

**Description:**

The Assault Breacher Vehicle (ABV) is a tracked combat engineer vehicle for the Army Armored Brigade Combat Team (ABCT) and Combat Engineer Company - Armor (CEC-A). It is designed to breach minefields and barrier obstacles to enable tanks and infantry of the ABCT to maintain pace in offensive combat operations. The Assault Breacher Vehicle provides crew protection and vehicle survivability equal to the M1A1 Abrams tank hull and has the speed and mobility to keep pace with the armor maneuver force. The Assault Breacher Vehicle hull is an overhauled M1A1 Abrams tank hull with modifications for its mission to support engineer companies within ABCTs and includes two Linear Demolition Charge Systems (modified Mine Clearing Line Charge (MCLC) systems), interchangeable Engineer Breaching System hardware consisting of a Full Width Mine Plow and a Combat Dozer Blade, a Lane Marking System to automatically mark a cleared path behind the Assault Breacher Vehicle and an integrated day/night vision system. The Assault Breacher Vehicle is fabricated at Anniston Army Depot (ANAD).

The Assault Breacher Vehicles' Army Acquisition Objective (AAO) is 201.

Secondary Distribution	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027
Army	-	24	12	-	12	-	-	12	12
Total Obligation Authority	-	11.864	3.852	-	3.852	-	-	10.361	10.362
ANG	-	12	-	-	-	-	-	-	-
Total Obligation Authority	-	4.590	-	-	-	-	-	-	-
<b>Total: Secondary Distribution</b>	-	<b>36</b>	<b>12</b>	-	<b>12</b>	-	-	<b>12</b>	<b>12</b>
<b>Total Obligation Authority</b>	-	<b>16.454</b>	<b>3.852</b>	-	<b>3.852</b>	-	-	<b>10.361</b>	<b>10.362</b>

**Justification:**

FY 2023 Base procurement dollars in the amount of \$3.852 million supports the modification of 12 Abrams M1A2 heavy duty suspension upgrades for the Assault Breacher (ABV) program. The hardware upgrade will replace the obsolete M1A1 suspension and keep the Assault Breacher Vehicle suspension common to the current Abrams configuration.

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<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2023 Army		<b>Date:</b> April 2022
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A: Procurement of W&TCV, Army / BA 01: Tracked Combat Vehicles / BSA 10: Tracked Combat Vehicles		<b>P-1 Line Item Number / Title:</b> 4872G84900 / ASSAULT BREACHER VEHICLE (ABV)
<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
<b>Line Item MDAP/MAIS Code:</b> N/A		
Funding in this line supports the organic industrial base with work to be performed at Anniston Army Depot, to include purchase of long lead material and subsequent production effort.		
In accordance with Section 1815 of the FY 2008 National Defense Authorization Act (P.L. 110-181), this item is necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities.		

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**Exhibit P-40, Budget Line Item Justification:** PB 2023 Army **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:**  
2033A: Procurement of W&TCV, Army / BA 01: Tracked Combat Vehicles / BSA 10: Tracked Combat Vehicles

**P-1 Line Item Number / Title:**  
7181G80820 / Mobile Protected Firepower

**ID Code** (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0604645A

**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	23	28	-	28	42	45	48	46	272	504
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	-	-	286.977	356.708	-	356.708	523.636	578.418	579.163	579.214	3,741.134	6,645.250
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	-	-	286.977	356.708	-	356.708	523.636	578.418	579.163	579.214	3,741.134	6,645.250
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	-	-	<b>286.977</b>	<b>356.708</b>	-	<b>356.708</b>	<b>523.636</b>	<b>578.418</b>	<b>579.163</b>	<b>579.214</b>	<b>3,741.134</b>	<b>6,645.250</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	-	-	12,477.261	12,739.571	-	12,739.571	12,467.524	12,853.733	12,065.896	12,591.609	13,754.169	13,185.020

**Description:**

Infantry Brigades currently lack the mobile, protected firepower capability necessary to defeat enemy prepared positions, destroy enemy armored vehicles, close with the enemy through fire and maneuver, and ensure freedom of maneuver and action in close contact with the enemy. The Mobile Protected Firepower Procurement funding supports production and fielding of the Mobile Protected Firepower (MPF) system, which will provide the Army's Infantry Brigade Combat Teams (IBCTs) a protected, long range, precision direct-fire capability to ensure freedom of movement during offensive operations and defeat attacking enemy during defensive operations.

On 25 September 2018, the Army Acquisition Executive (AAE) approved the use of Middle Tier Acquisition (MTA) authorities to execute Mobile Protected Firepower Rapid Prototyping. On 17 December 2018, Rapid Prototyping contracts were awarded to BAE Systems and General Dynamics Land Systems (GDLS). Delivery of Mobile Protected Firepower prototypes commenced in 3rd Quarter (3Q) FY 2020 and system testing began in 4th Quarter (4Q) FY 2020. MPF testing was completed early 2nd Quarter (2Q) FY 2022 and will inform both the selection of a vendor for Low Rate Initial Production (LRIP) and a 3Q FY 2022 Milestone C decision.

The Mobile Protected Firepower Army Acquisition Objective (AAO) is 504 systems.

This program element is directly aligned with the Next Generation Combat Vehicle (NGCV) Line of Effort 4 Modernization Priority.

Secondary Distribution		FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027
Army	Quantity	-	23	28	-	28	28	45	20	32
	Total Obligation Authority	-	286.977	356.708	-	356.708	349.091	578.418	241.318	402.931
ANG	Quantity	-	-	-	-	-	14	-	28	14
	Total Obligation Authority	-	-	-	-	-	174.545	-	337.845	176.283
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	-	<b>23</b>	<b>28</b>	-	<b>28</b>	<b>42</b>	<b>45</b>	<b>48</b>	<b>46</b>
	<b>Total Obligation Authority</b>	-	<b>286.977</b>	<b>356.708</b>	-	<b>356.708</b>	<b>523.636</b>	<b>578.418</b>	<b>579.163</b>	<b>579.214</b>

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**Exhibit P-40, Budget Line Item Justification:** PB 2023 Army **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A: Procurement of W&TCV, Army / BA 01: Tracked Combat Vehicles / BSA 10: Tracked Combat Vehicles **P-1 Line Item Number / Title:** 7181G80820 / Mobile Protected Firepower

**ID Code** (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0604645A

**Line Item MDAP/MAIS Code:** N/A

Exhibits Schedule					Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 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	G80820 / Mobile Protected Firepower	P-5a, P-21	A		- / -	- / -	23 / 286.977	28 / 356.708	- / -	28 / 356.708
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				- / -	- / -	<b>23 / 286.977</b>	<b>28 / 356.708</b>	- / -	<b>28 / 356.708</b>

\*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:**

FY 2023 Base Procurement dollars in the amount of \$356.708 million supports the production of 28 Low Rate Initial Production (LRIP) Mobile Protected Firepower (MPF) systems. This second LRIP lot will enable an orderly production ramp up and provide two Company sets of MPFs for fielding.

Base Procurement funding will also purchase long lead time Initial Spares (engines, transmissions, gunner's sights, etc.), Special Tools, and Test Equipment to support the First Unit Equipped (FUE) in FY 2025, in addition to Systems Technical Support (STS), to include cyber assessments to maintain software security, operation of a Systems Integration Lab (SIL) to retain software interoperability, and obsolescence management to identify diminishing manufacturing and material sources to enable uninterrupted low rate initial production.

Additionally, FY 2023 Base Procurement funding will also provide program management, engineering, product assurance, contracting, and financial management support to direct and oversee MPF production.

In FY 2023, funding in the amount of \$0.288 million for manpower was realigned to Operations and Maintenance. Program support costs have been accurately updated to reflect the realignments.

Army Acquisition Objective (AAO): 504 vehicles.

This program element is directly aligned with the Next Generation Combat Vehicle (NGCV) Line of Effort 4 Modernization Priority.

In accordance with section 1815 of the FY 2008 National Defense Authorization Act (P.L. 110 - 181), this item is necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities.



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<b>Exhibit P-5, Cost Analysis: PB 2023 Army</b>						<b>Date:</b> April 2022			
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 01 / 10				<b>P-1 Line Item Number / Title:</b> 7181G80820 / Mobile Protected Firepower			<b>Item Number / Title [DODIC]:</b> G80820 / Mobile Protected Firepower		
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A				<b>MDAP/MAIS Code:</b>					
<b>Resource Summary</b>				<b>Prior Years</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023 Base</b>	<b>FY 2023 OCO</b>	<b>FY 2023 Total</b>
Procurement Quantity (Units in Each)				-	-	23	28	-	28
Gross/Weapon System Cost (\$ in Millions)				-	-	286.977	356.708	-	356.708
Less PY Advance Procurement (\$ in Millions)				-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)				-	-	286.977	356.708	-	356.708
Plus CY Advance Procurement (\$ in Millions)				-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>				-	-	<b>286.977</b>	<b>356.708</b>	-	<b>356.708</b>
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>									
Initial Spares (\$ in Millions)				-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)				-	-	12,477.261	12,739.571	-	12,739.571

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

Cost Elements	Prior Years			FY 2021			FY 2022			FY 2023 Base			FY 2023 OCO			FY 2023 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)
<b>Hardware Cost</b>																		
Recurring Cost																		
Production - Contractor Furnished End Item <sup>(†)</sup>	-	-	-	-	-	-	11,772.609	23	270.770	11,292.857	28	316.200	-	-	-	11,292.857	28	316.200
Production - Government Furnished Material	-	-	-	-	-	-	-	-	2.994	-	-	3.910	-	-	-	-	-	3.910
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	273.764	-	-	320.110	-	-	-	-	-	320.110
<i>Subtotal: Hardware Cost</i>	-	-	-	-	-	-	-	-	273.764	-	-	320.110	-	-	-	-	-	320.110
<b>Package Fielding Cost</b>																		
Recurring Cost																		
Initial Spares and Special Tools	-	-	-	-	-	-	-	-	1.389	-	-	6.473	-	-	-	-	-	6.473
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	1.389	-	-	6.473	-	-	-	-	-	6.473
<i>Subtotal: Package Fielding Cost</i>	-	-	-	-	-	-	-	-	1.389	-	-	6.473	-	-	-	-	-	6.473
<b>Support - Program Management Cost</b>																		
Government Management	-	-	-	-	-	-	-	-	3.388	-	-	10.056	-	-	-	-	-	10.056
<i>Subtotal: Support - Program Management Cost</i>	-	-	-	-	-	-	-	-	3.388	-	-	10.056	-	-	-	-	-	10.056
<b>Support - System Technical Support (STS) Cost</b>																		
System Technical Support (STS)	-	-	-	-	-	-	-	-	8.436	-	-	20.069	-	-	-	-	-	20.069

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<b>Exhibit P-5, Cost Analysis: PB 2023 Army</b>												<b>Date:</b> April 2022					
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 01 / 10						<b>P-1 Line Item Number / Title:</b> 7181G80820 / Mobile Protected Firepower						<b>Item Number / Title [DODIC]:</b> G80820 / Mobile Protected Firepower					
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A												<b>MDAP/MAIS Code:</b>					

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

Cost Elements	Prior Years			FY 2021			FY 2022			FY 2023 Base			FY 2023 OCO			FY 2023 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)
<i>Subtotal: Support - System Technical Support (STS) Cost</i>	-	-	-	-	-	-	-	-	8.436	-	-	20.069	-	-	-	-	-	20.069
<b>Gross/Weapon System Cost</b>	-	-	-	-	-	-	12,477.261	23	286.977	12,739.571	28	356.708	-	-	-	12,739.571	28	356.708

**Remarks:**  
FY 2023 Base Procurement dollars will procure 28 Mobile Protected Firepower (MPF) vehicles.

Secondary Distribution		FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Army	Quantity	-	23	28	-	28
	Total Obligation Authority	-	286.977	356.708	-	356.708
<b>Total:</b>	Quantity	-	23	28	-	28
<b>Secondary Distribution</b>	Total Obligation Authority	-	286.977	356.708	-	356.708

(t) indicates the presence of a P-5a

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**Exhibit P-5a, Procurement History and Planning: PB 2023 Army** **Date:** April 2022

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 01 / 10	<b>P-1 Line Item Number / Title:</b> 7181G80820 / Mobile Protected Firepower	<b>Item Number / Title [DODIC]:</b> G80820 / Mobile Protected Firepower
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Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty <i>(Each)</i>	Unit Cost <i>(\$ K)</i>	Specs Avail Now?	Date Revision Available	RFP Issue Date
Production - Contractor Furnished End Item <sup>(†)</sup>		2022	To Be Determined / To Be Determined	Option / FPIF	Army Contracting Command - Warren, Michigan	Jun 2022	Dec 2023	23	11,772.609	N		
Production - Contractor Furnished End Item <sup>(†)</sup>		2023	To Be Determined / To Be Determined	Option / FPIF	Army Contracting Command - Warren, Michigan	Apr 2023	Nov 2024	28	11,292.857	N		

<sup>(†)</sup> indicates the presence of a P-21

**Remarks:**

In December 2018, contracts for Mobile Protected Firepower (MPF) Rapid Prototyping were awarded to BAE Systems and General Dynamics Land Systems (GDLS). In 2QFY22, the Source Selection Evaluation Board (SSEB) convened to down-select to a single vendor for Low Rate Initial Production (LRIP). The SSEB will conclude and make their selection in 3QFY22.

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<b>Exhibit P-21, Production Schedule: PB 2023 Army</b>	<b>Date: April 2022</b>
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<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 01 / 10	<b>P-1 Line Item Number / Title:</b> 7181G80820 / Mobile Protected Firepower	<b>Item Number / Title [DODIC]:</b> G80820 / Mobile Protected Firepower
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Cost Elements <i>(Units in Each)</i>						Fiscal Year 2022														Fiscal Year 2023														B A L A N C E	
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2021	BAL DUE AS OF 1 OCT	Calendar Year 2022														Calendar Year 2023														
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					
Production - Contractor Furnished End Item																																			
1		2022	ARMY	23	0	23											A	-	-	-	-	-	-	-	-	-	-	-	-	-	23				
1		2023	ARMY	28	0	28																									28				
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					

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**Exhibit P-21, Production Schedule:** PB 2023 Army **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A / 01 / 10 **P-1 Line Item Number / Title:** 7181G80820 / Mobile Protected Firepower **Item Number / Title [DODIC]:** G80820 / Mobile Protected Firepower

Cost Elements <i>(Units in Each)</i>					Fiscal Year 2024													Fiscal Year 2025													BALANCE		
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEP T P R I O R T O 1 O C T 2 0 2 3	BAL D U E A S O F 1 O C T	Calendar Year 2024													Calendar Year 2025													
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P			
Production - Contractor Furnished End Item																																	
1		2022	ARMY	23	0	23	-	-	1	2	2	2	2	2	2	2	2	3	3										0				
1		2023	ARMY	28	0	28	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	2	2	2	2	2	2	3	3	3			
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P			

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**Exhibit P-21, Production Schedule:** PB 2023 Army **Date:** April 2022

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 01 / 10	<b>P-1 Line Item Number / Title:</b> 7181G80820 / Mobile Protected Firepower	<b>Item Number / Title [DODIC]:</b> G80820 / Mobile Protected Firepower
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Cost Elements <i>(Units in Each)</i>						Fiscal Year 2026												Fiscal Year 2027												BALANCE	
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2025	BAL DUE AS OF 1 OCT	Calendar Year 2026												Calendar Year 2027												
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G		S E P
Production - Contractor Furnished End Item																															
1		2022	ARMY	23	23	0																							0		
1		2023	ARMY	28	25	3	3																						0		
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	

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<b>Exhibit P-21, Production Schedule:</b> PB 2023 Army		<b>Date:</b> April 2022
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 01 / 10		<b>P-1 Line Item Number / Title:</b> 7181G80820 / Mobile Protected Firepower
		<b>Item Number / Title [DODIC]:</b> G80820 / Mobile Protected Firepower

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Month)			Procurement Leadtime (Months)							
		MSR For 2023	1-8-5 For 2023	MAX For 2023	Initial				Reorder			
					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	To Be Determined - To Be Determined	3	3	6	0	1	17	18	0	12	17	29

**Remarks:**  
Given the Mobile Protected Firepower (MPF) manufacturing lead time of 17 months, FY 2022 RDT&E-funded systems will be delivered in November 2023 (2 vehicles) and December 2023 (1 vehicle), while deliveries of FY 2022 WTCV-funded systems will commence in December 2023.

The FY 2023 Mobile Protected Firepower (MPF) Low Rate Initial Production (LRIP) buy includes 28 vehicles, all procured with funding within WTCV Line Item 7181G80820/Mobile Protected Firepower. While the contractual manufacturing lead time is 17 months, in an effort to reduce program schedule risk while MPF manufacturing processes continue to mature, the Army intends to award the FY 2023 Production Option in April 2023, 19 months from first vehicle delivery (November 2024).

"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).

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**Exhibit P-40, Budget Line Item Justification:** PB 2023 Army **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A: Procurement of W&TCV, Army / BA 01: Tracked Combat Vehicles / BSA 20: Modification of Tracked Combat Vehicles **P-1 Line Item Number / Title:** 0363G85200 / Stryker Upgrade

**ID Code** (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0203735A

**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	660	259	228	102	-	102	166	183	196	207	Continuing	Continuing
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	2,240.651	1,164.152	1,082.828	671.271	-	671.271	827.512	871.670	880.705	873.457	Continuing	Continuing
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	2,240.651	1,164.152	1,082.828	671.271	-	671.271	827.512	871.670	880.705	873.457	Continuing	Continuing
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>2,240.651</b>	<b>1,164.152</b>	<b>1,082.828</b>	<b>671.271</b>	-	<b>671.271</b>	<b>827.512</b>	<b>871.670</b>	<b>880.705</b>	<b>873.457</b>	<b>Continuing</b>	<b>Continuing</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	3,394.926	4,494.795	4,749.246	6,581.088	-	6,581.088	4,985.012	4,763.224	4,493.393	4,219.599	Continuing	Continuing

**Description:**

A dynamic, asymmetric threat and operational environment demands full spectrum, strategically responsive, agile and dominant land forces. Immediate response by a lethal, versatile, tactically agile joint force capable of operational maneuver is essential to fulfilling the Army's Warfighting needs. The Stryker-equipped Brigade Combat Team (BCT) is this force. The use of a common platform/common chassis design reduces requirements for repair parts and logistics support in the area of operations. In response to operational needs identified in the Theater of Operations, the Stryker Double-V-Hull (DVH) survivability enhancement was approved for development and production by Acquisition Decision Memorandums (ADM) signed April 2010 and May 2011, respectively. The May 2011 ADM approved production of two Brigades, a 3rd DVH Brigade was approved in September 2011 with a 4th approved in September 2014. A DVH brigade is constructed through an exchange effort by which components and mission equipment packages are removed from flat bottom hull Strykers to be reassembled in the DVH structure along with the associated DVH unique components. In May 2012, Phase 1 (Technology Development), Stryker DVH A1 Engineering Change Proposal (DVHA1 ECP), formerly ECP1, development effort was approved to provide power generation, suspension, and network upgrades to restore Stryker DVH Space, Weight, and Power-Cooling (SWaP-C) lost as a result of incorporating vehicle changes to counter threats encountered during deployment operations. In May 2013, Phase II for the DVH A1 ECP development effort was approved. The DVH A1 ECP was approved for production in August 2016, with the DVH A1 ECP vehicles being produced using the exchange production process. Stryker Brigade Combat Teams (SBCTs), equipped with DVH A1 ECP vehicles, can be used across the full spectrum of military operations. SBCTs are required to deploy rapidly, and conduct effective combat operations immediately on arrival to prevent, contain, stabilize, or resolve a conflict through shaping and decisive operations. On 23 March 2018, the Army Requirements Oversight Council (AROC) approved the exchange of all remaining flat bottom hull Stryker Brigades from flat bottom hull to DVH A1 ECP. Program Office awarded on 30 June 2020 a follow-on DVH A1 ECP requirements contract for FY20-25, with an additional one year option. Production of Stryker DVH A1 ECP vehicles for this contract will be produced through a blend of new vehicle production and the current exchange process due to the limited available inventory of flat bottom hull Strykers required to feed the exchange production process. Configurations of Stryker DVHA1 ECP vehicles are:

**Double-V-Hull A1 ECP Infantry Carrier:** The DVH A1 ECP Infantry Carrier Vehicle (ICVVA1) carries an infantry squad with individual equipment. The Infantry Carrier Vehicle also provides protected transport and supporting fires for the infantry squad during dismounted assault. DVH A1 ECP Infantry Carrier Vehicles with a Scout Dismount Kit provide for dismounted force situational awareness, gathering and transmitting real time intelligence while moving throughout the battlefield in close, complex, and urban terrain.

**Double-V-Hull A1 ECP Mortar Carrier:** The DVH A1 ECP Mortar Carrier (MCVVA1) supports infantry units with screening obscurants, suppressive forces and on-call supporting fires. 120mm, 81mm, and 60mm mortars provide complementary capabilities with responsive, accurate and lethal indirect fire support to the dismounted infantry assault.

**Double-V-Hull A1 ECP Commander's Vehicle:** The DVH A1 ECP Commander's Vehicle (CVVA1) provides the brigade commanders and infantry battalion commanders with the means to receive information and data, analyze, prepare and transmit data, and control the forces/functions carrying out combat missions.



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<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2023 Army		<b>Date:</b> April 2022
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A: Procurement of W&TCV, Army / BA 01: Tracked Combat Vehicles / BSA 20: Modification of Tracked Combat Vehicles		<b>P-1 Line Item Number / Title:</b> 0363G85200 / Stryker Upgrade
<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> 0203735A
<b>Line Item MDAP/MAIS Code:</b> N/A		

Double-V-Hull A1 ECP Fire Support Vehicle: The DVH A1 ECP Fire Support Vehicle (FSVVA1) provides automated enhanced surveillance, target acquisition, target identification, target tracking, target designation, position location, and communications functionality. Targets will be transmitted instantly to the fire support system and shooter.

Double-V-Hull A1 ECP Engineer Squad Vehicle: The DVH A1 ECP Engineer Squad Vehicle (ESVVA1) provides maneuver/mobility support capabilities which include obstacle clearing, in-stride breaching of surface mines, proofing of subsurface mines, and smoke generation for local protection.

Double-V-Hull A1 ECP Medical Evacuation Vehicle: The DVH A1 ECP Medical Evacuation Vehicle (MEVVA1) is the Battalion Aid Station for brigade units, providing treatment for serious injury and advanced trauma cases.

Double-V-Hull A1 ECP Antitank Guided Missile Vehicle: The DVH A1 ECP Antitank Guided Missile Vehicle (ATVVA1) is the brigade's primary tank killing system. The Antitank Guided Missile Vehicle (ATW) reinforces the brigade's infantry battalion, reinforces the brigade reconnaissance squadron, and provides long-range direct fire.

Double V Hull A1 (DVHA1) ICVVA1-30mm (formerly Medium Caliber Weapon System (MCWS)): The Stryker ICVVA1-30mm integrates a 30mm cannon onto the DVHA1 platform to provide increased lethality, capable of firing a variety of munitions designed to support mounted and dismounted elements when executing combined arms maneuver and wide area security operations. The ICVVA1-30mm provides protected transport for an infantry or cavalry squad with individual equipment.

Procuring Double-V-Hull A1 ECP Medical Evacuation Vehicles to support Terrestrial Layered System (TLS) Program for Project Manager (PM) Electronic Warfare and Cyber.

Modifications to the Stryker Family of Vehicles (FoV) are to resolve reliability, lethality, safety, operational, performance degradation, chemical detection and Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) obsolescence issues. Primary efforts involve the incorporation of fleet modifications, to include, C4ISR updates, DVH safety and Survivability updates, and training device procurement and the retrofit of Lethality Engineering Change Proposals (ECPs) (formerly ECP 2) upgrades to enhance the suppressive fire and armored vehicle engagement capabilities of the Army's Stryker Brigade Combat Teams (SBCTs).

Training Aids, Devices, Simulators, and Simulations (TADSS): Funding provides for the integration of the Vehicle Tactical Engagement Simulation System (V-TESS) and supports the United States Army Combined Arms Support Command (CASCOM) and the requirement for the Stryker Vehicle Maintainer Training Course to support establishment of the Stryker-unique 91S Military Occupational Series (MOS). The 91S training course requires purchase of the following training devices: Diagnostic Troubleshooting Trainers (DTTs), Anti-Tank Guided Missile Vehicle Hands-On Trainers (HOTs), Full-Up Power Pack Part Task Trainers (FUPP PTTs), Mortar Carrier Hands-On Trainers (MC HOTs).

Retrofit Planning and Site Management: Funding supports kit material handling and fleet-wide retrofits for the Stryker Family of Vehicles (FoV).

Test Fleet Maintenance funding maintains the Stryker test fleet, to include contractor repair labor and operations of Stryker repair parts warehouses located at the Army's test centers.

Program management, engineering, and logistics support necessary to execute Stryker modifications to include DVH A1 ECPs, Fleet Modifications, C4I Obsolescence and Next Generation items, 30mm Infantry Carrier Vehicle - Dragoon (ICVD) Operational Needs Statement (ONS), and Lethality ECPs.

Secondary Distribution		FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027
Army	Quantity	259	228	102	-	102	166	183	196	207
	Total Obligation Authority	1,164.152	1,082.828	671.271	-	671.271	827.512	871.670	880.705	873.457
<b>Total:</b>	<b>Quantity</b>	<b>259</b>	<b>228</b>	<b>102</b>	<b>-</b>	<b>102</b>	<b>166</b>	<b>183</b>	<b>196</b>	<b>207</b>

**UNCLASSIFIED**

**Exhibit P-40, Budget Line Item Justification:** PB 2023 Army **Date:** April 2022

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A: Procurement of W&TCV, Army / BA 01: Tracked Combat Vehicles / BSA 20: Modification of Tracked Combat Vehicles	<b>P-1 Line Item Number / Title:</b> 0363G85200 / Stryker Upgrade
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> 0203735A
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**Line Item MDAP/MAIS Code:** N/A

Secondary Distribution		FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027
Secondary Distribution	Total Obligation Authority	1,164.152	1,082.828	671.271	-	671.271	827.512	871.670	880.705	873.457

**UNCLASSIFIED**

**Exhibit P-40, Budget Line Item Justification:** PB 2023 Army **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:**  
 2033A: Procurement of W&TCV, Army / BA 01: Tracked Combat Vehicles / BSA 20: Modification of Tracked Combat Vehicles **P-1 Line Item Number / Title:**  
 0363G85200 / Stryker Upgrade

**ID Code** (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0203735A

**Line Item MDAP/MAIS Code:** N/A

Exhibits Schedule					Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 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	G85200 / Stryker Upgrade	P-5a, P-21	A		660 / 2,240.651	259 / 1,164.152	228 / 1,082.828	102 / 671.271	- / -	102 / 671.271
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>660 / 2,240.651</b>	<b>259 / 1,164.152</b>	<b>228 / 1,082.828</b>	<b>102 / 671.271</b>	<b>- / -</b>	<b>102 / 671.271</b>

\*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:**

Note: Stryker Modification efforts and funding in Budget Line 4, 0230GM0100 / Stryker (Mod) were realigned to Budget Line 5, 0363G85200 / Stryker Upgrade starting in FY 2021.

FY 2023 Base procurement dollars in the amount of \$671.271 million supports the following:

The production of Double V Hull A1 (DVH A1) Engineering Change Proposal (ECP) vehicles, produced using flat bottom Stryker exchange and new production build processes, providing increased electrical power, mechanical power, weight margin, and cooling. Combined with a digital backbone, the enhanced DVH A1 ECP fleet will be able to host the future network while maintaining protection and mobility characteristics.

Lethality ECPs include efforts to replace the current Remote Weapon Station with the Common Remotely Operated Weapon Station (CROWS) with under armor Javelin fire capability, integrate improved optics and targeting systems onto the Anti-Tank Guided Missile (ATGM) vehicle, incorporate the 30mm Lethality Mission Equipment Package (MEP) onto a DVH A1 platform, and integrate other capabilities into the Stryker fleet. These improvements will provide for increased under armor fire capability, target identification range, provide overmatch against peer threats and supporting infantry assault, and address obsolescence within the targeting and reconnaissance systems utilized on the Stryker Family of Vehicles (FoV).

Stryker Family of Vehicles (FoV) fleet modifications address changes to the vehicle configurations resulting from identified safety issues, performance degradation issues, obsolescence issues, Modified Table of Organization & Equipment (MTO&E) changes, or Operational Need Statements (ONS). Scheduled modifications include: Joint Chemical Agent Detector (JCAD), Vehicle Intercom, In-Vehicle Network 2 (IVN2), Energy Attenuating seats for Flat Bottom Hull (FBH) vehicles, Mortar Carrier Fire Control Computer, RMS6-L N2 Recuperator gauge, Improved Battery Box, troop heater improvements, DVH survivability and safety modifications, refresh of the Fire Support Vehicle (FSV) Mission Equipment Package (MEP) and integration of emerging technologies such as Integrated Visual Augmentation System (IVAS) and improved power solution efforts. Modifications will be conducted by field modification teams, subject to vehicle/hardware availability.

Retrofit planning and site management funding provides for kit material handling, and retrofit site management to support fleet-wide retrofits of the Stryker FoV.

Training Aids, Devices, Simulators, and Simulations (TADSS) funding provides for the integration of the Vehicle Tactical Engagement Simulation System (V-TESS) and supports the United States Army Combined Arms Support Command (CASCOM) and the requirement for the Stryker Vehicle Maintainer Training Course to support establishment of the Stryker-unique 91S Military Occupational Series (MOS). The 91S training course requires purchase of the Diagnostic Troubleshooting Trainers (DTTs).

Test Fleet Maintenance maintains the Stryker test fleet, to include contractor repair labor and operation of Stryker repair parts warehouses located at the Army's test centers (Aberdeen Proving Grounds, Yuma Proving Grounds, and Electronic Proving Grounds). Maintenance is required to ensure the test fleet is positioned to support testing needs and is in the appropriate condition to ensure accurate and verifiable test results.

Development Test on Stryker In-Vehicle Network 2 modification and 30mm Lethality vehicle production testing which includes safety, performance, durability and environmental tests.

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<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2023 Army		<b>Date:</b> April 2022
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A: Procurement of W&TCV, Army / BA 01: Tracked Combat Vehicles / BSA 20: Modification of Tracked Combat Vehicles		<b>P-1 Line Item Number / Title:</b> 0363G85200 / Stryker Upgrade
<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> 0203735A
<b>Line Item MDAP/MAIS Code:</b> N/A		
<p>Program management, engineering, and logistics support necessary to execute Stryker modifications to include Double V Hull (DVH) A1 Engineering Change Proposals (ECPs), Fleet Modifications, Command, Control, Communications, Computers, and Intelligence (C4I) Obsolescence and Next Generation items, 30mm Infantry Carrier Vehicle - DOT&amp;E (ICVD) Operational Needs Statement (ONS), and Lethality ECPs.</p> <p>In accordance with Section 1815 of the FY 2008 National Defense Authorization Act (P.L. 110-181), this item is necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities.</p> <p>Army Acquisition Objective: 4,459</p> <p>The Army Acquisition Objective includes quantity requirements for Stryker Brigade Combat Teams and other Army programs of record which utilize the Stryker vehicle as their base platform.</p>		

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<b>Exhibit P-5, Cost Analysis: PB 2023 Army</b>		<b>Date:</b> April 2022
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 01 / 20		<b>P-1 Line Item Number / Title:</b> 0363G85200 / Stryker Upgrade
		<b>Item Number / Title [DODIC]:</b> G85200 / Stryker Upgrade

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A	<b>MDAP/MAIS Code:</b>
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Resource Summary	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Procurement Quantity (Units in Each)	660	259	228	102	-	102
Gross/Weapon System Cost (\$ in Millions)	2,240.651	1,164.152	1,082.828	671.271	-	671.271
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	2,240.651	1,164.152	1,082.828	671.271	-	671.271
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>2,240.651</b>	<b>1,164.152</b>	<b>1,082.828</b>	<b>671.271</b>	<b>-</b>	<b>671.271</b>

*(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)	3,394.926	4,494.795	4,749.246	6,581.088	-	6,581.088

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

Cost Elements	Prior Years			FY 2021			FY 2022			FY 2023 Base			FY 2023 OCO			FY 2023 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)
Flyaway Cost																		
Recurring Cost																		
DVH A1 ECP Infantry Carrier Vehicle <sup>(†)</sup>	2,638.449	425	1,121.341	1,860.200	40	74.408	2,347.878	90	211.309	2,841.476	21	59.671	-	-	-	2,841.476	21	59.671
DVH A1 ECP Anti-Tank Guided Missile Veh <sup>(†)</sup>	2,836.154	13	36.870	2,984.600	10	29.846	2,854.875	8	22.839	-	-	-	-	-	-	-	-	-
DVH A1 ECP Mortar Carrier Vehicle <sup>(†)</sup>	2,830.684	76	215.132	3,227.850	20	64.557	2,796.043	23	64.309	3,172.923	13	41.248	-	-	-	3,172.923	13	41.248
DVH A1 ECP Fire Support Vehicle <sup>(†)</sup>	2,935.905	21	61.654	2,794.875	16	44.718	2,721.857	7	19.053	-	-	-	-	-	-	-	-	-
DVH A1 ECP Engineer Squad Vehicle <sup>(†)</sup>	2,869.250	16	45.908	2,834.500	16	45.352	2,772.125	8	22.177	-	-	-	-	-	-	-	-	-
DVH A1 ECP Commander's Vehicle <sup>(†)</sup>	2,730.941	68	185.704	2,726.684	19	51.807	2,733.048	21	57.394	3,007.400	5	15.037	-	-	-	3,007.400	5	15.037
DVH A1 ECP Medical Evacuation Vehicle <sup>(†)</sup>	2,743.326	46	126.193	2,867.218	55	157.697	2,999.633	30	89.989	3,383.667	9	30.453	-	-	-	3,383.667	9	30.453
DVH A1 30mm MCWS <sup>(†)</sup>	-	-	-	4,257.892	83	353.405	7,972.244	41	326.862	4,749.037	54	256.448	-	-	-	4,749.037	54	256.448
Program Management Support (Govt)	-	-	129.409	-	-	17.199	-	-	43.481	-	-	37.227	-	-	-	-	-	37.227

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<b>Exhibit P-5, Cost Analysis: PB 2023 Army</b>												<b>Date:</b> April 2022					
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 01 / 20						<b>P-1 Line Item Number / Title:</b> 0363G85200 / Stryker Upgrade						<b>Item Number / Title [DODIC]:</b> G85200 / Stryker Upgrade					
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A										<b>MDAP/MAIS Code:</b>							

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

Cost Elements	Prior Years			FY 2021			FY 2022			FY 2023 Base			FY 2023 OCO			FY 2023 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)
Government Furnished Equipment (GFE)	-	-	18.396	-	-	9.913	-	-	-	-	-	1.337	-	-	-	-	-	1.337
<i>Subtotal: Recurring Cost</i>	-	-	1,940.607	-	-	848.902	-	-	857.413	-	-	441.421	-	-	-	-	-	441.421
<i>Subtotal: Flyaway Cost</i>	-	-	<b>1,940.607</b>	-	-	<b>848.902</b>	-	-	<b>857.413</b>	-	-	<b>441.421</b>	-	-	-	-	-	<b>441.421</b>
<b>Hardware Cost</b>																		
<b>Recurring Cost</b>																		
Fleet Modifications	-	-	-	-	-	44.949	-	-	16.668	-	-	3.606	-	-	-	-	-	3.606
CROWS-J ECP	-	-	-	-	-	-	-	-	49.730	-	-	57.109	-	-	-	-	-	57.109
ATGM ECP	-	-	-	-	-	21.322	-	-	21.527	-	-	10.866	-	-	-	-	-	10.866
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	66.271	-	-	87.925	-	-	71.581	-	-	-	-	-	71.581
<i>Subtotal: Hardware Cost</i>	-	-	-	-	-	<b>66.271</b>	-	-	<b>87.925</b>	-	-	<b>71.581</b>	-	-	-	-	-	<b>71.581</b>
<b>Package Fielding Cost</b>																		
<b>Recurring Cost</b>																		
System Fielding Support - DVH A1	-	-	148.971	-	-	77.755	-	-	22.812	-	-	52.455	-	-	-	-	-	52.455
<i>Subtotal: Recurring Cost</i>	-	-	148.971	-	-	77.755	-	-	22.812	-	-	52.455	-	-	-	-	-	52.455
<b>Non Recurring Cost</b>																		
Authorized Stockage List - DVH A1	-	-	84.937	-	-	45.167	-	-	39.880	-	-	25.066	-	-	-	-	-	25.066
<i>Subtotal: Non Recurring Cost</i>	-	-	84.937	-	-	45.167	-	-	39.880	-	-	25.066	-	-	-	-	-	25.066
<i>Subtotal: Package Fielding Cost</i>	-	-	<b>233.908</b>	-	-	<b>122.922</b>	-	-	<b>62.692</b>	-	-	<b>77.521</b>	-	-	-	-	-	<b>77.521</b>
<b>Logistics Cost</b>																		
<b>Recurring Cost</b>																		
Retrofit Planning and Site Management	-	-	-	-	-	7.053	-	-	7.438	-	-	9.670	-	-	-	-	-	9.670
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	7.053	-	-	7.438	-	-	9.670	-	-	-	-	-	9.670
<i>Subtotal: Logistics Cost</i>	-	-	-	-	-	<b>7.053</b>	-	-	<b>7.438</b>	-	-	<b>9.670</b>	-	-	-	-	-	<b>9.670</b>
<b>Support - Support Equipment Cost</b>																		
Maintenance Equipment	-	-	1.986	-	-	5.820	-	-	3.621	-	-	4.690	-	-	-	-	-	4.690
<i>Subtotal: Support - Support Equipment Cost</i>	-	-	<b>1.986</b>	-	-	<b>5.820</b>	-	-	<b>3.621</b>	-	-	<b>4.690</b>	-	-	-	-	-	<b>4.690</b>
<b>Support - System Engineering Cost</b>																		
System Engineering	-	-	63.818	-	-	54.916	-	-	33.914	-	-	21.209	-	-	-	-	-	21.209
<i>Subtotal: Support - System Engineering Cost</i>	-	-	<b>63.818</b>	-	-	<b>54.916</b>	-	-	<b>33.914</b>	-	-	<b>21.209</b>	-	-	-	-	-	<b>21.209</b>

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<b>Exhibit P-5, Cost Analysis: PB 2023 Army</b>												<b>Date:</b> April 2022					
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 01 / 20						<b>P-1 Line Item Number / Title:</b> 0363G85200 / Stryker Upgrade						<b>Item Number / Title [DODIC]:</b> G85200 / Stryker Upgrade					
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A									<b>MDAP/MAIS Code:</b>								

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

Cost Elements	Prior Years			FY 2021			FY 2022			FY 2023 Base			FY 2023 OCO			FY 2023 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)
<b>Support - System Test and Evaluation Cost</b>																		
Development Test and Evaluation	-	-	-	-	-	25.429	-	-	1.870	-	-	17.254	-	-	-	-	-	17.254
Test and Evaluation Support	-	-	0.332	-	-	5.963	-	-	6.921	-	-	4.005	-	-	-	-	-	4.005
<i>Subtotal: Support - System Test and Evaluation Cost</i>	-	-	<b>0.332</b>	-	-	<b>31.392</b>	-	-	<b>8.791</b>	-	-	<b>21.259</b>	-	-	-	-	-	<b>21.259</b>
<b>Support - Training Cost</b>																		
Equipment	-	-	-	-	-	26.876	-	-	21.034	-	-	23.920	-	-	-	-	-	23.920
<i>Subtotal: Support - Training Cost</i>	-	-	-	-	-	<b>26.876</b>	-	-	<b>21.034</b>	-	-	<b>23.920</b>	-	-	-	-	-	<b>23.920</b>
<b>Gross/Weapon System Cost</b>	<b>3,394.926</b>	<b>660</b>	<b>2,240.651</b>	<b>4,494.795</b>	<b>259</b>	<b>1,164.152</b>	<b>4,749.246</b>	<b>228</b>	<b>1,082.828</b>	<b>6,581.088</b>	<b>102</b>	<b>671.271</b>	-	-	-	<b>6,581.088</b>	<b>102</b>	<b>671.271</b>

Secondary Distribution		FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Army	Quantity	259	228	102	-	102
	Total Obligation Authority	1,164.152	1,082.828	671.271	-	671.271
<b>Total: Secondary Distribution</b>	Quantity	<b>259</b>	<b>228</b>	<b>102</b>	-	<b>102</b>
	Total Obligation Authority	<b>1,164.152</b>	<b>1,082.828</b>	<b>671.271</b>	-	<b>671.271</b>

(t) indicates the presence of a P-5a

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Exhibit P-5a, Procurement History and Planning: PB 2023 Army								Date: April 2022				
Appropriation / Budget Activity / Budget Sub Activity: 2033A / 01 / 20			P-1 Line Item Number / Title: 0363G85200 / Stryker Upgrade					Item Number / Title [DODIC]: G85200 / Stryker Upgrade				
Cost Elements	O C O	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
DVH A1 ECP Infantry Carrier Vehicle <sup>(†)</sup>		2021	GM GDLS Defense Group L.L.C. / Shelby Township	SS / FPIF	TACOM	Mar 2021	May 2022	40	1,860.200	Y		
DVH A1 ECP Infantry Carrier Vehicle <sup>(†)</sup>		2022	GM GDLS Defense Group L.L.C. / Shelby Township	SS / FPIF	TACOM	Mar 2022	Aug 2023	90	2,347.878	Y		
DVH A1 ECP Infantry Carrier Vehicle <sup>(†)</sup>		2023	GM GDLS Defense Group L.L.C. / Shelby Township	SS / FPIF	TACOM	Mar 2023	Nov 2024	21	2,841.476	Y		
DVH A1 ECP Anti-Tank Guided Missile Veh		2021	GM GDLS Defense Group L.L.C. / Shelby Township	SS / FPIF	TACOM	Mar 2021	Jun 2022	10	2,984.600	Y		
DVH A1 ECP Anti-Tank Guided Missile Veh		2022	GM GDLS Defense Group L.L.C. / Shelby Township	SS / FPIF	TACOM	Mar 2022	Sep 2023	8	2,854.875	Y		
DVH A1 ECP Mortar Carrier Vehicle <sup>(†)</sup>		2021	GM GDLS Defense Group L.L.C. / Shelby Township	SS / FPIF	TACOM	Mar 2021	May 2022	20	3,227.850	Y		
DVH A1 ECP Mortar Carrier Vehicle <sup>(†)</sup>		2022	GM GDLS Defense Group L.L.C. / Shelby Township	SS / FPIF	TACOM	Mar 2022	Oct 2023	23	2,796.043	Y		
DVH A1 ECP Mortar Carrier Vehicle <sup>(†)</sup>		2023	GM GDLS Defense Group L.L.C. / Shelby Township	SS / FPIF	TACOM	Mar 2023	Nov 2024	13	3,172.923	Y		
DVH A1 ECP Fire Support Vehicle		2021	GM GDLS Defense Group L.L.C. / Shelby Township	SS / FPIF	TACOM	Mar 2021	May 2022	16	2,794.875	N		
DVH A1 ECP Fire Support Vehicle		2022	GM GDLS Defense Group L.L.C. / Shelby Township	SS / FPIF	TACOM	Mar 2022	May 2023	7	2,721.857	Y		
DVH A1 ECP Engineer Squad Vehicle		2021	GM GDLS Defense Group L.L.C. / Shelby Township	SS / FPIF	TACOM	Mar 2021	Aug 2022	16	2,834.500	N		
DVH A1 ECP Engineer Squad Vehicle		2022	GM GDLS Defense Group L.L.C. / Shelby Township	SS / FPIF	TACOM	Mar 2022	Jan 2024	8	2,772.125	Y		
DVH A1 ECP Commander's Vehicle <sup>(†)</sup>		2021	GM GDLS Defense Group L.L.C. / Shelby Township	SS / FPIF	TACOM	Mar 2021	Oct 2022	19	2,726.684	Y		
DVH A1 ECP Commander's Vehicle <sup>(†)</sup>		2022	GM GDLS Defense Group L.L.C. / Shelby Township	SS / FPIF	TACOM	Mar 2022	May 2023	21	2,733.048	Y		
DVH A1 ECP Commander's Vehicle <sup>(†)</sup>		2023	GM GDLS Defense Group L.L.C. / Shelby Township	SS / FPIF	TACOM	Mar 2023	Jul 2024	5	3,007.400	Y		
DVH A1 ECP Medical Evacuation Vehicle <sup>(†)</sup>		2021	GM GDLS Defense Group L.L.C. / Shelby Township	SS / FPIF	TACOM	Mar 2021	May 2022	55	2,867.218	Y		
DVH A1 ECP Medical Evacuation Vehicle <sup>(†)</sup>		2022	GM GDLS Defense Group L.L.C. / Shelby Township	SS / FPIF	TACOM	Mar 2022	May 2023	30	2,999.633	Y		
DVH A1 ECP Medical Evacuation Vehicle <sup>(†)</sup>		2023	GM GDLS Defense Group L.L.C. / Shelby Township	SS / FPIF	TACOM	Mar 2023	Sep 2024	9	3,383.667	Y		



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**Exhibit P-5a, Procurement History and Planning:** PB 2023 Army **Date:** April 2022

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 01 / 20	<b>P-1 Line Item Number / Title:</b> 0363G85200 / Stryker Upgrade	<b>Item Number / Title [DODIC]:</b> G85200 / Stryker Upgrade
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Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty <i>(Each)</i>	Unit Cost <i>(\$ K)</i>	Specs Avail Now?	Date Revision Available	RFP Issue Date
DVH A1 30mm MCWS <sup>(†)</sup>		2021	OshKosh Defense, LLC / Oshkosh, Wisconsin	SS / Various	TACOM	Mar 2021	May 2022	83	4,257.892	Y		
DVH A1 30mm MCWS <sup>(†)</sup>		2022	OshKosh Defense, LLC / Oshkosh, Wisconsin	SS / Various	TACOM	Mar 2022	May 2023	41	7,972.244	N		
DVH A1 30mm MCWS <sup>(†)</sup>		2023	OshKosh Defense, LLC / Oshkosh, Wisconsin	SS / Various	TACOM	Mar 2023	May 2024	54	4,749.037	Y		

<sup>(†)</sup> indicates the presence of a P-21



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**Exhibit P-21, Production Schedule: PB 2023 Army** **Date:** April 2022

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 01 / 20	<b>P-1 Line Item Number / Title:</b> 0363G85200 / Stryker Upgrade	<b>Item Number / Title [DODIC]:</b> G85200 / Stryker Upgrade
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Cost Elements <i>(Units in Each)</i>				Fiscal Year 2023												Fiscal Year 2024												BALANCE			
O C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2022	BAL DUE AS OF 1 OCT	Calendar Year 2023												Calendar Year 2024												
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N		J U L	A U G	S E P
DVH A1 ECP Infantry Carrier Vehicle																															
Prior Years Deliveries: 425																															
	1	2021	ARMY	40	4	36	-	3	3	4	7	7	12																0		
	1	2022	ARMY	90	0	90	-	-	-	-	-	-	-	-	-	12	12	11	10	11	9	7	7	11					0		
	2	2023	ARMY	21	0	21																							21		
DVH A1 ECP Mortar Carrier Vehicle																															
Prior Years Deliveries: 76																															
	3	2021	ARMY	20	9	11	-	-	-	-	1	5	5																0		
	3	2022	ARMY	23	0	23	-	-	-	-	-	-	-	-	-	-	2	2	4	4	4	4	4	3					0		
	4	2023	ARMY	13	0	13																							13		
DVH A1 ECP Commander's Vehicle																															
Prior Years Deliveries: 68																															
	5	2021	ARMY	19	0	19	4	5	5	4	1																		0		
	5	2022	ARMY	21	0	21	-	-	-	-	-	-	3	4	4	4	3	2	1										0		
	6	2023	ARMY	5	0	5																				2	2	1	0		
DVH A1 ECP Medical Evacuation Vehicle																															
Prior Years Deliveries: 46																															
	7	2021	ARMY	55	21	34	7	7	7	6	4	2	1																0		
	7	2022	ARMY	30	0	30	-	-	-	-	-	-	-	2	1	1	1	3	2	3	2	3	4	4	4				0		
	8	2023	ARMY	9	0	9																							8		
DVH A1 30mm MCWS																															
	9	2021	ARMY	83	38	45	8	8	8	8	8	5																	0		
	9	2022	ARMY	41	0	41	-	-	-	-	-	-	-	12	12	14	3												0		
	9	2023	ARMY	54	0	54																				11	11	8	8	8	
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	

**UNCLASSIFIED**

**Exhibit P-21, Production Schedule: PB 2023 Army** **Date:** April 2022

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 01 / 20	<b>P-1 Line Item Number / Title:</b> 0363G85200 / Stryker Upgrade	<b>Item Number / Title [DODIC]:</b> G85200 / Stryker Upgrade
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Cost Elements <i>(Units in Each)</i>						Fiscal Year 2025												Fiscal Year 2026												BALANCE	
O C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2024	BAL DUE AS OF 1 OCT	Calendar Year 2025												Calendar Year 2026												
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G		S E P
DVH A1 ECP Infantry Carrier Vehicle																															
Prior Years Deliveries: 425																															
	1	2021	ARMY	40	40	0																						0			
	1	2022	ARMY	90	90	0																						0			
	2	2023	ARMY	21	0	21	-	6	5	5	5																	0			
DVH A1 ECP Mortar Carrier Vehicle																															
Prior Years Deliveries: 76																															
	3	2021	ARMY	20	20	0																						0			
	3	2022	ARMY	23	23	0																						0			
	4	2023	ARMY	13	0	13	-	2	3	4	4																	0			
DVH A1 ECP Commander's Vehicle																															
Prior Years Deliveries: 68																															
	5	2021	ARMY	19	19	0																						0			
	5	2022	ARMY	21	21	0																						0			
	6	2023	ARMY	5	5	0																						0			
DVH A1 ECP Medical Evacuation Vehicle																															
Prior Years Deliveries: 46																															
	7	2021	ARMY	55	55	0																						0			
	7	2022	ARMY	30	30	0																						0			
	8	2023	ARMY	9	1	8	2	2	2	1	1																	0			
DVH A1 30mm MCWS																															
	9	2021	ARMY	83	83	0																						0			
	9	2022	ARMY	41	41	0																						0			
	9	2023	ARMY	54	46	8	8																					0			
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	

**UNCLASSIFIED**

<b>Exhibit P-21, Production Schedule:</b> PB 2023 Army		<b>Date:</b> April 2022
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 01 / 20		<b>P-1 Line Item Number / Title:</b> 0363G85200 / Stryker Upgrade
		<b>Item Number / Title [DODIC]:</b> G85200 / Stryker Upgrade

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Month)			Procurement Leadtime (Months)							
		MSR For 2023	1-8-5 For 2023	MAX For 2023	Initial				Reorder			
					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	GM GDLS Defense Group L.L.C. - Shelby Township	14	29	35	12	12	11	23	6	2	11	13
2	GM GDLS Defense Group L.L.C. - Shelby Township	14	29	35	12	12	13	25	6	2	11	13
3	GM GDLS Defense Group L.L.C. - Shelby Township	14	29	35	12	12	11	23	6	2	11	13
4	GM GDLS Defense Group L.L.C. - Shelby Township	14	29	35	12	12	13	25	6	2	11	13
5	GM GDLS Defense Group L.L.C. - Shelby Township	14	29	35	12	12	11	23	6	2	11	13
6	GM GDLS Defense Group L.L.C. - Shelby Township	14	29	35	12	12	13	25	6	2	11	13
7	GM GDLS Defense Group L.L.C. - Shelby Township	14	29	35	12	12	11	23	6	2	11	13
8	GM GDLS Defense Group L.L.C. - Shelby Township	14	29	35	12	12	13	25	6	2	11	13
9	OshKosh Defense, LLC - Oshkosh, Wisconsin	14	29	35	12	5	20	25	6	2	15	17

**Remarks:**  
 Lead time for Stryker Double V Hull A1 variants is 11-13 months.  
 Lead time for FY 2022 Double V Hull A1 30mm Lethality is 20 months due to synchronization of the Double V Hull A1 platform and 30mm Mission Equipment Package integration.

"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).

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**Exhibit P-40, Budget Line Item Justification:** PB 2023 Army **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A: Procurement of W&TCV, Army / BA 01: Tracked Combat Vehicles / BSA 20: Modification of Tracked Combat Vehicles **P-1 Line Item Number / Title:** 1678GZ2400 / Bradley Program (MOD)

**ID Code** (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0203735A

**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	6,461.764	277.259	460.385	279.531	-	279.531	56.037	30.989	30.951	30.946	Continuing	Continuing
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	6,461.764	277.259	460.385	279.531	-	279.531	56.037	30.989	30.951	30.946	Continuing	Continuing
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>6,461.764</b>	<b>277.259</b>	<b>460.385</b>	<b>279.531</b>	-	<b>279.531</b>	<b>56.037</b>	<b>30.989</b>	<b>30.951</b>	<b>30.946</b>	<b>Continuing</b>	<b>Continuing</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	74,273.149	-	6,576.929	7,764.750	-	7,764.750	-	-	-	-	Continuing	Continuing

**Description:**

The Bradley Fighting Vehicle (BFV) is a fighting vehicle platform designed to transport infantry or scouts with armor protection, while providing covering fire to suppress enemy troops and armored vehicles. The primary mission area for the Bradley Fighting Vehicle is to support the mission of the Armored Brigade Combat Team (ABCT) and the ABCT mission is to fight and win engagements and battles in support of operational and strategic national objectives. The Bradley Family of Vehicles Modification line supports 3,331 Bradley vehicles across all three variants (A4, A3, ODS-SA). The funding line provides for the procurement of the A4 Mobility ECP (A4s), fleet modifications that address changes to the vehicle configurations resulting from identified safety issues, approved ECPs, integration of emerging technologies, performance degradation issues, obsolescence issues, readiness, issues identified in the field and approved by the Materiel Developer and Combat Developer for fielded Bradley Family of Vehicles (FOV), and Operational Need Statements (ONS). Additionally, this line supports the personnel, engineering, design, testing, hardware procurement, fielding, and installation in support of the aforementioned items.

The Bradley Program (MOD) funding line procures upgrades to the Bradley Fighting Vehicle and procures Army Acquisition Executive (AAE) approved Engineering Change Proposals (ECPs). There are currently two Engineering Change Proposals (ECP) in this program, Track and Suspension and the A4 Mobility. The Track and Suspension ECP improves the vehicle fleet's suspension increasing underbelly clearance and provides extended life track. The Bradley A4 Mobility ECP addresses space, weight, power, and cooling issues with an improved powertrain and electrical system enabling the Bradley to host inbound technologies from other Army Programs of Record, such as, but not limited to the Integrated Tactical Network (ITN) and support for the Individual Visual Augmentation System (IVAS).

Additionally, the Bradley Program (MOD) procures underbelly armor kits, upgraded training systems, and other upgrades, including but not limited to high priority improvements, required modifications to achieve A4 Full Materiel Release, modification kits for other Army programs such as the Integrated Tactical Network (ITN) and obsolescence, and obsolescence mitigation for other Army programs such as the Integrated Tactical Network (ITN) and Individual Visual Augmentation System (IVAS), and obsolescence mitigation.

Secondary Distribution		FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	277.259	460.385	279.531	-	279.531	56.037	30.989	30.951	30.946
<b>Total:</b> Secondary Distribution	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	<b>277.259</b>	<b>460.385</b>	<b>279.531</b>	-	<b>279.531</b>	<b>56.037</b>	<b>30.989</b>	<b>30.951</b>	<b>30.946</b>

**UNCLASSIFIED**

**Exhibit P-40, Budget Line Item Justification:** PB 2023 Army **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A: Procurement of W&TCV, Army / BA 01: Tracked Combat Vehicles / BSA 20: Modification of Tracked Combat Vehicles **P-1 Line Item Number / Title:** 1678GZ2400 / Bradley Program (MOD)

**ID Code** (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0203735A

**Line Item MDAP/MAIS Code:** N/A

Exhibits Schedule					Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 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-3a	GZ2400 / Bradley Program (MOD) (Increase Performance)		A		- / 6,461.764	- / 277.259	- / 460.385	- / 279.531	- / -	- / 279.531
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 6,461.764</b>	<b>- / 277.259</b>	<b>- / 460.385</b>	<b>- / 279.531</b>	<b>- / -</b>	<b>- / 279.531</b>

Exhibits Schedule					FY 2024	FY 2025	FY 2026	FY 2027	To Complete	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-3a	GZ2400 / Bradley Program (MOD) (Increase Performance)		A		- / 56.037	- / 30.989	- / 30.951	- / 30.946	Continuing	Continuing
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 56.037</b>	<b>- / 30.989</b>	<b>- / 30.951</b>	<b>- / 30.946</b>	<b>Continuing</b>	<b>Continuing</b>

\*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:**  
 FY 2023 Base procurement dollars in the amount of \$279.531 million supports procurement of multiple modifications to the Bradley vehicle: procurement and fielding of M2A4/M7A4 vehicles, upgrades to the Bradley Fire Support Team vehicle, procurement of training devices, and procurement of safety and critical obsolescence upgrades as well as obsolescence management to identify diminishing manufacturing and material sources. Current projections indicate the Bradley Fighting Vehicle and the Bradley Fire Support Vehicle will remain in the Armored Brigade Combat Team (ABCT) formation until the 2050s.

The primary effort will focus around Mod 7 (BFVS Mobility Modification). The procurement of M2A4/M7A4 vehicles will continue with the award of 36 vehicles. The program upgrades will begin at Red River Army Depot (RRAD) where vehicle and component refurbishment will occur, and finish by BAE at the manufacturing center in York, PA. The program provides several components to BAE as government furnished material (GFM) in order to reduce overall unit cost. GFM includes, but is not limited to, the Commander's Viewer Unit (CVU), engines, and transmissions. In order to follow full-funding policy, funding for a complete vehicle is required in FY 2023 to meet the manufacturer's acquisition lead time. GFM contracts are awarded according to varying lead times and some GFM contracts will not occur until FY 2024. Bradley will continue fielding A4's to the second unit equipped, EDI, and TRADOC throughout FY 2023. Unit cost increases compared to prior years are due to low production quantities and higher pricing associated with procuring vehicle and GFM quantities at BAE's stated minimum sustaining rate (MSR).

Mod 2 (BFVS High Priority Improvements) maintains and provides improvements to the Bradley Family of Vehicles (FoV) to resolve problems identified in the field, improves safety, develop and integrate modification kits, and provide funding to maintain vehicle software and operators/technical manuals.

Mod 3 (Training Equipment Devices) funding supports program support for training device management for the Conduct of Fire Trainers (COFT), Hands on Turret Trainers (HOTT), Part Task Trainers (PTT) and Diagnostic Troubleshooting Trainers (DTT). These training devices are critical to maintaining gunnery proficiency (COFT) and lowering maintenance cost (HOTT, PTT, and DTT).

Mod 5 (Program/Engineering Support) Program/Engineering Support includes both government & contractor program management support to oversee program planning & procurement of Engineering Change Proposals (ECPs), conversion of Bradley configurations and industrial base mitigation. To reduce overall program costs the program office transitioned the Bradley Fielding New Equipment Training team from contract to government personnel initiating in FY 2021 and ramping up in FY 2023 to support three planned fielding activities.

In accordance with Section 1815 of the FY 2008 National Defense Authorization Act (P.L. 110-181), this item is necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities.

**UNCLASSIFIED**

<b>Exhibit P-3a, Individual Modification: PB 2023 Army</b>		<b>Date:</b> April 2022
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 01 / 20	<b>P-1 Line Item Number / Title:</b> 1678GZ2400 / Bradley Program (MOD)	<b>Modification Number / Title:</b> GZ2400 / Bradley Program (MOD)

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A	<b>MDAP/MAIS Code:</b>
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<b>Resource Summary</b>	<b>Prior Years</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023 Base</b>	<b>FY 2023 OCO</b>	<b>FY 2023 Total</b>	<b>FY 2024</b>	<b>FY 2025</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>To Complete</b>	<b>Total</b>
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	6,461.764	277.259	460.385	279.531	-	279.531	56.037	30.989	30.951	30.946	Continuing	Continuing
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	6,461.764	277.259	460.385	279.531	-	279.531	56.037	30.989	30.951	30.946	Continuing	Continuing
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>6,461.764</b>	<b>277.259</b>	<b>460.385</b>	<b>279.531</b>	-	<b>279.531</b>	<b>56.037</b>	<b>30.989</b>	<b>30.951</b>	<b>30.946</b>	<b>Continuing</b>	<b>Continuing</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	74,273.149	-	6,576.929	7,764.750	-	7,764.750	-	-	-	-	Continuing	Continuing

**Description:**

MOD 2 (BFVS High Priority Improvements) - Provides funding for the components, application, and engineering support of improvements designed to resolve problems identified in the field, engineering support related to production, improve safety, integrate new equipment, develop and integrate mod kits, address obsolescence issues, and bring the vehicles into compliance with transportability and recovery requirements. Provides funding to maintain software versions and update integrated logistics products.

MOD 3 (Training Equipment Devices) - Provides funding to support procurement and fielding of Bradley Fighting Vehicle Training Aids, Devices, Simulators and Simulations (TADSS). The Bradley training base requires a technical refresh of the following systems to address obsolescence issues: M2A3/M7A3 Part Task Trainers (PTT), Crew Module Unit Recorder (CMUR) and the Bradley Common Software Library (BCSL). Production funding will also provide new A4 Turret Hands on Trainers and A3/A4 Parts Task Trainers required by the US Army Training and Doctrine Command (TRADOC) System Training Plan.

MOD 5 (Program/Engineering Support) - Program/Engineering Support includes both government & contractor program management support to oversee program planning & procurement of Engineering Change Proposals (ECPs), conversion of Bradley configurations and industrial base mitigation.

MOD 6 (BFVS Track and Suspension Modification) - Provides funding to support procurement and fielding of the Track and Suspension Engineering Change Proposals (ECP) to the Bradley Vehicle fleet. The Track and Suspension field modifications include track and suspension system upgrades that help to alleviate mobility, force protection, and system survivability deficiencies. Costs associated with kit installations are included in the funding for the prime hardware contracts.

MOD 7 (BFVS Mobility Modifications) - Provides funding to support procurement and fielding of Bradley A4 variant vehicles. In addition to vehicles, funding supports the procurement of government furnished material, and fielding. The M2A4/M7A4 Bradley regain lost capability due to added weight by upgrading the powerpack and drivetrain systems. The A4 improves the electrical system to enable hosting of inbound technologies from other Army Programs of Record. Costs associated with kit installations are included in the funding for the prime hardware contracts. The Army Procurement Object (APO) is 731 A4s for four Armor Brigade Combat Teams, one Army Prepositioned Stock brigade to support COCOM requirements and TRADOC vehicles. Prior to FY 2020, 175 vehicles received the Bradley Fighting Vehicle System Mobility Modification which was funded in the Bradley Program Line (G80718). Funding for the Bradley Program Line ended in FY 2019.

MOD 10 (Survivability Enhancements) - Provides funding to support procurement and fielding of Survivability Enhancements including, but not limited to, the Underbelly Interim Solution (UBIS). UBIS increases the system survivability of the Bradley Fighting Vehicle against various threats.

MOD 11 (Other) - Administratively captures Congressional actions.



**UNCLASSIFIED**

<b>Exhibit P-3a, Individual Modification:</b> PB 2023 Army	<b>Date:</b> April 2022
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<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 01 / 20	<b>P-1 Line Item Number / Title:</b> 1678GZ2400 / Bradley Program (MOD)	<b>Modification Number / Title:</b> GZ2400 / Bradley Program (MOD)
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A	<b>MDAP/MAIS Code:</b>
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<b>Secondary Distribution</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023 Base</b>	<b>FY 2023 OCO</b>	<b>FY 2023 Total</b>	<b>FY 2024</b>	<b>FY 2025</b>	<b>FY 2026</b>	<b>FY 2027</b>
Army									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	277.259	460.385	279.531	-	279.531	56.037	30.989	30.951	30.946
<b>Total: Secondary Distribution</b>									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	277.259	460.385	279.531	-	279.531	56.037	30.989	30.951	30.946

**UNCLASSIFIED**

<b>Exhibit P-3a, Individual Modification: PB 2023 Army</b>										<b>Date:</b> April 2022			
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 01 / 20					<b>P-1 Line Item Number / Title:</b> 1678GZ2400 / Bradley Program (MOD)					<b>Modification Number / Title:</b> GZ2400 / Bradley Program (MOD)			
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A							<b>MDAP/MAIS Code:</b>						
<b>Models of Systems Affected:</b> M2 & M3 Bradley Vehicle Variants				<b>Modification Type:</b> Increase Performance				<b>Related RDT&amp;E PEs:</b>					
Financial Plan	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	To Complete	Total	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
<b>Procurement</b>													
<b>Modification Item 1 of 11:</b> Bradley Reactive Armor													
A Kits													
Recurring													
Kit Quantity	2,676 / 765.100	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	2,676 / 765.100	
<b>Subtotal: Recurring</b>	2,676 / 765.100	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	2,676 / 765.100	
<b>Subtotal: Bradley Reactive Armor</b>	2,676 / 765.100	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	2,676 / 765.100	
<b>Modification Item 2 of 11:</b> BFVS High Priority Improvements													
A Kits													
Recurring													
CMED Driver Vision Upgrade	617 / 85.500	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	617 / 85.500	
Reset Mods	756 / 10.500	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	756 / 10.500	
INU/Talon	271 / 5.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	271 / 5.000	
Heat Abatement/Cargo Hatch	2,764 / 2.870	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	2,764 / 2.870	
High Priority Mods	- / 155.329	- / 78.417	- / 29.626	- / 12.187	- / -	- / 12.187	- / 28.690	- / 19.481	- / 22.492	- / 23.901	Continuing	Continuing	
Urban Survivability Mods	5,276 / 2,098.985	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	5,276 / 2,098.985	
<b>Subtotal: Recurring</b>	9,684 / 2,358.184	- / 78.417	- / 29.626	- / 12.187	- / -	- / 12.187	- / 28.690	- / 19.481	- / 22.492	- / 23.901	Continuing	Continuing	
<b>Subtotal: BFVS High Priority Improvements</b>	9,684 / 2,358.184	- / 78.417	- / 29.626	- / 12.187	- / -	- / 12.187	- / 28.690	- / 19.481	- / 22.492	- / 23.901	Continuing	Continuing	
<b>Modification Item 3 of 11:</b> Training Equipment Devices													
A Kits													
Recurring													
Training Equipment	- / 39.286	- / 8.024	- / 3.408	- / 0.150	- / -	- / 0.150	- / -	- / 0.273	- / -	- / -	- / -	- / 51.141	
<b>Subtotal: Recurring</b>	- / 39.286	- / 8.024	- / 3.408	- / 0.150	- / -	- / 0.150	- / -	- / 0.273	- / -	- / -	- / -	- / 51.141	
Non-Recurring													
Hardware	- / 88.634	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 88.634	
<b>Subtotal: Non-Recurring</b>	- / 88.634	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 88.634	
<b>Subtotal: Training Equipment Devices</b>	- / 127.920	- / 8.024	- / 3.408	- / 0.150	- / -	- / 0.150	- / -	- / 0.273	- / -	- / -	- / -	- / 139.775	
<b>Modification Item 4 of 11:</b> ODS Situational Awareness													

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<b>Exhibit P-3a, Individual Modification: PB 2023 Army</b>										<b>Date:</b> April 2022				
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 01 / 20					<b>P-1 Line Item Number / Title:</b> 1678GZ2400 / Bradley Program (MOD)					<b>Modification Number / Title:</b> GZ2400 / Bradley Program (MOD)				
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A							<b>MDAP/MAIS Code:</b>							
<b>Models of Systems Affected:</b> M2 & M3 Bradley Vehicle Variants				<b>Modification Type:</b> Increase Performance				<b>Related RDT&amp;E PEs:</b>						
Financial Plan	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	To Complete	Total		
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)		
A Kits														
Recurring														
ODS Situational Awareness	770 / 1,199.553	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	770 / 1,199.553		
IBAS Refresh	- / 8.850	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 8.850		
ODS-SA VEHICLE VERSION IDENTIFICATION	- / 12.500	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 12.500		
<b>Subtotal: Recurring</b>	<b>770 / 1,220.903</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>770 / 1,220.903</b>		
<b>Subtotal: ODS Situational Awareness</b>	<b>770 / 1,220.903</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>770 / 1,220.903</b>		
<b>Modification Item 5 of 11: Program/Engineering Support</b>														
A Kits														
Recurring														
Government PM support	- / 202.711	- / 20.157	- / 23.384	- / 15.572	- / -	- / 15.572	- / 16.646	- / 5.770	- / 5.636	- / 5.636	Continuing	Continuing		
Contractor PM Support	- / 124.643	- / 5.050	- / 14.908	- / 17.669	- / -	- / 17.669	- / 13.354	- / 1.442	- / 1.409	- / 1.409	Continuing	Continuing		
<b>Subtotal: Recurring</b>	<b>- / 327.354</b>	<b>- / 25.207</b>	<b>- / 28.292</b>	<b>- / 23.241</b>	<b>- / -</b>	<b>- / 23.241</b>	<b>- / 20.000</b>	<b>- / 7.212</b>	<b>- / 7.045</b>	<b>- / 7.045</b>	<b>Continuing</b>	<b>Continuing</b>		
<b>Subtotal: Program/Engineering Support</b>	<b>- / 327.354</b>	<b>- / 25.207</b>	<b>- / 28.292</b>	<b>- / 23.241</b>	<b>- / -</b>	<b>- / 23.241</b>	<b>- / 20.000</b>	<b>- / 7.212</b>	<b>- / 7.045</b>	<b>- / 7.045</b>	<b>Continuing</b>	<b>Continuing</b>		
<b>Modification Item 6 of 11: BFVS Track and Suspension Upgrade</b>														
A Kits														
Recurring														
BFVS ECP 1 Modification	2,529 / 458.772	414 / 76.079	401 / 73.266	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	3,344 / 608.117		
<b>Subtotal: Recurring</b>	<b>2,529 / 458.772</b>	<b>414 / 76.079</b>	<b>401 / 73.266</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>3,344 / 608.117</b>		
<b>Subtotal: BFVS Track and Suspension Upgrade</b>	<b>2,529 / 458.772</b>	<b>414 / 76.079</b>	<b>401 / 73.266</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>3,344 / 608.117</b>		
<b>Modification Item 7 of 11: BFVS Mobility Modification</b>														
A Kits														
Recurring														
BFVS A4 Modification	285 / 813.889	- / 72.388	70 / 325.793	36 / 231.851	- / -	36 / 231.851	- / 7.347	- / -	- / -	- / -	- / -	391 / 1,451.268		
<b>Subtotal: Recurring</b>	<b>285 / 813.889</b>	<b>- / 72.388</b>	<b>70 / 325.793</b>	<b>36 / 231.851</b>	<b>- / -</b>	<b>36 / 231.851</b>	<b>- / 7.347</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>391 / 1,451.268</b>		
<b>Subtotal: BFVS Mobility Modification</b>	<b>285 / 813.889</b>	<b>- / 72.388</b>	<b>70 / 325.793</b>	<b>36 / 231.851</b>	<b>- / -</b>	<b>36 / 231.851</b>	<b>- / 7.347</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>391 / 1,451.268</b>		
<b>Modification Item 8 of 11: Conversion to M2</b>														
A Kits														
Recurring														

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<b>Exhibit P-3a, Individual Modification: PB 2023 Army</b>										<b>Date:</b> April 2022		
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 01 / 20				<b>P-1 Line Item Number / Title:</b> 1678GZ2400 / Bradley Program (MOD)						<b>Modification Number / Title:</b> GZ2400 / Bradley Program (MOD)		
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A							<b>MDAP/MAIS Code:</b>					
<b>Models of Systems Affected:</b> M2 & M3 Bradley Vehicle Variants				<b>Modification Type:</b> Increase Performance				<b>Related RDT&amp;E PEs:</b>				
Financial Plan	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Conversion M3-M2	195 / 132.245	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	195 / 132.245
Fielding	- / 15.942	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 15.942
<i>Subtotal: Recurring</i>	195 / 138.187	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	195 / 138.187
<i>Subtotal: Conversion to M2</i>	195 / 138.187	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	195 / 138.187
<b>Modification Item 9 of 11: Braking Safety/ Transmission Industrial Base</b>												
A Kits												
Recurring												
Transmission	266 / 87.834	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	266 / 87.834
<i>Subtotal: Recurring</i>	266 / 87.834	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	266 / 87.834
<i>Subtotal: Braking Safety/Transmission Industrial Base</i>	266 / 87.834	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	266 / 87.834
<b>Modification Item 10 of 11: Survivability Enhancements</b>												
B Kits												
Recurring												
Underbelly Interium Solution (UBIS)	- / -	600 / 17.144	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	600 / 17.144
<i>Subtotal: Recurring</i>	- / -	600 / 17.144	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	600 / 17.144
<i>Subtotal: Survivability Enhancements</i>	- / -	600 / 17.144	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	600 / 17.144
<b>Modification Item 11 of 11: Other</b>												
A Kits												
Non-Recurring												
Kits	- / 163.621	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 163.621
<i>Subtotal: Non-Recurring</i>	- / 163.621	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 163.621
<i>Subtotal: Other</i>	- / 163.621	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 163.621
<i>Subtotal: Procurement, All Modification Items</i>	16,405 / 6,461.764	1,014 / 277.259	471 / 460.385	36 / 267.429	- / -	36 / 267.429	- / 56.037	- / 26.966	- / 29.537	- / 30.946	Continuing	Continuing
<b>Installation</b>												
<b>Modification Item 3 of 11: Training Equipment Devices</b>	- / -	- / -	27 / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	27 / -
<b>Modification Item 6 of 11: BFVS Track and Suspension Upgrade</b>	2,529 / -	414 / -	401 / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	3,344 / -
<b>Modification Item 7 of 11: BFVS Mobility Modification</b>	85 / -	126 / -	74 / -	70 / 12.102	- / -	70 / 12.102	36 / -	- / 4.023	- / 1.414	- / -	- / -	391 / 17.539

**UNCLASSIFIED**

**Exhibit P-3a, Individual Modification: PB 2023 Army** **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A / 01 / 20 **P-1 Line Item Number / Title:** 1678GZ2400 / Bradley Program (MOD) **Modification Number / Title:** GZ2400 / Bradley Program (MOD)

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

**Models of Systems Affected:** M2 & M3 Bradley Vehicle Variants **Modification Type:** Increase Performance **Related RDT&E PEs:**

Financial Plan	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
<b>Modification Item 8 of 11:</b> Conversion to M2	195 / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	195 / -
<b>Modification Item 10 of 11:</b> Survivability Enhancements	- / -	- / -	304 / -	138 / -	- / -	138 / -	- / -	- / -	- / -	- / -	- / -	442 / -
<i>Subtotal: Installation</i>	2,809 / -	540 / -	806 / -	208 / 12.102	- / -	208 / 12.102	36 / -	- / 4.023	- / 1.414	- / -	- / -	4,399 / 17.539
<b>Total</b>												
<b>Total Cost (Procurement + Support + Installation)</b>	6,461.764	277.259	460.385	279.531	-	279.531	56.037	30.989	30.951	30.946	Continuing	Continuing

**UNCLASSIFIED**

<b>Exhibit P-3a, Individual Modification:</b> PB 2023 Army						<b>Date:</b> April 2022	
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 01 / 20			<b>P-1 Line Item Number / Title:</b> 1678GZ2400 / Bradley Program (MOD)			<b>Modification Number / Title:</b> GZ2400 / Bradley Program (MOD)	
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A					<b>MDAP/MAIS Code:</b>		
<b>Modification Item 1 of 11:</b> Bradley Reactive Armor							
<b>Manufacturer Information</b>							
Manufacturer Name: GDATP				Manufacturer Location: Burlington, VT			
Administrative Leadtime (in Months):				Production Leadtime (in Months):			
<b>Dates</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>	<b>FY 2026</b>	<b>FY 2027</b>
Contract Dates							
Delivery Dates							
<b>Installation Information</b>							
<b>Method of Implementation (Organic):</b> Contractor					<b>Installation Quantity:</b> 0		

**UNCLASSIFIED**

<b>Exhibit P-3a, Individual Modification:</b> PB 2023 Army						<b>Date:</b> April 2022	
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 01 / 20			<b>P-1 Line Item Number / Title:</b> 1678GZ2400 / Bradley Program (MOD)			<b>Modification Number / Title:</b> GZ2400 / Bradley Program (MOD)	
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A					<b>MDAP/MAIS Code:</b>		
<b>Modification Item 2 of 11:</b> BFVS High Priority Improvements							
<b>Manufacturer Information</b>							
Manufacturer Name: Various				Manufacturer Location: Various			
Administrative Leadtime (in Months): 5				Production Leadtime (in Months): 12			
<b>Dates</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>	<b>FY 2026</b>	<b>FY 2027</b>
Contract Dates	Mar 2021	Mar 2022	Mar 2023	Mar 2024	Mar 2025		
Delivery Dates	Mar 2022	Mar 2023	Mar 2024	Mar 2025	Mar 2026		
<b>Installation Information</b>							
<b>Method of Implementation (Organic):</b> Contractor					<b>Installation Quantity:</b> 0		

**UNCLASSIFIED**

**Exhibit P-3a, Individual Modification: PB 2023 Army** **Date:** April 2022

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 01 / 20	<b>P-1 Line Item Number / Title:</b> 1678GZ2400 / Bradley Program (MOD)	<b>Modification Number / Title:</b> GZ2400 / Bradley Program (MOD)
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**ID Code** (A=Service Ready, B=Not Service Ready) : A **MDAP/MAIS Code:**

**Modification Item 3 of 11:** Training Equipment Devices

**Manufacturer Information**

Manufacturer Name: TBD Manufacturer Location: TBD

Administrative Leadtime (in Months): 9 Production Leadtime (in Months): 12

Dates	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
Contract Dates	Dec 2021	Apr 2022	Apr 2023				
Delivery Dates	Dec 2022	Apr 2023	Apr 2024				

**Installation Information**

**Method of Implementation:** Contractor

Installation Cost	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	27 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	27 / 0.000
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2026	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2027	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	- / -	- / -	27 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	27 / 0.000

**Installation Schedule**

	PYS	FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				TC	Tot
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	-	-	-	-	-	-	-	27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Out	-	-	-	-	-	-	-	-	-	-	-	27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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<b>Exhibit P-3a, Individual Modification:</b> PB 2023 Army						<b>Date:</b> April 2022	
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 01 / 20			<b>P-1 Line Item Number / Title:</b> 1678GZ2400 / Bradley Program (MOD)			<b>Modification Number / Title:</b> GZ2400 / Bradley Program (MOD)	
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A					<b>MDAP/MAIS Code:</b>		
<b>Modification Item 4 of 11:</b> ODS Situational Awareness							
<b>Manufacturer Information</b>							
Manufacturer Name: BAE				Manufacturer Location: YORK, PA			
Administrative Leadtime (in Months):				Production Leadtime (in Months):			
<b>Dates</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>	<b>FY 2026</b>	<b>FY 2027</b>
Contract Dates							
Delivery Dates							
<b>Installation Information</b>							
<b>Method of Implementation (Organic):</b> Contractor					<b>Installation Quantity:</b> 0		

**UNCLASSIFIED**

<b>Exhibit P-3a, Individual Modification:</b> PB 2023 Army					<b>Date:</b> April 2022		
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 01 / 20			<b>P-1 Line Item Number / Title:</b> 1678GZ2400 / Bradley Program (MOD)			<b>Modification Number / Title:</b> GZ2400 / Bradley Program (MOD)	
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A					<b>MDAP/MAIS Code:</b>		
<b>Modification Item 5 of 11:</b> Program/Engineering Support							
<b>Manufacturer Information</b>							
Manufacturer Name: N/A				Manufacturer Location: WARREN, MI			
Administrative Leadtime (in Months): 2				Production Leadtime (in Months): 1			
<b>Dates</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>	<b>FY 2026</b>	<b>FY 2027</b>
Contract Dates	Dec 2020	Dec 2021	Dec 2022	Dec 2023	Dec 2024		
Delivery Dates	Jan 2021	Jan 2022	Jan 2023	Jan 2024	Jan 2025		
<b>Installation Information</b>							
<b>Method of Implementation (Organic):</b> x					<b>Installation Quantity:</b> 0		

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<b>Exhibit P-3a, Individual Modification: PB 2023 Army</b>		<b>Date:</b> April 2022
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 01 / 20	<b>P-1 Line Item Number / Title:</b> 1678GZ2400 / Bradley Program (MOD)	<b>Modification Number / Title:</b> GZ2400 / Bradley Program (MOD)

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A	<b>MDAP/MAIS Code:</b>
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**Modification Item 6 of 11:** BFVS Track and Suspension Upgrade

**Manufacturer Information**

Manufacturer Name: Loc Performance Products Inc./Other      Manufacturer Location: Various

Administrative Leadtime (in Months):      Production Leadtime (in Months): 13

Dates	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
Contract Dates	Dec 2020	Dec 2021					
Delivery Dates	Jan 2022	Jan 2023					

**Installation Information**

**Method of Implementation:** Contractor

Installation Cost	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	1,701 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1,701 / 0.000
FY 2021	414 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	414 / 0.000
FY 2022	414 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	414 / 0.000
FY 2023	- / -	414 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	414 / 0.000
FY 2024	- / -	- / -	401 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	401 / 0.000
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2026	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2027	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	2,529 / 0.000	414 / 0.000	401 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	3,344 / 0.000

**Installation Schedule**

	PYS	FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				TC	Tot		
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4				
In	2,529	414	-	-	-	401	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3,344
Out	1,806	103	103	103	104	104	103	103	104	104	103	103	100	100	100	101	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3,344



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**Exhibit P-3a, Individual Modification: PB 2023 Army** **Date:** April 2022

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 01 / 20	<b>P-1 Line Item Number / Title:</b> 1678GZ2400 / Bradley Program (MOD)	<b>Modification Number / Title:</b> GZ2400 / Bradley Program (MOD)
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**ID Code** (A=Service Ready, B=Not Service Ready) : A **MDAP/MAIS Code:**

**Modification Item 8 of 11:** Conversion to M2

**Manufacturer Information**

Manufacturer Name: BAE	Manufacturer Location: YORK, PA
Administrative Leadtime (in Months):	Production Leadtime (in Months):

Dates	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
Contract Dates							
Delivery Dates							

**Installation Information**

**Method of Implementation:** Contractor

Installation Cost	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	195 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	195 / 0.000
FY 2021	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2026	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2027	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
<b>Total</b>	195 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	195 / 0.000

**Installation Schedule**

PYS	FY 2021	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				TC	Tot				
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4						
In	195	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	195
Out	195	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	195

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<b>Exhibit P-3a, Individual Modification:</b> PB 2023 Army						<b>Date:</b> April 2022	
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 01 / 20			<b>P-1 Line Item Number / Title:</b> 1678GZ2400 / Bradley Program (MOD)			<b>Modification Number / Title:</b> GZ2400 / Bradley Program (MOD)	
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A					<b>MDAP/MAIS Code:</b>		
<b>Modification Item 9 of 11:</b> Braking Safety/Transmission Industrial Base							
<b>Manufacturer Information</b>							
Manufacturer Name: L3COM				Manufacturer Location: MUSKEGON, MI			
Administrative Leadtime (in Months):				Production Leadtime (in Months):			
<b>Dates</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>	<b>FY 2026</b>	<b>FY 2027</b>
Contract Dates							
Delivery Dates							
<b>Installation Information</b>							
<b>Method of Implementation (Organic):</b> Contractor					<b>Installation Quantity:</b> 0		

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<b>Exhibit P-3a, Individual Modification:</b> PB 2023 Army		<b>Date:</b> April 2022
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 01 / 20	<b>P-1 Line Item Number / Title:</b> 1678GZ2400 / Bradley Program (MOD)	<b>Modification Number / Title:</b> GZ2400 / Bradley Program (MOD)

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A	<b>MDAP/MAIS Code:</b>
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**Modification Item 10 of 11:** Survivability Enhancements

**Manufacturer Information**

Manufacturer Name: TBD	Manufacturer Location: TBD
Administrative Leadtime (in Months): 10	Production Leadtime (in Months): 6

Dates	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
Contract Dates	Aug 2020						
Delivery Dates	Feb 2022						

**Installation Information**

**Method of Implementation:** Contractor

Installation Cost	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	304 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	304 / 0.000
FY 2024	- / -	- / -	- / -	138 / 0.000	- / -	138 / 0.000	- / -	- / -	- / -	- / -	- / -	138 / 0.000
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2026	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2027	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	- / -	- / -	304 / 0.000	138 / 0.000	- / -	138 / 0.000	- / -	- / -	- / -	- / -	- / -	442 / 0.000

**Installation Schedule**

	PYS	FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				TC	Tot	
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
In	-	-	-	-	304	-	-	-	138	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	442
Out	-	-	-	-	-	76	76	76	76	35	35	35	33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	442

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<b>Exhibit P-3a, Individual Modification:</b> PB 2023 Army						<b>Date:</b> April 2022	
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 01 / 20			<b>P-1 Line Item Number / Title:</b> 1678GZ2400 / Bradley Program (MOD)			<b>Modification Number / Title:</b> GZ2400 / Bradley Program (MOD)	
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A					<b>MDAP/MAIS Code:</b>		
<b>Modification Item 11 of 11:</b> Other							
<b>Manufacturer Information</b>							
Manufacturer Name: RAA				Manufacturer Location: TBD			
Administrative Leadtime (in Months):				Production Leadtime (in Months): 3			
<b>Dates</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>	<b>FY 2026</b>	<b>FY 2027</b>
Contract Dates							
Delivery Dates							
<b>Installation Information</b>							
<b>Method of Implementation (Organic):</b> Rapid Acquisition Authority/ Nat Commission on Military Aviation Safety					<b>Installation Quantity:</b> 0		



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**Exhibit P-40, Budget Line Item Justification:** PB 2023 Army **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A: Procurement of W&TCV, Army / BA 01: Tracked Combat Vehicles / BSA 20: Modification of Tracked Combat Vehicles **P-1 Line Item Number / Title:** 2072GA0400 / M109 FOV Modifications

**ID Code** (A=Service Ready, B=Not Service Ready): B **Program Elements for Code B Items:** 0604854A **Other Related Program Elements:** 0604854A

**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	2,171.345	26.893	2.534	3.028	-	3.028	2.025	-	-	-	-	2,205.825
Less PY Advance Procurement ( <i>\$ in Millions</i> )	16.321	-	-	-	-	-	-	-	-	-	-	16.321
Net Procurement (P-1) ( <i>\$ in Millions</i> )	2,155.024	26.893	2.534	3.028	-	3.028	2.025	-	-	-	-	2,189.504
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	16.321	-	-	-	-	-	-	-	-	-	-	16.321
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>2,171.345</b>	<b>26.893</b>	<b>2.534</b>	<b>3.028</b>	-	<b>3.028</b>	<b>2.025</b>	-	-	-	-	<b>2,205.825</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-

**Description:**

This funding line is a key enabler of the Army Modernization Priorities in support of the Long-Range Precision Fires.

The M109 Family of Vehicles (FOV) Modifications line consists of the M109A6 Paladin Self-Propelled Howitzer (SPH) and the M992A2 Field Artillery Ammunition Supply Vehicle (FAASV), the M109A7 Self-Propelled Howitzer (SPH) and M992A3 Carrier, Ammunition, Tracked (CAT). The funding profile provides for the engineering design, testing, hardware procurement, and application in support of improvements to resolve problems identified in the field and approved by the Materiel Developer and Combat Developer for fielded M109 Family of Vehicles (FOV). These improvements address maintaining operational readiness rates, improving vehicle safety and operation, and integrate new equipment. Funding also supports aspects of program management necessary to support the field fleet of 689 Self-Propelled Howitzers (SPHs) and 689 Field Artillery Ammunition Supply Vehicles (FAASVs) / Carrier, Ammunition, Tracked (CATs) in 16 Active Duty Army and National Guard Battalions organic to Armored Brigade Combat Team (ABCT); 10 Battalions organic to Army Fires Brigades; 3 Rotational unit sets; 4 Army Prepositioned Stock sets; 2 Institutional Training Sites, 2 Combat Training Centers, and other facility vehicles for System Technical Support (STS) work for development and qualification of proposed engineering changes and technical improvements. Engineering Change Proposals (ECPs) will be applied through a modification work order and procured for the M109 Family of Vehicles.

Secondary Distribution	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027
Army									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	26.893	2.534	3.028	-	3.028	2.025	-	-	-
<b>Total:</b>									
<b>Secondary Distribution</b>									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	<b>26.893</b>	<b>2.534</b>	<b>3.028</b>	-	<b>3.028</b>	<b>2.025</b>	-	-	-

**Justification:**

FY 2023 base procurement funding in the amount of \$3.028 million supports M109 Family of Vehicles (FOV) modifications, program office requirements and Systems Technical Support (STS) contractor support for the Self-Propelled Family of Howitzers. Program management is for the oversight of Other Governmental Agencies (OGAs) that provide material support to the system and the fielded units to ensure configuration management; provides the analysis and root cause of safety and non-safety related field failures; provides M109 Family of Vehicles (FOV) Depot Overhaul support as needed; provides planning

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<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2023 Army		<b>Date:</b> April 2022
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A: Procurement of W&TCV, Army / BA 01: Tracked Combat Vehicles / BSA 20: Modification of Tracked Combat Vehicles		<b>P-1 Line Item Number / Title:</b> 2072GA0400 / M109 FOV Modifications
<b>ID Code</b> (A=Service Ready, B=Not Service Ready): B	<b>Program Elements for Code B Items:</b> 0604854A	<b>Other Related Program Elements:</b> 0604854A
<b>Line Item MDAP/MAIS Code:</b> N/A		
<p>and execution for obsolescence of parts, sub-systems and systems; develop and coordinate shrinking supply base mitigation strategies with item managers. The program office works to lower operation and sustainment costs and improve unit readiness by analyzing data and determining solutions to solve the field's problem sets. Manages the Systems Technical Support/Sustainment Systems Technical Support (STS/SSTS) contract that provides direct support to the program and the field. Contractor provides the direct engineering support required to integrate modification kits; provides the logistical support to provision, source, and support the field with the material solutions/changes. Contractor also updates/corrects all system technical data, provisioning data, technical manuals, and Interactive-Electronic Technical Manuals (IETMs). Contractor provides emergency field support to the Government as required for essential mission accomplishment.</p> <p>A portion of this funding line is a key enabler of the Army Modernization Priorities in support of the Long-Range Precision Fires.</p> <p>In accordance with Section 1815 of the FY 2008 National Defense Authorization Act (P.L. 110-181), this item is necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities.</p>		

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**Exhibit P-40, Budget Line Item Justification:** PB 2023 Army **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A: Procurement of W&TCV, Army / BA 01: Tracked Combat Vehicles / BSA 20: Modification of Tracked Combat Vehicles **P-1 Line Item Number / Title:** 2073GZ0410 / Paladin Integrated Management (PIM)

**ID Code** (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0210609A

**Line Item MDAP/MAIS Code:** 466

Resource Summary	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	277	31	43	27	-	27	27	25	46	45	185	706
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	3,185.977	463.425	662.900	493.003	-	493.003	483.055	452.480	654.470	654.526	2,873.883	9,923.719
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	3,185.977	463.425	662.900	493.003	-	493.003	483.055	452.480	654.470	654.526	2,873.883	9,923.719
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>3,185.977</b>	<b>463.425</b>	<b>662.900</b>	<b>493.003</b>	<b>-</b>	<b>493.003</b>	<b>483.055</b>	<b>452.480</b>	<b>654.470</b>	<b>654.526</b>	<b>2,873.883</b>	<b>9,923.719</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	11,501.722	14,949.194	15,416.279	18,259.370	-	18,259.370	17,890.926	18,099.200	14,227.609	14,545.022	15,534.503	14,056.259

**Description:**

This funding line is a key enabler of the Army Modernization Priorities in support of Long-Range Precision Fires.

Paladin Integrated Management (PIM) is an ACAT 1C Acquisition Program. The program will replace the current fleet of M109 Family of Vehicles (FOV) consisting of the M109A6 Self Propelled Howitzer and the M992A2 Field Artillery Ammunition Supply Vehicle (FAASV). PIM is an Army Modernization Program that addresses a critical capability gap created by the Non-Line of Sight Cannon termination in June of 2009, as well as obsolescence and size/weight and power (SWaP) issues in the M109 FOV current fleet. The PIM system integrates current Bradley Fighting Vehicle suspension and drive train items, Future Combat Systems (FCS) developed Electric Gun Drive systems and current fleet armament systems into a new chassis that provides better force protection, survivability and mobility over the antecedent vehicles (M109A6 and M992A2). PIM is a two vehicle system: The M109A7 Self-Propelled Howitzer (SPH) and the M992A3 Carrier Ammunition Tracked (CAT). The SPH has all characteristics listed above. The CAT utilizes all these same components and traits less those that relate directly to the cannon system. The PIM system replaces the current M109 FOV on a one for one basis, in the cannon fires battalions in the Armored Brigade Combat Team Formations and in the Echelons Above Brigade (EAB). The PIM system will continue fielding through FY 2033. The overall intent is to increase Soldier force protection, vehicle survivability, provide an appropriate amount of Space, Weight, and Power (SWaP) capacity to add future capabilities, reduce life cycle costs and extend the life of the M109 FOV through FY 2050.

Secondary Distribution	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027
Army	16	31	14	-	14	13	13	23	22
Total Obligation Authority	231.712	477.904	266.487	-	266.487	268.125	247.413	350.658	350.718
ANG	15	12	13	-	13	14	12	23	23
Total Obligation Authority	231.713	184.996	226.516	-	226.516	214.930	205.067	303.812	303.808
<b>Total: Secondary Distribution</b>	<b>31</b>	<b>43</b>	<b>27</b>	<b>-</b>	<b>27</b>	<b>27</b>	<b>25</b>	<b>46</b>	<b>45</b>
<b>Total Obligation Authority</b>	<b>463.425</b>	<b>662.900</b>	<b>493.003</b>	<b>-</b>	<b>493.003</b>	<b>483.055</b>	<b>452.480</b>	<b>654.470</b>	<b>654.526</b>

**UNCLASSIFIED**

**Exhibit P-40, Budget Line Item Justification:** PB 2023 Army **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A: Procurement of W&TCV, Army / BA 01: Tracked Combat Vehicles / BSA 20: Modification of Tracked Combat Vehicles **P-1 Line Item Number / Title:** 2073GZ0410 / Paladin Integrated Management (PIM)

**ID Code** (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0210609A

**Line Item MDAP/MAIS Code:** 466

Exhibits Schedule					Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 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	GZ0410 / Paladin Integrated Management (PIM)	P-5a, P-21	A		277 / 3,185.977	31 / 463.425	43 / 662.900	27 / 493.003	- / -	27 / 493.003
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>277 / 3,185.977</b>	<b>31 / 463.425</b>	<b>43 / 662.900</b>	<b>27 / 493.003</b>	<b>- / -</b>	<b>27 / 493.003</b>

\*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:**

FY 2023 funding total includes \$424.065 million for Base and \$68.938 million for Enduring Costs in the Base Budget.

FY 2023 Base Procurement dollars in the amount of \$493.003 million supports all aspects of the PIM Full Rate Production (FRP) program. Funding also supports the Government Program Management support required to provide oversight on contractor production operations that include: Quality Process Management, Program Management Reviews (weekly, monthly, and quarterly), Government Furnished Property and Material Management, and engineering activities resulting from waivers/deviations/problem resolution. Funding also supports work being completed at the Anniston Army Depot (ANAD) in Anniston, AL to provide refurbished breeches to the vehicle prime production contractor as well as the contractor operations needed to sustain production operations for the acquisition of materials/components/end items, manufacturing and assembly of sub-systems, and the integration, test, and check out operations required to produce all 27 vehicle sets funded with FY 2023 Base Procurement funding. The unit cost represents a cost per vehicle set (1 Self Propelled Howitzer (SPH) and 1 Carrier Ammunition Tracked (CAT)). The SPH and CAT procurement continues to support the supplier/vendor industrial base with fielding in FY 2024.

This funding line is a key enabler of the Army Modernization Priorities in support of Long-Range Precision Fires.

In accordance with Section 1815 of the FY 2008 National Defense Authorization Act (P.L. 110-181), this item is necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities.

Army Acquisition Objective (AAO): 689 sets

Cost To Complete: Please note that updates to the Cost To Complete data were not available prior to the PB 2023 Database Lock. The new Cost to Complete total is \$2,753.288M and the new Cost To Complete Quantity is 168.

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2023 Army</b>		<b>Date:</b> April 2022
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 01 / 20		<b>P-1 Line Item Number / Title:</b> 2073GZ0410 / Paladin Integrated Management (PIM)
		<b>Item Number / Title [DODIC]:</b> GZ0410 / Paladin Integrated Management (PIM)

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A				<b>MDAP/MAIS Code:</b>			
Resource Summary		Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Procurement Quantity (Units in Each)		277	31	43	27	-	27
Gross/Weapon System Cost (\$ in Millions)		3,185.977	463.425	662.900	493.003	-	493.003
Less PY Advance Procurement (\$ in Millions)		-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)		3,185.977	463.425	662.900	493.003	-	493.003
Plus CY Advance Procurement (\$ in Millions)		-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>		<b>3,185.977</b>	<b>463.425</b>	<b>662.900</b>	<b>493.003</b>	<b>-</b>	<b>493.003</b>
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>							
Initial Spares (\$ in Millions)		-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)		11,501.722	14,949.194	15,416.279	18,259.370	-	18,259.370

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

Cost Elements	Prior Years			FY 2021			FY 2022			FY 2023 Base			FY 2023 OCO			FY 2023 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)
Flyaway Cost																		
Recurring Cost																		
SYS ENG/ PROG MGMT (CONTRACTOR)	-	-	26.004	-	-	18.206	-	-	19.229	-	-	19.095	-	-	-	-	-	19.095
SYSTEM TECHNICAL SUPPORT	-	-	259.246	-	-	35.257	-	-	47.163	-	-	54.859	-	-	-	-	-	54.859
SYS TEST & EVALUATION (CONTRACTOR)	-	-	25.861	-	-	2.118	-	-	2.018	-	-	2.203	-	-	-	-	-	2.203
SYS ENG/ PROG MGMT (GOVERNMENT)	-	-	129.233	-	-	20.287	-	-	20.830	-	-	21.140	-	-	-	-	-	21.140
SYS TEST & EVALUATION (GOVERNMENT)	-	-	10.463	-	-	1.823	-	-	1.029	-	-	1.895	-	-	-	-	-	1.895
TRANSPORTATION	-	-	1.667	-	-	1.223	-	-	1.098	-	-	0.978	-	-	-	-	-	0.978
<i>Subtotal: Recurring Cost</i>	-	-	<b>452.474</b>	-	-	<b>78.914</b>	-	-	<b>91.367</b>	-	-	<b>100.170</b>	-	-	-	-	-	<b>100.170</b>
Non Recurring Cost																		
PRODUCTION FACILITIZATION	-	-	31.474	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Non Recurring Cost</i>	-	-	<b>31.474</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Flyaway Cost</i>	-	-	<b>483.948</b>	-	-	<b>78.914</b>	-	-	<b>91.367</b>	-	-	<b>100.170</b>	-	-	-	-	-	<b>100.170</b>
Hardware Cost																		

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2023 Army</b>												<b>Date:</b> April 2022					
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 01 / 20						<b>P-1 Line Item Number / Title:</b> 2073GZ0410 / Paladin Integrated Management (PIM)						<b>Item Number / Title [DODIC]:</b> GZ0410 / Paladin Integrated Management (PIM)					

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A										<b>MDAP/MAIS Code:</b>							
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Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2021			FY 2022			FY 2023 Base			FY 2023 OCO			FY 2023 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)
<b>Recurring Cost</b>																		
MANUFACTURING <sup>(†)</sup>	7,655.343	277	2,120.530	8,698.969	32	278.367	10,188.209	43	438.093	10,625.630	27	286.892	-	-	-	10,625.630	27	286.892
GOVERNMENT FURNISHED EQUIPMENT (GFE)	-	-	311.330	-	-	45.553	-	-	67.488	-	-	43.450	-	-	-	-	-	43.450
THEATRE PROVIDED EQUIPMENT	-	-	29.150	-	-	16.274	-	-	16.896	-	-	16.596	-	-	-	-	-	16.596
RECURRING PRODUCTION - OTHER	-	-	41.580	-	-	7.919	-	-	11.075	-	-	6.863	-	-	-	-	-	6.863
ENGINEERING CHANGE ORDERS	-	-	57.257	-	-	16.054	-	-	18.280	-	-	20.065	-	-	-	-	-	20.065
<i>Subtotal: Recurring Cost</i>	-	-	<b>2,559.847</b>	-	-	<b>364.167</b>	-	-	<b>551.832</b>	-	-	<b>373.866</b>	-	-	-	-	-	<b>373.866</b>
<i>Subtotal: Hardware Cost</i>	-	-	<b>2,559.847</b>	-	-	<b>364.167</b>	-	-	<b>551.832</b>	-	-	<b>373.866</b>	-	-	-	-	-	<b>373.866</b>
<b>Support - Contractor Logistics Support (CLS) Cost</b>																		
Oversight	-	-	1.046	-	-	1.511	-	-	1.188	-	-	0.545	-	-	-	-	-	0.545
<i>Subtotal: Support - Contractor Logistics Support (CLS) Cost</i>	-	-	<b>1.046</b>	-	-	<b>1.511</b>	-	-	<b>1.188</b>	-	-	<b>0.545</b>	-	-	-	-	-	<b>0.545</b>
<b>Support - Data Cost</b>																		
Technical Publications	-	-	20.288	-	-	1.343	-	-	1.419	-	-	1.409	-	-	-	-	-	1.409
<i>Subtotal: Support - Data Cost</i>	-	-	<b>20.288</b>	-	-	<b>1.343</b>	-	-	<b>1.419</b>	-	-	<b>1.409</b>	-	-	-	-	-	<b>1.409</b>
<b>Support - Initial Spares and Repair Parts Cost</b>																		
Initial Spares and Repair Parts	-	-	47.054	-	-	6.793	-	-	7.759	-	-	7.063	-	-	-	-	-	7.063
<i>Subtotal: Support - Initial Spares and Repair Parts Cost</i>	-	-	<b>47.054</b>	-	-	<b>6.793</b>	-	-	<b>7.759</b>	-	-	<b>7.063</b>	-	-	-	-	-	<b>7.063</b>
<b>Support - Initial Support Equipment (ISE) Cost</b>																		
Support and Handling Equipment	-	-	7.516	-	-	2.430	-	-	2.118	-	-	2.092	-	-	-	-	-	2.092
<i>Subtotal: Support - Initial Support Equipment (ISE) Cost</i>	-	-	<b>7.516</b>	-	-	<b>2.430</b>	-	-	<b>2.118</b>	-	-	<b>2.092</b>	-	-	-	-	-	<b>2.092</b>
<b>Support - New Equipment Training (NET) Cost</b>																		
Equipment	-	-	16.431	-	-	4.823	-	-	4.250	-	-	3.626	-	-	-	-	-	3.626

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<b>Exhibit P-5, Cost Analysis: PB 2023 Army</b>		<b>Date:</b> April 2022
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 01 / 20		<b>P-1 Line Item Number / Title:</b> 2073GZ0410 / Paladin Integrated Management (PIM)
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A		<b>MDAP/MAIS Code:</b>
<b>Item Number / Title [DODIC]:</b> GZ0410 / Paladin Integrated Management (PIM)		

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

Cost Elements	Prior Years			FY 2021			FY 2022			FY 2023 Base			FY 2023 OCO			FY 2023 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)
<i>Subtotal: Support - New Equipment Training (NET) Cost</i>	-	-	16.431	-	-	4.823	-	-	4.250	-	-	3.626	-	-	-	-	-	3.626
Support - Support Equipment Cost																		
Maintenance Equipment	-	-	27.116	-	-	3.444	-	-	2.967	-	-	4.232	-	-	-	-	-	4.232
<i>Subtotal: Support - Support Equipment Cost</i>	-	-	27.116	-	-	3.444	-	-	2.967	-	-	4.232	-	-	-	-	-	4.232
Support - Training Cost																		
Equipment	-	-	22.731	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - Training Cost</i>	-	-	22.731	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Gross/Weapon System Cost</b>	<b>11,501.722</b>	<b>277</b>	<b>3,185.977</b>	<b>14,949.194</b>	<b>31</b>	<b>463.425</b>	<b>15,416.279</b>	<b>43</b>	<b>662.900</b>	<b>18,259.370</b>	<b>27</b>	<b>493.003</b>	-	-	-	<b>18,259.370</b>	<b>27</b>	<b>493.003</b>

**Remarks:**

Unit Cost:  
FY 2022: Increased unit cost in unit manufacturing cost estimate (which has not yet been negotiated) is due to higher than anticipated fall-out of planned refurbishment components on returning M109A6 seed assets and associated overruns in the Cost Plus Fixed Fee (CPFF) contract line items.

Secondary Distribution		FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Army	Quantity	16	31	14	-	14
	Total Obligation Authority	231.712	477.904	266.487	-	266.487
ANG	Quantity	15	12	13	-	13
	Total Obligation Authority	231.713	184.996	226.516	-	226.516
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	<b>31</b>	<b>43</b>	<b>27</b>	-	<b>27</b>
	<b>Total Obligation Authority</b>	<b>463.425</b>	<b>662.900</b>	<b>493.003</b>	-	<b>493.003</b>

(†) indicates the presence of a P-5a

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<b>Exhibit P-5a, Procurement History and Planning:</b> PB 2023 Army							<b>Date:</b> April 2022					
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 01 / 20			<b>P-1 Line Item Number / Title:</b> 2073GZ0410 / Paladin Integrated Management (PIM)				<b>Item Number / Title [DODIC]:</b> GZ0410 / Paladin Integrated Management (PIM)					

Cost Elements	O C O	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
MANUFACTURING <sup>(†)</sup>		2020	BAE / York	SS / FPIF	TACOM, Warren, MI	Mar 2020	Dec 2022	46	7,022.396	N		
MANUFACTURING <sup>(†)</sup>		2021	BAE / York	SS / FPIF	TACOM, Warren, MI	May 2022	Dec 2023	32	8,698.969	N		
MANUFACTURING <sup>(†)</sup>		2022	BAE / York	SS / FPIF	TACOM, Warren, MI	Oct 2022	Dec 2024	43	10,188.209	N		
MANUFACTURING <sup>(†)</sup>		2023	BAE / York	SS / FPIF	TACOM, Warren, MI	Jun 2023	Dec 2025	27	10,625.630	N		

<sup>(†)</sup> indicates the presence of a P-21

**Remarks:**

**Quantities:**

- FY 2020: Production Option 3 awarded 38 vehicle sets in March 2020. Production Option 4 awarded Early Order Material (EOM) for an additional 8 vehicle sets in July 2021 and will definitize the award in May 2022.
- FY 2021: Production Option 4 awarded EOM for 32 vehicle sets in July 2021 and will definitize the award in May 2022.
- FY 2022: Follow-on Award of EOM for 40 vehicle sets in May 2022 and will definitize the award in October 2022. An additional Follow-on Award of 3 vehicle sets is planned in June 2023.
- FY 2023: Follow-on Award of 27 vehicle sets in June 2023.

**Unit Cost:**

- FY 2022: Increased unit cost in unit manufacturing cost estimate (which has not yet been negotiated) is due to higher than anticipated fall-out of planned refurbishment components on returning M109A6 seed assets and associated overruns in the Cost Plus Fixed Fee (CPFF) contract line items.



**UNCLASSIFIED**

<b>Exhibit P-21, Production Schedule:</b> PB 2023 Army		<b>Date:</b> April 2022
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 01 / 20		<b>P-1 Line Item Number / Title:</b> 2073GZ0410 / Paladin Integrated Management (PIM)
		<b>Item Number / Title [DODIC]:</b> GZ0410 / Paladin Integrated Management (PIM)

Cost Elements <i>(Units in Each)</i>						Fiscal Year 2020												Fiscal Year 2021												BALANCE	
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2019	BAL DUE AS OF 1 OCT	Calendar Year 2020												Calendar Year 2021												
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G		S E P
MANUFACTURING																															
Prior Years Deliveries: 231																															
	1	2020	ARMY	46	0	46																							46		
	1	2021	ARMY	32	0	32																							32		
	1	2022	ARMY	43	0	43																							43		
	1	2023	ARMY	27	0	27																							27		

O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2019	BAL DUE AS OF 1 OCT	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	



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<b>Exhibit P-21, Production Schedule:</b> PB 2023 Army															<b>Date:</b> April 2022														
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 01 / 20										<b>P-1 Line Item Number / Title:</b> 2073GZ0410 / Paladin Integrated Management (PIM)										<b>Item Number / Title [DODIC]:</b> GZ0410 / Paladin Integrated Management (PIM)									

Cost Elements <i>(Units in Each)</i>					Fiscal Year 2024														Fiscal Year 2025														B A L A N C E		
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2023	BAL DUE AS OF 1 OCT	Calendar Year 2024														Calendar Year 2025														
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					
MANUFACTURING																																			
Prior Years Deliveries: 231																																			
	1	2020	ARMY	46	40	6	3	3																										0	
	1	2021	ARMY	32	0	32	-	-	3	3	3	3	3	3	3	3	2	2	2	2														0	
	1	2022	ARMY	43	0	43	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	4	4	4	4	4	4	3	3	3			6		
	1	2023	ARMY	27	0	27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		27		
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					

**UNCLASSIFIED**

<b>Exhibit P-21, Production Schedule:</b> PB 2023 Army																<b>Date:</b> April 2022													
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 01 / 20										<b>P-1 Line Item Number / Title:</b> 2073GZ0410 / Paladin Integrated Management (PIM)										<b>Item Number / Title [DODIC]:</b> GZ0410 / Paladin Integrated Management (PIM)									

Cost Elements <i>(Units in Each)</i>						Fiscal Year 2026													Fiscal Year 2027													B A L A N C E	
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2025	BAL DUE AS OF 1 OCT	Calendar Year 2026													Calendar Year 2027													
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P			

MANUFACTURING																														
Prior Years Deliveries: 231																														
	1	2020	ARMY	46	46	0																							0	
	1	2021	ARMY	32	32	0																							0	
	1	2022	ARMY	43	37	6	3	3																					0	
	1	2023	ARMY	27	0	27	-	-	3	3	3	2	2	2	2	2	2	2	2	2	2								0	
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P

**UNCLASSIFIED**

<b>Exhibit P-21, Production Schedule:</b> PB 2023 Army		<b>Date:</b> April 2022
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 01 / 20		<b>P-1 Line Item Number / Title:</b> 2073GZ0410 / Paladin Integrated Management (PIM)
		<b>Item Number / Title [DODIC]:</b> GZ0410 / Paladin Integrated Management (PIM)

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Month)			Procurement Leadtime (Months)							
		MSR For 2023	1-8-5 For 2023	MAX For 2023	Initial				Reorder			
					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	BAE - York	2	4	5	0	15	30	45	0	15	30	45

**Remarks:**

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"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).

**UNCLASSIFIED**

**Exhibit P-40, Budget Line Item Justification:** PB 2023 Army **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A: Procurement of W&TCV, Army / BA 01: Tracked Combat Vehicles / BSA 20: Modification of Tracked Combat Vehicles **P-1 Line Item Number / Title:** 3700GA0570 / Improved Recovery Vehicle (M88A2 HERCULES)

**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:** 539

Resource Summary	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	933	-	-	12	-	12	18	18	18	18	Continuing	Continuing
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	2,898.083	-	52.059	138.759	-	138.759	183.472	194.793	195.975	187.909	Continuing	Continuing
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	2,898.083	-	52.059	138.759	-	138.759	183.472	194.793	195.975	187.909	Continuing	Continuing
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>2,898.083</b>	<b>-</b>	<b>52.059</b>	<b>138.759</b>	<b>-</b>	<b>138.759</b>	<b>183.472</b>	<b>194.793</b>	<b>195.975</b>	<b>187.909</b>	<b>Continuing</b>	<b>Continuing</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	3,106.198	-	-	11,563.250	-	11,563.250	10,192.889	10,821.833	10,887.500	10,439.389	Continuing	Continuing

**Description:**

The M88A2 Heavy Equipment Recovery Combat Utility Lift and Evacuation System (HERCULES) provides towing, winching, and hoisting operations to support battlefield single vehicle recovery (SVR) operations and evacuation of heavy tanks and other tracked combat vehicles up to 70-tons. It recovers tanks mired to differing depths, removes/replaces M1 turrets and power packs, and uprights overturned/mired heavy combat vehicles with a 70-ton continuous pull main winch capacity. Due to the increased weight of some of the Army's major combat vehicle systems, up to 80 tons with force protection kits applied, and the loss of Single Vehicle Recovery (SVR) capabilities, the Army is on track to modernize the M88A2 Heavy Equipment Recovery Combat Utility Lift and Evacuation System (HERCULES) fleet in an effort to regain SVR. This will be accomplished by applying the Single Vehicle Recovery Engineering Change Proposal (ECP) that includes modified non developmental technologies comprising a new Power Train (Engine & Transmission), new Suspension, and Improved Track to the M88A2 vehicle resulting in the M88A3 variant vehicle. The M88A3 vehicles will bring back the operational capability of the single vehicle recovery. The increased winching and lifting capability accommodates all 80 ton Abrams variants. Without this increased capability, units must use two M88A2 Medium Recovery Vehicles to perform the necessary spectrum of recovery operations.

The M88 Family of Vehicles provides funding for the procurement of M88A3s, personnel, engineering, design, testing, hardware procurement, and application in support of improvements to resolve safety, readiness, and vehicle recovery operation issues identified in the field and approved by the Materiel Developer and Combat Developer for fielded M88 Family of Vehicles (FOV). These improvements address maintaining operational readiness rates, improving vehicle safety and operation, and integrating new equipment. Engineering Change Proposals (ECPs) will be applied through a modification work order (MWO) and procured for the M88 Family of Vehicles (FOV). Specific modifications include improvements related to engine reliability, automatic fire extinguishing system (AFES), power management system, improved automotive performance related to braking, and special tools delta kits. Funding also maintains the support for M88A2 fielding through end of FY 2023 and finalizes remaining M88A2 Safety/Reliability ECPs. (Auxiliary Power Unit (APU), Quick Wins/Near Quick Wins Engine Improvements, Battery Disconnect). Funding support as required for production facilitization at the Vehicle Upgrade and Overhaul Center (VUOC) in Anniston, AL, manufacturing facility in York, PA and subcontractors. Incorporates modification into the Anniston Army Depot (ANAD) engine overhaul line and procures the material required to support conversion of United States Marine Corps (USMC) M88A2 variants to Army configuration to support newly approved Maintenance Surge Team (MST) requirements.

Secondary Distribution	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027
Army									
	Quantity	-	-	12	-	12	18	18	18
	Total Obligation Authority	-	52.059	138.759	-	138.759	183.472	194.793	195.975
<b>Total:</b>	<b>Quantity</b>	<b>-</b>	<b>-</b>	<b>12</b>	<b>-</b>	<b>12</b>	<b>18</b>	<b>18</b>	<b>18</b>

**UNCLASSIFIED**

**Exhibit P-40, Budget Line Item Justification:** PB 2023 Army **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:**  
 2033A: Procurement of W&TCV, Army / BA 01: Tracked Combat Vehicles / BSA 20: Modification of Tracked Combat Vehicles

**P-1 Line Item Number / Title:**  
 3700GA0570 / Improved Recovery Vehicle (M88A2 HERCULES)

**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:** 539

Secondary Distribution		FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027
Secondary Distribution	Total Obligation Authority	-	52.059	138.759	-	138.759	183.472	194.793	195.975	187.909

**UNCLASSIFIED**

**Exhibit P-40, Budget Line Item Justification:** PB 2023 Army **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A: Procurement of W&TCV, Army / BA 01: Tracked Combat Vehicles / BSA 20: Modification of Tracked Combat Vehicles **P-1 Line Item Number / Title:** 3700GA0570 / Improved Recovery Vehicle (M88A2 HERCULES)

**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:** 539

Exhibits Schedule					Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 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	GA0570 / Improved Recovery Vehicle (M88A2 HERCULES)	P-5a, P-21	A		933 / 2,898.083	- / -	- / 52.059	12 / 138.759	- / -	12 / 138.759
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>933 / 2,898.083</b>	<b>- / -</b>	<b>- / 52.059</b>	<b>12 / 138.759</b>	<b>- / -</b>	<b>12 / 138.759</b>

\*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:**  
 Note: M88 Modification efforts and funds in 5129G80571 / M88 FOV MODS, was realigned to 3700GA0570 / Improved Recovery Vehicle (M88A2 HERCULES) in FY 2022 for greater transparency. The 3700GA0570 / Improved Recovery Vehicle (M88A2 HERCULES) did not receive funding in FY 2021, as they completed the full 933 vehicle procurement of the M88A2 HERCULES Army Acquisition Objective (AAO) in FY 2020. Modification funding should not be included in the unit cost.

FY 2023 Base procurement dollars in the amount of \$138.759 million supports the Engine Reliability Improvement converting the mechanical fuel injection system into an electronic fuel injection system, initiates procurement of the automatic fire extinguishing system and other safety improvements, supports the initial ordering of materials with longer lead times required for the (12) M88A3 vehicles, funding support as required for production facilitization at the Vehicle Upgrade and Overhaul Center (VUOC) in Anniston, AL, manufacturing facility in York, PA and subcontractors. Maintains system technical services (STS) for the M88A2 in production. The M88A2 HERCULES new production vehicles are fielding to units through FY 2023. Plans are underway to convert to Army configuration M88A2 HERCULES from the U.S. Marine Corps. (USMC) to support fielding requirements through FY 2026 to the Maintenance Surge Teams (MST) as a new Army initiative. M88 FOV modifications address improvements for maintaining operational readiness rates, improving vehicle safety and operation, and integrating new equipment. The M88A2 HERCULES Engineering Change Proposals (ECPs) require application to the vehicles through a Modification Work Order (MWO). Specific modifications include safety and reliability modifications to the engine: converting the mechanical fuel injection to an electronic fuel injection system as well as upgrading the exhaust manifolds and turbos that have been identified as significant initiation sources during fire investigations. Additional modifications finalize the updates to the automatic fire extinguishing system (AFES), Power Management System which includes the Auxiliary Power System (APU), special tools delta kits and improving automotive performance related to braking.

In accordance with Section 1815 of the FY 2008 National Defense Authorization Act (P.L. 110-181), this item is necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities.



**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2023 Army</b>		<b>Date:</b> April 2022
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 01 / 20	<b>P-1 Line Item Number / Title:</b> 3700GA0570 / Improved Recovery Vehicle (M88A2 HERCULES)	<b>Item Number / Title [DODIC]:</b> GA0570 / Improved Recovery Vehicle (M88A2 HERCULES)

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A	<b>MDAP/MAIS Code:</b>
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Resource Summary	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Procurement Quantity (Units in Each)	933	-	-	12	-	12
Gross/Weapon System Cost (\$ in Millions)	2,898.083	-	52.059	138.759	-	138.759
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	2,898.083	-	52.059	138.759	-	138.759
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>2,898.083</b>	<b>-</b>	<b>52.059</b>	<b>138.759</b>	<b>-</b>	<b>138.759</b>

*(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)	3,106.198	-	-	11,563.250	-	11,563.250

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

Cost Elements	Prior Years			FY 2021			FY 2022			FY 2023 Base			FY 2023 OCO			FY 2023 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)
Flyaway Cost																		
Recurring Cost																		
M88A2 Vehicle Manufacturing - Contractor	2,282.237	933	2,129.327	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M88A3 Vehicle Manufacturing-Contractor <sup>(†)</sup>	-	-	-	-	-	-	-	-	-	5,020.333	12	60.244	-	-	-	5,020.333	12	60.244
Vehicle Manufacturing - GFE	-	-	102.304	-	-	-	-	-	-	-	-	1.065	-	-	-	-	-	1.065
Hull Reclamation	-	-	85.603	-	-	-	-	-	-	-	-	1.711	-	-	-	-	-	1.711
Test (Production Verification Testing)	-	-	25.808	-	-	-	-	-	-	-	-	3.000	-	-	-	-	-	3.000
Transportation	-	-	16.248	-	-	-	-	-	-	-	-	0.314	-	-	-	-	-	0.314
Fielding (TPF & NET)	-	-	97.241	-	-	-	-	-	-	-	-	2.338	-	-	-	-	-	2.338
Facilities	-	-	-	-	-	-	-	-	-	-	-	4.695	-	-	-	-	-	4.695
System Technical Support	-	-	337.766	-	-	-	-	-	13.082	-	-	19.897	-	-	-	-	-	19.897
Program Management	-	-	103.786	-	-	-	-	-	4.934	-	-	5.855	-	-	-	-	-	5.855
Modifications	-	-	-	-	-	-	-	-	34.043	-	-	30.390	-	-	-	-	-	30.390
USMC Conversion	-	-	-	-	-	-	-	-	-	1,156.250	8	9.250	-	-	-	1,156.250	8	9.250
<i>Subtotal: Recurring Cost</i>	-	-	<i>2,898.083</i>	-	-	-	-	-	<i>52.059</i>	-	-	<i>138.759</i>	-	-	-	-	-	<i>138.759</i>
<i>Subtotal: Flyaway Cost</i>	-	-	<i>2,898.083</i>	-	-	-	-	-	<i>52.059</i>	-	-	<i>138.759</i>	-	-	-	-	-	<i>138.759</i>

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2023 Army</b>		<b>Date:</b> April 2022
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 01 / 20	<b>P-1 Line Item Number / Title:</b> 3700GA0570 / Improved Recovery Vehicle (M88A2 HERCULES)	<b>Item Number / Title [DODIC]:</b> GA0570 / Improved Recovery Vehicle (M88A2 HERCULES)
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A		<b>MDAP/MAIS Code:</b>

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

Cost Elements	Prior Years			FY 2021			FY 2022			FY 2023 Base			FY 2023 OCO			FY 2023 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	3,106.198	933	2,898.083	-	-	-	-	-	52.059	11,563.250	12	138.759	-	-	-	11,563.250	12	138.759

**Remarks:**

The 3700GA0570 / Improved Recovery Vehicle (M88A2 HERCULES) did not receive funding in FY 2021, as they completed the full 933 vehicle procurement of the M88A2 HERCULES Army Acquisition Objective (AAO) in FY 2020. Modification funding should not be included in the unit cost.

\*\*\*Quantity of 8 for the USMC conversion are comprised of M88A2 Vehicles\*\*\*.

Secondary Distribution		FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Army	Quantity	-	-	12	-	12
	Total Obligation Authority	-	52.059	138.759	-	138.759
<b>Total:</b> Secondary Distribution	Quantity	-	-	12	-	12
	Total Obligation Authority	-	52.059	138.759	-	138.759

(t) indicates the presence of a P-5a

**UNCLASSIFIED**

<b>Exhibit P-5a, Procurement History and Planning:</b> PB 2023 Army							<b>Date:</b> April 2022					
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 01 / 20			<b>P-1 Line Item Number / Title:</b> 3700GA0570 / Improved Recovery Vehicle (M88A2 HERCULES)				<b>Item Number / Title [DODIC]:</b> GA0570 / Improved Recovery Vehicle (M88A2 HERCULES)					
<b>Cost Elements</b>	<b>O C O</b>	<b>FY</b>	<b>Contractor and Location</b>	<b>Method/Type or Funding Vehicle</b>	<b>Location of PCO</b>	<b>Award Date</b>	<b>Date of First Delivery</b>	<b>Qty (Each)</b>	<b>Unit Cost (\$ K)</b>	<b>Specs Avail Now?</b>	<b>Date Revision Available</b>	<b>RFP Issue Date</b>
M88A3 Vehicle Manufacturing- Contractor <sup>(†)</sup>		2023	BAE Systems / Anniston, AL	SS / FFP	TACOM	Jun 2023	Jun 2025	12	5,020.333	N		

<sup>(†)</sup> indicates the presence of a P-21

**UNCLASSIFIED**

<b>Exhibit P-21, Production Schedule:</b> PB 2023 Army															<b>Date:</b> April 2022														
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 01 / 20										<b>P-1 Line Item Number / Title:</b> 3700GA0570 / Improved Recovery Vehicle (M88A2 HERCULES)										<b>Item Number / Title [DODIC]:</b> GA0570 / Improved Recovery Vehicle (M88A2 HERCULES)									

Cost Elements <i>(Units in Each)</i>						Fiscal Year 2023												Fiscal Year 2024												BALANCE	
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2022	BAL DUE AS OF 1 OCT	Calendar Year 2023												Calendar Year 2024												
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G		S E P

M88A3 Vehicle Manufacturing- Contractor																													
1	2023	ARMY		12	0	12																							12


**UNCLASSIFIED**

<b>Exhibit P-21, Production Schedule:</b> PB 2023 Army															<b>Date:</b> April 2022														
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 01 / 20										<b>P-1 Line Item Number / Title:</b> 3700GA0570 / Improved Recovery Vehicle (M88A2 HERCULES)										<b>Item Number / Title [DODIC]:</b> GA0570 / Improved Recovery Vehicle (M88A2 HERCULES)									

Cost Elements <i>(Units in Each)</i>						Fiscal Year 2025												Fiscal Year 2026												BALANCE	
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2024	BAL DUE AS OF 1 OCT	Calendar Year 2025												Calendar Year 2026												
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G		S E P

M88A3 Vehicle Manufacturing- Contractor																																			
1	2023	ARMY		12	0	12	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0

							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					
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**UNCLASSIFIED**

<b>Exhibit P-21, Production Schedule:</b> PB 2023 Army		<b>Date:</b> April 2022
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 01 / 20		<b>P-1 Line Item Number / Title:</b> 3700GA0570 / Improved Recovery Vehicle (M88A2 HERCULES)
		<b>Item Number / Title [DODIC]:</b> GA0570 / Improved Recovery Vehicle (M88A2 HERCULES)

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Month)			Procurement Leadtime (Months)							
		MSR For 2023	1-8-5 For 2023	MAX For 2023	Initial				Reorder			
					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	BAE Systems - Anniston, AL	1	1	4	0	18	12	30	0	12	6	18

**Remarks:**  
Note: Award in June 2023 is for Early Order Materials.

"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).

**UNCLASSIFIED**

**Exhibit P-40, Budget Line Item Justification:** PB 2023 Army **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A: Procurement of W&TCV, Army / BA 01: Tracked Combat Vehicles / BSA 20: Modification of Tracked Combat Vehicles  
**P-1 Line Item Number / Title:** 4520GZ3250 / Assault Bridge (Mod)

**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 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	379.600	5.074	2.136	-	-	-	-	-	5.507	6.325	-	398.642
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	379.600	5.074	2.136	-	-	-	-	-	5.507	6.325	-	398.642
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>379.600</b>	<b>5.074</b>	<b>2.136</b>	-	-	-	-	-	<b>5.507</b>	<b>6.325</b>	-	<b>398.642</b>
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	6,122.581	281.889	534.000	-	-	-	-	-	550.700	527.083	-	3,760.774

**Description:**

The Assault Bridge (MOD) budget line funds the modifications of assault bridging equipment. It is used to procure hardware, materials, and hardware installation cost required to complete the modification. Modifications are performed to improve survivability, correct safety deficiencies, increase mission capabilities, extend the useful life, improve supportability, upgrade existing technology, increase efficiency, improve readiness, reduce risk of obsolescence and to meet new legal and regulatory requirements. By modifying existing equipment, the Army maintains a ready, supportable inventory of equipment that meets current requirements and regulations at a cost considerably below that of buying new equipment.

Secondary Distribution		FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	5.074	2.136	-	-	-	-	-	5.507	6.325
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	-	-	-	-	-	-	-	-	-
	<b>Total Obligation Authority</b>	<b>5.074</b>	<b>2.136</b>	-	-	-	-	-	<b>5.507</b>	<b>6.325</b>

**Justification:**

There is no FY 2023 budget request for this funding line.

In accordance with Section 1815 of the FY 2008 National Defense Authorization Act (P.L. 110-181), this item is necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities.

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**Exhibit P-40, Budget Line Item Justification:** PB 2023 Army **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:**  
 2033A: Procurement of W&TCV, Army / BA 01: Tracked Combat Vehicles / BSA 20: Modification of Tracked Combat Vehicles **P-1 Line Item Number / Title:**  
 4872G82925 / Assault Breacher Vehicle

**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 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	145	3	-	-	-	-	-	-	-	-	-	148
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	595.244	19.500	-	-	-	-	-	-	-	-	-	614.744
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	595.244	19.500	-	-	-	-	-	-	-	-	-	614.744
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>595.244</b>	<b>19.500</b>	-	-	-	-	-	-	-	-	-	<b>614.744</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	4,105.131	6,500.000	-	-	-	-	-	-	-	-	-	4,153.676

**Description:**

The Assault Breacher Vehicle (ABV) is a tracked combat engineer vehicle for the Army Armored Brigade Combat Team (ABCT). It is designed to breach minefields and barrier obstacles to enable tanks and infantry of the ABCT to maintain pace in offensive combat operations. The ABV provides crew protection and vehicle survivability equal to the M1A1 Abrams tank hull and has the speed and mobility to keep pace with the heavy maneuver force. The ABV is assigned to engineer companies in ABCTs. Its hull is an overhauled M1A1 Abrams tank hull with modifications for its new mission. Its mission equipment includes two Linear Demolition Charge Systems (modified Mine Clearing Line Charge (MICLC) systems), interchangeable Engineer Breaching System hardware consisting of a Full Width Mine Plow and a Combat Dozer Blade, a Lane Marking System to automatically mark a cleared path behind the ABV, and an integrated day/night vision system. The ABV is fabricated at Anniston Army Depot (ANAD).

The ABV Army Acquisition Objective (AAO) is 141.

Secondary Distribution	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027
Army	Quantity	3	-	-	-	-	-	-	-
	Total Obligation Authority	19.500	-	-	-	-	-	-	-
<b>Total:</b> Secondary Distribution	Quantity	<b>3</b>	-	-	-	-	-	-	-
	Total Obligation Authority	<b>19.500</b>	-	-	-	-	-	-	-

**Justification:**

There is no FY 2023 budget request for this funding line.

In FY 2022 procurement funding was realigned to Line 2 / 4872G84900 / Assault Breacher Vehicle (ABV) which established a parent and two subordinate baby lines for this system to delineate between production and modification efforts to the system for greater transparency.



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<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2023 Army		<b>Date:</b> April 2022
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A: Procurement of W&TCV, Army / BA 01: Tracked Combat Vehicles / BSA 20: Modification of Tracked Combat Vehicles		<b>P-1 Line Item Number / Title:</b> 4872G82925 / Assault Breacher Vehicle
<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
<b>Line Item MDAP/MAIS Code:</b> N/A		
In accordance with Section 1815 of the FY 2008 National Defense Authorization Act (P.L. 110-181), this item is necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities.		

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**Exhibit P-40, Budget Line Item Justification:** PB 2023 Army **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:**  
 2033A: Procurement of W&TCV, Army / BA 01: Tracked Combat Vehicles / BSA 20: Modification of Tracked Combat Vehicles **P-1 Line Item Number / Title:**  
 5129G80571 / M88 FOV MODS

**ID Code** (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0203735A

**Line Item MDAP/MAIS Code:** N/A

<b>Resource Summary</b>	<b>Prior Years</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023 Base</b>	<b>FY 2023 OCO</b>	<b>FY 2023 Total</b>	<b>FY 2024</b>	<b>FY 2025</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>To Complete</b>	<b>Total</b>
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	135.890	18.382	-	-	-	-	-	-	-	-	-	154.272
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	135.890	18.382	-	-	-	-	-	-	-	-	-	154.272
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>135.890</b>	<b>18.382</b>	-	-	-	-	-	-	-	-	-	<b>154.272</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-

**Description:**

The M88 Fleet Modification Program provided funding for personnel, engineering design, testing, hardware procurement, and application in support of improvements to resolve problems identified in the field and be approved by the Materiel and Combat Developer for fielded M88 family of vehicles (FOV). These improvements addressed maintaining operational readiness rates, improving vehicle safety and operation, and integrating new equipment. Modifications included improvements related to engine reliability, automatic fire extinguishing system (AFES), power management system, improved automotive performance related to braking, and special tools delta kits.

**Justification:**

There is no FY 2023 budget request for this funding line.

The M88 Modification efforts and funding for the 5129G80571 / M88 FOV MODS, are realigned to 3700GA0570 / Improved Recovery Vehicle (M88A2 HERCULES), starting in FY 2022.

In accordance with Section 1815 of the FY 2008 National Defense Authorization Act (P.L. 110-181), this item is necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities.

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**Exhibit P-40, Budget Line Item Justification:** PB 2023 Army **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:**  
 2033A: Procurement of W&TCV, Army / BA 01: Tracked Combat Vehicles / BSA 20: Modification of Tracked Combat Vehicles **P-1 Line Item Number / Title:**  
 5225GZ3001 / Joint Assault Bridge

**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:** X33

Resource Summary	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	103	0	17	6	-	6	33	30	29	29	-	247
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	555.981	-	110.773	36.990	-	36.990	202.772	184.260	186.109	186.368	-	1,463.253
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	555.981	-	110.773	36.990	-	36.990	202.772	184.260	186.109	186.368	-	1,463.253
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>555.981</b>	<b>-</b>	<b>110.773</b>	<b>36.990</b>	<b>-</b>	<b>36.990</b>	<b>202.772</b>	<b>184.260</b>	<b>186.109</b>	<b>186.368</b>	<b>-</b>	<b>1,463.253</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	5,397.874	-	6,516.059	6,165.000	-	6,165.000	6,144.606	6,142.000	6,417.552	6,426.483	-	5,924.101

**Description:**

The Joint Assault Bridge (JAB) replaces the existing Wolverine and the M48A5/M60 series chassis Armored Vehicle Launched Bridge (AVLB) to meet current maneuver force survivability, suitability and supportability requirements. The Joint Assault Bridge (JAB) is an M1A1 Abrams Chassis-based engineer vehicle with a heavy M1A2 Abrams suspension that launches and retrieves the 18.3 meter Heavy Assault Scissor Bridge (HASB), which is currently rated at Military Load Class (MLC) 115. Armored Vehicle Launched Bridges (AVLBs) are upgraded to the Military Load Class (MLC) 115 Heavy Assault Scissor Bridge (HASB) as part of the JAB production program at Anniston Army Depot (ANAD). The JAB system will be employed with Army Armored Brigade Combat Teams (ABCT) in the Brigade Engineer Battalions (BEB), Engineer Mobility Augmentation Companies (MAC), and Combat Engineer Companies - Armored (CEC-A). The production / acquisition strategy includes a partnership with Anniston Army Depot (ANAD) for the production of the Abrams chassis. Initial Operational Test (IOT) was completed November 2020. The Type Classification Standard (TC-STD) and Full Rate Production (FRP) approval decision was granted in March 2021.

Joint Assault Bridge (JAB) Army Acquisition Objective (AAO): 297

Secondary Distribution		FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027
Army	Quantity	-	10	6	-	6	15	20	16	11
	Total Obligation Authority	-	63.289	36.990	-	36.990	91.649	122.534	101.805	69.628
ANG	Quantity	-	7	-	-	-	6	10	7	11
	Total Obligation Authority	-	47.484	-	-	-	37.042	61.726	45.394	71.341
AR	Quantity	-	-	-	-	-	12	-	6	7
	Total Obligation Authority	-	-	-	-	-	74.081	-	38.910	45.399
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	<b>-</b>	<b>17</b>	<b>6</b>	<b>-</b>	<b>6</b>	<b>33</b>	<b>30</b>	<b>29</b>	<b>29</b>
	<b>Total Obligation Authority</b>	<b>-</b>	<b>110.773</b>	<b>36.990</b>	<b>-</b>	<b>36.990</b>	<b>202.772</b>	<b>184.260</b>	<b>186.109</b>	<b>186.368</b>

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**Exhibit P-40, Budget Line Item Justification:** PB 2023 Army **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A: Procurement of W&TCV, Army / BA 01: Tracked Combat Vehicles / BSA 20: Modification of Tracked Combat Vehicles **P-1 Line Item Number / Title:** 5225GZ3001 / Joint Assault Bridge

**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:** X33

Exhibits Schedule					Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 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	GZ3001 / Joint Assault Bridge	P-5a, P-21	A		103 / 555.981	0 / -	17 / 110.773	6 / 36.990	- / -	6 / 36.990
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>103 / 555.981</b>	<b>0 / -</b>	<b>17 / 110.773</b>	<b>6 / 36.990</b>	<b>- / -</b>	<b>6 / 36.990</b>

\*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:**

FY 2023 funding total includes \$13.542 million for Base and \$23.448 million for Enduring Costs in the Base Budget.

FY 2023 Base Procurement dollars in the amount of \$36.990 million supports 6 Joint Assault Bridges (JABs). Funding supports the organic industrial base with work to be performed at Anniston Army Depot (ANAD), including purchase of long lead material and subsequent production effort.

The Joint Assault Bridge (JAB) fills a critical need in the Army Armored Brigade Combat Teams (ABCT) / Brigade Engineer Battalions (BEB), Engineer Mobility Augmentation Companies (MAC), Combat Engineer Companies - Armored (CEC-A) formations, and provides a system that offers the Combatant Commander improved readiness and enhanced survivability, mobility, and sustainability over the legacy M48A5/M60 Armored Vehicle Launched Bridge (AVLB).

In accordance with Section 1815 of the FY 2008 National Defense Authorization Act (P.L. 110-181), this item is necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities.

Army Acquisition Objective (AAO): 297

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<b>Exhibit P-5, Cost Analysis: PB 2023 Army</b>		<b>Date:</b> April 2022
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 01 / 20		<b>P-1 Line Item Number / Title:</b> 5225GZ3001 / Joint Assault Bridge
		<b>Item Number / Title [DODIC]:</b> GZ3001 / Joint Assault Bridge

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A	<b>MDAP/MAIS Code:</b>
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Resource Summary	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Procurement Quantity (Units in Each)	103	0	17	6	-	6
Gross/Weapon System Cost (\$ in Millions)	555.981	-	110.773	36.990	-	36.990
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	555.981	-	110.773	36.990	-	36.990
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>555.981</b>	<b>-</b>	<b>110.773</b>	<b>36.990</b>	<b>-</b>	<b>36.990</b>

*(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)	5,397.874	-	6,516.059	6,165.000	-	6,165.000

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

Cost Elements	Prior Years			FY 2021			FY 2022			FY 2023 Base			FY 2023 OCO			FY 2023 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)
Flyaway Cost																		
Recurring Cost																		
Hardware - LRIP <sup>(†)</sup>	1,416.646	79	111.915	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hardware - FRP <sup>(†)</sup>	1,171.042	24	28.105	-	-	-	1,205.882	17	20.500	1,290.167	6	7.741	-	-	-	1,290.167	6	7.741
GFM ANAD Rolling Chassis	2,617.087	103	269.560	-	-	-	3,376.471	17	57.400	3,305.333	6	19.832	-	-	-	3,305.333	6	19.832
Bridge Upgrades	490.524	103	50.524	-	-	-	482.353	17	8.200	544.500	6	3.267	-	-	-	544.500	6	3.267
Engineering Changes	-	-	24.675	-	-	-	-	-	3.600	-	-	0.900	-	-	-	-	-	0.900
System Engineering/ Program Management	-	-	35.159	-	-	-	-	-	4.163	-	-	3.633	-	-	-	-	-	3.633
Support Equipment/ ASIOE	-	-	7.992	-	-	-	-	-	0.500	-	-	0.133	-	-	-	-	-	0.133
Fielding	-	-	5.838	-	-	-	-	-	3.190	-	-	0.900	-	-	-	-	-	0.900
First Destination Transportation - FDT	-	-	5.599	-	-	-	-	-	0.920	-	-	0.280	-	-	-	-	-	0.280
<b>Subtotal: Recurring Cost</b>	<b>-</b>	<b>-</b>	<b>539.367</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>98.473</b>	<b>-</b>	<b>-</b>	<b>36.686</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>36.686</b>
Non Recurring Cost																		
Logistics Products	-	-	6.132	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Simulator - Common Driver Trainer (CDT) Update	-	-	10.482	-	-	-	-	-	3.300	-	-	0.304	-	-	-	-	-	0.304
Interim Contractor Logistics Support (ICLS)	-	-	-	-	-	-	-	-	9.000	-	-	-	-	-	-	-	-	-

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2023 Army</b>												<b>Date:</b> April 2022					
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 01 / 20						<b>P-1 Line Item Number / Title:</b> 5225GZ3001 / Joint Assault Bridge						<b>Item Number / Title [DODIC]:</b> GZ3001 / Joint Assault Bridge					
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A										<b>MDAP/MAIS Code:</b>							

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

Cost Elements	Prior Years			FY 2021			FY 2022			FY 2023 Base			FY 2023 OCO			FY 2023 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)
<i>Subtotal: Non Recurring Cost</i>	-	-	16.614	-	-	-	-	-	12.300	-	-	0.304	-	-	-	-	-	0.304
<i>Subtotal: Flyaway Cost</i>	-	-	555.981	-	-	-	-	-	110.773	-	-	36.990	-	-	-	-	-	36.990
<b>Gross/Weapon System Cost</b>	5,397.874	103	555.981	-	0	-	6,516.059	17	110.773	6,165.000	6	36.990	-	-	-	6,165.000	6	36.990

**Remarks:**

Unit cost increases due to rising cost of materials as well as increased material surcharges and increased overhead and labor rates at the depot.

Secondary Distribution		FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Army	Quantity	-	10	6	-	6
	Total Obligation Authority	-	63.289	36.990	-	36.990
ANG	Quantity	-	7	-	-	-
	Total Obligation Authority	-	47.484	-	-	-
<b>Total:</b>	<b>Quantity</b>	<b>0</b>	<b>17</b>	<b>6</b>	<b>-</b>	<b>6</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>-</b>	<b>110.773</b>	<b>36.990</b>	<b>-</b>	<b>36.990</b>

(†) indicates the presence of a P-5a

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**Exhibit P-5a, Procurement History and Planning:** PB 2023 Army **Date:** April 2022

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 01 / 20	<b>P-1 Line Item Number / Title:</b> 5225GZ3001 / Joint Assault Bridge	<b>Item Number / Title [DODIC]:</b> GZ3001 / Joint Assault Bridge
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Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty <i>(Each)</i>	Unit Cost <i>(\$ K)</i>	Specs Avail Now?	Date Revision Available	RFP Issue Date
Hardware - LRIP		2020	DRS Sustainment Systems, Inc. / Saint Louis, MO	C / FFP	TACOM, Warren, MI	Mar 2021	Jun 2022	4	1,494.750	Y		
Hardware - FRP <sup>(†)</sup>		2020	DRS Sustainment Systems, Inc. / Saint Louis, MO	C / FFP	TACOM, Warren, MI	Apr 2021	Jun 2022	17	1,125.107	Y		
Hardware - FRP <sup>(†)</sup>		2022	DRS Sustainment Systems, Inc. / Saint Louis, MO	C / FFP	TACOM, Warren, MI	May 2022	Jun 2023	17	1,205.882	Y		
Hardware - FRP <sup>(†)</sup>		2023	DRS Sustainment Systems, Inc. / Saint Louis, MO	C / FFP	TACOM, Warren, MI	Feb 2023	Apr 2024	6	1,290.167	Y		

<sup>(†)</sup> indicates the presence of a P-21

**UNCLASSIFIED**

Exhibit P-21, Production Schedule: PB 2023 Army													Date: April 2022												
Appropriation / Budget Activity / Budget Sub Activity: 2033A / 01 / 20								P-1 Line Item Number / Title: 5225GZ3001 / Joint Assault Bridge													Item Number / Title [DODIC]: GZ3001 / Joint Assault Bridge				

Cost Elements <i>(Units in Each)</i>							Fiscal Year 2021													Fiscal Year 2022													BALANCE			
O C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2020	BAL DUE AS OF 1 OCT	Calendar Year 2021													Calendar Year 2022																
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P						
Hardware - FRP																																				
Prior Years Deliveries: 7																																				
	1	2020	ARMY	17	0	17																								1	2	2	2	10		
	1	2022	ARMY	17	0	17																										A -	-	-	-	17
	1	2023	ARMY	6	0	6																													6	
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P						



**UNCLASSIFIED**

**Exhibit P-21, Production Schedule:** PB 2023 Army **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A / 01 / 20 **P-1 Line Item Number / Title:** 5225GZ3001 / Joint Assault Bridge **Item Number / Title [DODIC]:** GZ3001 / Joint Assault Bridge

Cost Elements <i>(Units in Each)</i>						Fiscal Year 2023													Fiscal Year 2024													BALANCE	
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2022	BAL DUE AS OF 1 OCT	Calendar Year 2023													Calendar Year 2024													
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P			
Hardware - FRP																																	
Prior Years Deliveries: 7																																	
1		2020	ARMY	17	7	10	2	2	1	1	1	1	1	1																	0		
1		2022	ARMY	17	0	17	-	-	-	-	-	-	-	-	1	2	2	2	2	2	1	1	1	1	1	1	1				0		
1		2023	ARMY	6	0	6					A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	0		
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P			

**UNCLASSIFIED**

<b>Exhibit P-21, Production Schedule:</b> PB 2023 Army	<b>Date:</b> April 2022
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<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 01 / 20	<b>P-1 Line Item Number / Title:</b> 5225GZ3001 / Joint Assault Bridge	<b>Item Number / Title [DODIC]:</b> GZ3001 / Joint Assault Bridge
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MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Month)			Procurement Leadtime (Months)							
		MSR For 2023	1-8-5 For 2023	MAX For 2023	Initial				Reorder			
					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	DRS Sustainment Systems, Inc. - Saint Louis, MO	2	2	4	0	5	14	19	0	5	14	19

"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).

**UNCLASSIFIED**

**Exhibit P-40, Budget Line Item Justification:** PB 2023 Army **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A: Procurement of W&TCV, Army / BA 01: Tracked Combat Vehicles / BSA 20: Modification of Tracked Combat Vehicles **P-1 Line Item Number / Title:** 6406GA0700 / M1 Abrams Tank (MOD)

**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 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	8,215.565	375.107	-	-	-	-	-	-	-	-	-	8,590.672
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	8,215.565	375.107	-	-	-	-	-	-	-	-	-	8,590.672
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>8,215.565</b>	<b>375.107</b>	-	-	-	-	-	-	-	-	-	<b>8,590.672</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-

**Description:**

The Abrams tank fleet modification program applies Materiel Developer and Combat Developer approved modifications to the fielded Abrams family of vehicles either through field modifications at the unit or through application during vehicle recapitalization. Common Abrams modifications include: Active Protection Systems (APS), gun tube durability improvements, Blue Force Tracking, Mounted Family of Computer System (MFOCs) and Power Train Improvement & Integration Optimization Program (i.e. Total Integrated Engine Revitalization (TIGER) and Transmission Modifications) which provide more reliability, durability, and a single standard for the vehicle's power train. Survivability improvements include frontal and side armor upgrades. Key safety improvements include the loaders tray modification, ammunition rack upgrades, Rear View Sensing System (RVSS), light weighting, and any other modification identified in existing requirement documents or validated by the Army.

This program also supports the Army's Abrams Tank Industrial Base (IB) strategy, which focuses on mitigating impacts to the Abrams Tank Industrial Base by maintaining, optimizing, and modernizing the manufacturing facilities comprising the Abrams Tank Industrial Base.

Secondary Distribution		FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	375.107	-	-	-	-	-	-	-	-
<b>Total:</b> Secondary Distribution	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	375.107	-	-	-	-	-	-	-	-

**Justification:**

There is no FY 2023 budget request for this funding line.

Beginning in FY 2022, Abrams Modification (Mod) efforts and funding were realigned from this line to the 6500GA0750 / Abrams Upgrade funding line for greater program transparency, responsiveness, and flexibility. Additionally, the Abrams Modification Government Owned - Government Operated (GOGO) and Government Owned - Contractor Operated (GOCO) efforts were realigned from this line to the 3270GC0050 / Production Base Support funding line beginning in FY 2022.

**UNCLASSIFIED**

<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2023 Army		<b>Date:</b> April 2022
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A: Procurement of W&TCV, Army / BA 01: Tracked Combat Vehicles / BSA 20: Modification of Tracked Combat Vehicles		<b>P-1 Line Item Number / Title:</b> 6406GA0700 / M1 Abrams Tank (MOD)
<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
<b>Line Item MDAP/MAIS Code:</b> N/A		

In accordance with Section 1815 of the FY2008 National Defense Authorization Act (P.L. 110-181), this item is necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities.

**UNCLASSIFIED**

**Exhibit P-40, Budget Line Item Justification:** PB 2023 Army **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A: Procurement of W&TCV, Army / BA 01: Tracked Combat Vehicles / BSA 20: Modification of Tracked Combat Vehicles **P-1 Line Item Number / Title:** 6500GA0750 / Abrams Upgrade Program

**ID Code** (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0203735A

**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	1,777	102	90	22	-	22	30	53	42	40	Continuing	Continuing
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	13,684.856	968.094	1,145.837	656.340	-	656.340	814.234	1,072.434	1,046.346	1,049.429	Continuing	Continuing
Less PY Advance Procurement ( <i>\$ in Millions</i> )	2,064.494	-	-	-	-	-	-	-	-	-	-	2,064.494
Net Procurement (P-1) ( <i>\$ in Millions</i> )	11,620.362	968.094	1,145.837	656.340	-	656.340	814.234	1,072.434	1,046.346	1,049.429	Continuing	Continuing
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	2,064.494	-	-	-	-	-	-	-	-	-	-	2,064.494
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>13,684.856</b>	<b>968.094</b>	<b>1,145.837</b>	<b>656.340</b>	<b>-</b>	<b>656.340</b>	<b>814.234</b>	<b>1,072.434</b>	<b>1,046.346</b>	<b>1,049.429</b>	<b>Continuing</b>	<b>Continuing</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	7,701.101	9,491.118	12,731.522	29,833.636	-	29,833.636	27,141.133	20,234.604	24,913.000	26,235.725	Continuing	Continuing

**Description:**

Please Note: An error was made during system update and the FY 2023 quantity reflected on the Exhibit P-40 Resource Summary and Secondary Distribution should be 44 vs 22. The system will be updated at a later date to reflect the true quantities (Compo 1 Army - 23, Compo 2 National Guard - 21).

The Abrams Tank Program enables combat supremacy by upgrading existing tank variants to the M1A2 System Enhancement Program version 3 (SEPV3) configuration, modifying the fielded tank fleet and managing the industrial base (IB) recurring cost of daily operations and support of the production plants. This program focuses on planning, preparing, and executing all efforts required to produce the current and future Abrams tanks. The Abrams Program provides total package fielding and associated training devices to support fleet upgrades and modifications.

The Abrams Tank Production Program upgrades existing Abrams tank variants to the M1A2 SEPV3 tank configuration in order to enhance tank survivability, lethality, and mobility while improving overall system reliability and durability. The M1A2 SEPV3 incorporates turret and hull armor upgrades, mine blast improvements, reactive armor tiles, lightweight belly armor, improved countermine equipment, Improvised Explosive Device (IED) jamming equipment, a Total Integrated Engine Revitalization (TIGER) engine, an upgraded transmission, an Auxiliary Power Unit (APU), improved power generation & distribution, Ammunition Data Link (ADL) for smart munitions, Embedded Training, Blue Force Tracker, Block 1 Second Generation Forward Looking Infra-Red (FLIR) technology, and improved computer systems with Line Replaceable Modules (LRMs) to include microprocessors, high-definition color flat panel displays, increased memory capacity, Gigabit Ethernet, and a new operating system designed to run the Common Operating Environment (COE) software. The Abrams Tank Production Program funds the costs required for the daily operation of the production plants producing M1A2 SEPV3 tanks and components. The Abrams Tank Production Program also mitigates SEPV3 tank obsolescence through Bill of Materiel (BOM) screening, last chance buys, and hardware refresh projects.

The Abrams Tank Fleet Modification Program provides System Technical Support (STS) for critical Abrams suppliers. The program applies the Material Developer and Combat Developer approved modifications to the fielded Abrams family of vehicles either through field modifications at the unit or through application during vehicle recapitalization.

Beginning in FY 2022, Abrams Modification (Mod) efforts and funding were realigned from the 6406GA0700 / M1 Abrams Tank (MOD) funding line for greater program transparency, responsiveness, and flexibility. Also beginning in FY 2022, the Abrams Modification Government Owned - Government Operated (GOGO) and Government Owned - Contractor Operated (GOCO) efforts were realigned to the 3270GC0050 / Production Base Support funding line.

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<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2023 Army							<b>Date:</b> April 2022			
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A: Procurement of W&TCV, Army / BA 01: Tracked Combat Vehicles / BSA 20: Modification of Tracked Combat Vehicles					<b>P-1 Line Item Number / Title:</b> 6500GA0750 / Abrams Upgrade Program					
<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A			<b>Program Elements for Code B Items:</b> N/A			<b>Other Related Program Elements:</b> 0203735A				
<b>Line Item MDAP/MAIS Code:</b> N/A										

Secondary Distribution		FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027
Army	Quantity	-	-	1	-	1	10	53	42	40
	Total Obligation Authority	68.427	-	348.859	-	348.859	495.128	1,072.434	1,046.346	1,049.429
ANG	Quantity	102	90	21	-	21	20	-	-	-
	Total Obligation Authority	899.667	1,145.837	307.481	-	307.481	319.106	-	-	-
<b>Total:</b>	<b>Quantity</b>	<b>102</b>	<b>90</b>	<b>22</b>	<b>-</b>	<b>22</b>	<b>30</b>	<b>53</b>	<b>42</b>	<b>40</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>968.094</b>	<b>1,145.837</b>	<b>656.340</b>	<b>-</b>	<b>656.340</b>	<b>814.234</b>	<b>1,072.434</b>	<b>1,046.346</b>	<b>1,049.429</b>

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**Exhibit P-40, Budget Line Item Justification:** PB 2023 Army **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A: Procurement of W&TCV, Army / BA 01: Tracked Combat Vehicles / BSA 20: Modification of Tracked Combat Vehicles **P-1 Line Item Number / Title:** 6500GA0750 / Abrams Upgrade Program

**ID Code** (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0203735A

**Line Item MDAP/MAIS Code:** N/A

Exhibits Schedule					Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 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	GA0750 / Abrams Upgrade Program	P-5a, P-21	A		1,777 / 13,684.856	102 / 968.094	90 / 1,145.837	22 / 656.340	- / -	22 / 656.340
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>1,777 / 13,684.856</b>	<b>102 / 968.094</b>	<b>90 / 1,145.837</b>	<b>22 / 656.340</b>	<b>- / -</b>	<b>22 / 656.340</b>

\*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:**  
 Please Note: An error was made during system update and the FY 2023 quantity reflected on the Exhibit P-40 Resource Summary and Secondary Distribution should be 44 vs 22. The system will be updated at a later date to reflect the true quantities (Compo 1 Army - 23, Compo 2 National Guard - 21)

FY 2023 Base Procurement dollars in the amount of \$656.340 million supports the following:

The upgrade and assembly of 44 Abrams tank variants to the M1A2 System Enhancement Program (SEP)v3 configuration enhances tank survivability, the automotive power pack, computer systems and night vision capabilities. The M1A2 System Enhancement Program (SEP)v3 also incorporates turret and hull armor upgrades for enhanced crew survivability. This upgrade is part of the Engineering Change Proposal (ECP) that addresses capability gaps in the tank fleet. The program upgrades will begin at Anniston Army Depot (ANAD) where Vehicle and Component Refurbishment will occur, and finish by General Dynamics Land Systems (GDLS) at the Joint Systems Manufacturing Center (JSMC) in Lima, OH. It also includes the procurement of Government Furnished Equipment, Common Remote Operated Weapon Station Low Profile (CROWS-LP), Gun Tubes, Mine Plows and Rollers, and Transmissions. The program funds the recurring costs required for the daily operation and support of the production plants to include utilities and Energy Savings Performance Contract (ESPC) payments, manufacturing studies, security, inspections, and emergency minor repairs.

The Abrams calculation for unit cost is the sum of Upgrade Vehicle Production (Basic Vehicle), Upgrade Government Furnished Equipment (GFE), Upgrade Vehicle and Component Refurbishment, and Upgrade Total Package Fielding (TPF) divided by vehicle quantity (see Exhibit P-5). The Average Procurement Unit Cost (APUC) for FY 2023 is \$11.738 million for quantity of 44 Tanks M1A2 SEPv3 using the M1A2 SEPv2 as the seed for all 44 tank upgrades.

Field Modifications: Funding supports the following efforts: procurement and installation of field modification hardware, System Technical Support (STS) efforts, continued support of the Total Integrated Engine Revitalization (TIGER) and Transmission programs; Direct Support Electrical System Test Sets (DSESTS); upgrades to Training Aids, Devices, Simulators and Simulations (TADSS); logistics support to facilitate the installation of the improved Active Protection System, which is critical to counter anti-armor capabilities in near-peer adversaries.

In accordance with Section 1815 of the FY2008 National Defense Authorization Act (P.L. 110-181), this item is necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities.

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<b>Exhibit P-5, Cost Analysis: PB 2023 Army</b>					<b>Date:</b> April 2022					
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 01 / 20			<b>P-1 Line Item Number / Title:</b> 6500GA0750 / Abrams Upgrade Program			<b>Item Number / Title [DODIC]:</b> GA0750 / Abrams Upgrade Program				
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A					<b>MDAP/MAIS Code:</b>					
Resource Summary			Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total		
Procurement Quantity (Units in Each)			1,777	102	90	22	-	22		
Gross/Weapon System Cost (\$ in Millions)			13,684.856	968.094	1,145.837	656.340	-	656.340		
Less PY Advance Procurement (\$ in Millions)			2,064.494	-	-	-	-	-		
Net Procurement (P-1) (\$ in Millions)			11,620.362	968.094	1,145.837	656.340	-	656.340		
Plus CY Advance Procurement (\$ in Millions)			2,064.494	-	-	-	-	-		
<b>Total Obligation Authority (\$ in Millions)</b>			<b>13,684.856</b>	<b>968.094</b>	<b>1,145.837</b>	<b>656.340</b>	<b>-</b>	<b>656.340</b>		
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>										
Initial Spares (\$ in Millions)			-	-	-	-	-	-		
Gross/Weapon System Unit Cost (\$ in Thousands)			7,701.101	9,491.118	12,731.522	29,833.636	-	29,833.636		

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

Cost Elements	Prior Years			FY 2021			FY 2022			FY 2023 Base			FY 2023 OCO			FY 2023 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)
Flyaway Cost																		
Recurring Cost																		
Basic Vehicle <sup>(†)</sup>	4,044.697	2,102	8,501.953	4,232.431	102	431.708	4,412.622	90	397.136	4,994.500	44	219.758	-	-	-	4,994.500	44	219.758
Government Furnished Equipment (GFE)	-	-	2,318.712	-	-	203.602	-	-	-	-	-	-	-	-	-	-	-	-
Upgrade Government Furnished Equipment (GFE)	-	-	-	-	-	-	-	-	276.507	-	-	206.918	-	-	-	-	-	206.918
Pre-Modification Vehicle Teardown/ Refurb	-	-	527.301	-	-	154.783	-	-	-	-	-	-	-	-	-	-	-	-
Upgrade Vehicle and Component Refurbishment	-	-	-	-	-	-	-	-	145.804	-	-	79.539	-	-	-	-	-	79.539
TPF/New Equipment Training	-	-	287.685	-	-	41.428	-	-	-	-	-	-	-	-	-	-	-	-
Total Package Fielding (TPF)	-	-	-	-	-	-	-	-	34.105	-	-	20.988	-	-	-	-	-	20.988
Field Modifications	-	-	-	-	-	-	-	-	251.825	-	-	86.897	-	-	-	-	-	86.897
Government Support	-	-	1,202.315	-	-	31.015	-	-	-	-	-	-	-	-	-	-	-	-
Government Program Support	-	-	-	-	-	-	-	-	40.460	-	-	42.240	-	-	-	-	-	42.240
Transmissions	-	-	258.344	-	-	30.000	-	-	-	-	-	-	-	-	-	-	-	-
Forward Looking Infrared (FLIR)	-	-	438.702	-	-	38.146	-	-	-	-	-	-	-	-	-	-	-	-



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<b>Exhibit P-5, Cost Analysis: PB 2023 Army</b>												<b>Date:</b> April 2022					
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 01 / 20						<b>P-1 Line Item Number / Title:</b> 6500GA0750 / Abrams Upgrade Program						<b>Item Number / Title [DODIC]:</b> GA0750 / Abrams Upgrade Program					
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A												<b>MDAP/MAIS Code:</b>					

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

Cost Elements	Prior Years			FY 2021			FY 2022			FY 2023 Base			FY 2023 OCO			FY 2023 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)
Industrial Base Mitigation Support/ Facilities Optimization and Maintenance	-	-	148.051	-	-	37.412	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	13,683.063	-	-	968.094	-	-	1,145.837	-	-	656.340	-	-	-	-	-	656.340
Non Recurring Cost																		
FY 2019 NDAA SEC 825 MDAP Cost Overrun	-	-	1.793	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Non Recurring Cost</i>	-	-	1.793	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Flyaway Cost</i>	-	-	13,684.856	-	-	968.094	-	-	1,145.837	-	-	656.340	-	-	-	-	-	656.340
<b>Gross/Weapon System Cost</b>	7,701.101	1,777	13,684.856	9,491.118	102	968.094	12,731.522	90	1,145.837	29,833.636	22	656.340	-	-	-	29,833.636	22	656.340

**Remarks:**

Please Note:

- An error was made during system update and the quantity reflected on the Exhibit P-40 Resource Summary and Secondary Distribution should be 44 vs 22. The system will be updated at a later date to reflect the true quantities (Compo 1 Army - 23, Compo 2 National Guard - 21).
- Abrams calculation for unit cost is the sum of Upgrade Vehicle Production (Basic Vehicle), Upgrade Government Furnished Equipment (GFE), Upgrade Vehicle and Component Refurbishment, and Upgrade Total Package Fielding (TPF) divided by vehicle quantity.
- The Average Procurement Unit Cost (APUC) for FY 2023 is \$11.738 million for a quantity of 44 M1A2 SEPv3 tanks using the M1A2 SEPv2 as the seed vehicle for all 44 tank upgrades.
- The Average Procurement Unit Cost (APUC) for FY 2022 is \$11.555 million for a quantity of 90 M1A2 SEPv3 tanks using the M1A2 SEPv2 as the seed vehicle for all 90 tank upgrades.
- Beginning in FY 2022 the Transmissions and Forward Looking Infra-Red (FLIR) technology costs were rolled into the Government Furnished Equipment (GFE) line.
- Beginning in FY 2022 Abrams Industrial Base Mitigation Support/Facilities Optimization Maintenance cost element funding was realigned to the 3270GC0050 / Production Base Support funding line to provide greater transparency of those efforts.

Secondary Distribution		FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Army	Quantity	-	-	1	-	1
	Total Obligation Authority	68.427	-	348.859	-	348.859
ANG	Quantity	102	90	21	-	21
	Total Obligation Authority	899.667	1,145.837	307.481	-	307.481

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<b>Exhibit P-5, Cost Analysis: PB 2023 Army</b>				<b>Date:</b> April 2022		
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 01 / 20		<b>P-1 Line Item Number / Title:</b> 6500GA0750 / Abrams Upgrade Program		<b>Item Number / Title [DODIC]:</b> GA0750 / Abrams Upgrade Program		
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A			<b>MDAP/MAIS Code:</b>			
<b>Secondary Distribution</b>		<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023 Base</b>	<b>FY 2023 OCO</b>	<b>FY 2023 Total</b>
<b>Total:</b>	<b>Quantity</b>	102	90	22	-	22
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	968.094	1,145.837	656.340	-	656.340

(t) indicates the presence of a P-5a

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<b>Exhibit P-5a, Procurement History and Planning:</b> PB 2023 Army	<b>Date:</b> April 2022
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<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 01 / 20	<b>P-1 Line Item Number / Title:</b> 6500GA0750 / Abrams Upgrade Program	<b>Item Number / Title [DODIC]:</b> GA0750 / Abrams Upgrade Program
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Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty <i>(Each)</i>	Unit Cost <i>(\$ K)</i>	Specs Avail Now?	Date Revision Available	RFP Issue Date
Basic Vehicle <sup>(†)</sup>		2021	GDLS / Sterling Heights, MI	SS / FPIF	TACOM-Warren	Mar 2021	Sep 2022	102	4,232.431	N		
Basic Vehicle <sup>(†)</sup>		2022	GDLS / Sterling Heights, MI	SS / FPIF	TACOM-Warren	Mar 2022	Sep 2023	90	4,412.622	N		
Basic Vehicle <sup>(†)</sup>		2023	GDLS / Sterling Heights, MI	SS / FPIF	TACOM-Warren	Mar 2023	Sep 2024	44	4,994.500	N		

<sup>(†)</sup> indicates the presence of a P-21

**Remarks:**

GDLS-Prime Contractor, Sterling Heights, MI  
 Manufactured at the Joint Systems Manufacturing Center (JSMC), Lima, OH

Please Note: An error was made during system update and the quantity reflected on the Exhibit P-40 Resource Summary and Secondary Distribution should be 44 vs 22. The system will be updated at a later date to reflect the true quantities (Compo 1 Army - 23, Compo 2 National Guard - 21).

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**Exhibit P-21, Production Schedule:** PB 2023 Army **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A / 01 / 20 **P-1 Line Item Number / Title:** 6500GA0750 / Abrams Upgrade Program **Item Number / Title [DODIC]:** GA0750 / Abrams Upgrade Program

Cost Elements <i>(Units in Each)</i>						Fiscal Year 2021												Fiscal Year 2022												BALANCE	
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEP T P R I O R T O 1 O C T 2 0 2 0	BAL D U E A S O F 1 O C T	Calendar Year 2021												Calendar Year 2022												
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G		S E P
Basic Vehicle																															
Prior Years Deliveries: 2102																															
1		2021	ARMY	102	0	102																							8	94	
1		2022	ARMY	90	0	90																								90	
1		2023	ARMY	44	0	44																								44	
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	

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**Exhibit P-21, Production Schedule:** PB 2023 Army **Date:** April 2022

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 01 / 20	<b>P-1 Line Item Number / Title:</b> 6500GA0750 / Abrams Upgrade Program	<b>Item Number / Title [DODIC]:</b> GA0750 / Abrams Upgrade Program
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Cost Elements <i>(Units in Each)</i>						Fiscal Year 2023												Fiscal Year 2024												BALANCE	
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEP T P R I O R T O 1 O C T 2 0 2 2	BAL D U E A S O F 1 O C T	Calendar Year 2023												Calendar Year 2024												
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G		S E P
Basic Vehicle																															
Prior Years Deliveries: 2102																															
1		2021	ARMY	102	8	94	9	9	9	9	9	9	8	8	8	8														0	
1		2022	ARMY	90	0	90	-	-	-	-	-	-	-	-	-	-	12	15	15	6	6	6	6	6	6	6	3	3		0	
1		2023	ARMY	44	0	44							A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	40		
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	

**UNCLASSIFIED**

**Exhibit P-21, Production Schedule:** PB 2023 Army **Date:** April 2022

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 01 / 20	<b>P-1 Line Item Number / Title:</b> 6500GA0750 / Abrams Upgrade Program	<b>Item Number / Title [DODIC]:</b> GA0750 / Abrams Upgrade Program
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Cost Elements <i>(Units in Each)</i>						Fiscal Year 2025												Fiscal Year 2026												B A L A N C E	
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEP T P R I O R T O 1 O C T 2 0 2 4	BAL D U E A S O F 1 O C T	Calendar Year 2025												Calendar Year 2026												
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G		S E P
Basic Vehicle																															
Prior Years Deliveries: 2102																															
1	2021	ARMY		102	102	0																							0		
1	2022	ARMY		90	90	0																							0		
1	2023	ARMY		44	4	40	4	4	4	4	4	4	4	4	3	3	2												0		
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	

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<b>Exhibit P-21, Production Schedule:</b> PB 2023 Army		<b>Date:</b> April 2022
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 01 / 20		<b>P-1 Line Item Number / Title:</b> 6500GA0750 / Abrams Upgrade Program
		<b>Item Number / Title [DODIC]:</b> GA0750 / Abrams Upgrade Program

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Month)			Procurement Leadtime (Months)							
		MSR For 2023	1-8-5 For 2023	MAX For 2023	Initial				Reorder			
					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	GDLS - Sterling Heights, MI	1	12	35	0	14	18	32	0	5	18	23

**Remarks:**  
Please Note: An error was made during system update and the quantity reflected on the Exhibit P-40 Resource Summary and Secondary Distribution should be 44 vs 22. The system will be updated at a later date to reflect the true quantities (Compo 1 Army - 23, Compo 2 National Guard - 21).

"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).

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**Exhibit P-40, Budget Line Item Justification:** PB 2023 Army **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:**  
 2033A: Procurement of W&TCV, Army / BA 01: Tracked Combat Vehicles / BSA 20: Modification of Tracked Combat Vehicles **P-1 Line Item Number / Title:**  
 6652GM1900 / VEHICLE PROTECTION SYSTEMS (VPS)

**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

<b>Resource Summary</b>	<b>Prior Years</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023 Base</b>	<b>FY 2023 OCO</b>	<b>FY 2023 Total</b>	<b>FY 2024</b>	<b>FY 2025</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>To Complete</b>	<b>Total</b>
Procurement Quantity ( <i>Units in Each</i> )	-	-	449	-	-	-	-	-	-	-	-	449
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	-	-	75.286	-	-	-	-	-	-	-	-	75.286
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	-	-	75.286	-	-	-	-	-	-	-	-	75.286
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	-	-	<b>75.286</b>	-	-	-	-	-	-	-	-	<b>75.286</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	-	-	167.675	-	-	-	-	-	-	-	-	167.675

**Description:**

The Vehicle Protection Suite (VPS) will evaluate, mature, and integrate onto multiple combat platforms, combinations of active, reactive, and passive survivability capabilities. These capabilities will leverage both Horizontal Technology Integration (HTI) principles and the Army's Modular Active Protection Controller and Framework to develop tailored vehicle survivability sets that will mitigate existing protection gaps, allow for future technology insertion to meet evolving threats, and minimize the impact to the current capabilities hosted on Army ground system platforms.

**(GM1911) - VPS Base Kit with Laser Warning Receiver**

The VPS Base Kit with Laser Warning Receiver (LWR) Program was designated as a Program of Record in August 2018. The Laser Warning Receiver (LWR) will detect enemy military laser aided threats and provide rapid warning of threat type and signal direction to the Modular Active Protection Controller (MAC) via the Modular Active Protection Framework (MAF) Laser Warning Receiver (LWR). It will be able to detect the broad array of laser aided threats that ground combat vehicles will face in a near peer environment Laser Range Finders (LRF), Laser Target Designators (LTD), and Laser Beam Rider Air to Ground Munitions (ATGMs). The system will alert the crew to which of the three categories of threats are targeting the system and allow for the crew to respond based on that threat. Threat timelines are critical to the response of the vehicle crew and the ability to counter the threat. The Laser Warning Receiver will provide early warning to laser aided threat elements. The VPS Base Kit with Laser Warning Receiver is currently planned to be implemented as an Engineering Change Proposal to multiple ground combat vehicle platforms.

**(GM1912) - Signature Management**

The Signature Management (SIGMAN) paint program was designated as a program of record in August 2018. Signature Management reduces the infrared signature of ground combat vehicles. This capability will reduce the probability of enemy detection from classified ranges and wave bands. Signature Management is designed to be integrated with no changes to the combat vehicles' baseline paint. This program is intended to be used on all combat vehicles, with future expansion to other U.S. Army vehicle systems. Signature Management is the Vehicle Protection System baseline layer for the signature management architecture. Future Vehicle Protection technologies may be layered in coordination with this program.

**Passive Protection**

The Passive Protection portfolio includes protection against top attack/aerial threats and medium caliber/kinetic energy threats. The Passive Protection program includes multiple implementation strategies depending on the specific capability within the passive protection portfolio.

**Expedited Active Protection System (ExAPS)**



**UNCLASSIFIED**

**Exhibit P-40, Budget Line Item Justification:** PB 2023 Army **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A: Procurement of W&TCV, Army / BA 01: Tracked Combat Vehicles / BSA 20: Modification of Tracked Combat Vehicles  
**P-1 Line Item Number / Title:** 6652GM1900 / VEHICLE PROTECTION SYSTEMS (VPS)

**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

The ExAPS program is executed under the Directed Requirement (DR) to Procure and Rapidly Field Non-Developmental Item (NDI) Active Protection Systems in support of COCOM requirements approved 12 October 2016. The DR included integration on Abrams, Bradley and Stryker. This program executes the platform integration, system/on-platform test activities, logistic product development, and Urgent Material Release (UMR) documentation in support of rapid fielding activities. The ExAPS program pre-positions Non-Developmental Item (NDI) systems specifically selected for each platform around the world in support of current and future engagement requirements.

Combat vehicles face numerous detection systems that operate in the infrared wavelengths. These detection systems can be vehicle mounted, carried by individuals or satellite mounted. The Signature Management - Paint program focuses on vehicle mounted detection systems that operate in specific wavelengths. Future capability may be added to the Signature Management program to address other wavelength gaps, or managed through other future camouflage and concealment programs. The Signature Management program is currently planned to be implemented as a production cut-in and/or retrofit to the enduring fleet onto multiple ground combat vehicle platforms.

Secondary Distribution		FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027
Army	Quantity	-	449	-	-	-	-	-	-	-
	Total Obligation Authority	-	75.286	-	-	-	-	-	-	-
<b>Total:</b> Secondary Distribution	<b>Quantity</b>	-	<b>449</b>	-	-	-	-	-	-	-
	<b>Total Obligation Authority</b>	-	<b>75.286</b>	-	-	-	-	-	-	-

**Justification:**

There is no FY 2023 budget request for this funding line.

In accordance with Section 1815 of the FY 2008 National Defense Authorization Act (P.L. 110-181), these items are necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities.

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**Exhibit P-40, Budget Line Item Justification:** PB 2023 Army **Date:** April 2022

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A: Procurement of W&TCV, Army / BA 02: Weapons and Other Combat Vehicles / BSA 10: Weapons & Other Combat Vehicles	<b>P-1 Line Item Number / Title:</b> 2472G13000 / M240 Medium Machine Gun (7.62mm)
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A	<b>Program Elements for Code B Items:</b> 0604601A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	2,657	898	480	-	-	-	-	-	-	-	-	4,035
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	818.439	12.500	10.500	-	-	-	-	-	-	-	-	841.439
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	818.439	12.500	10.500	-	-	-	-	-	-	-	-	841.439
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>818.439</b>	<b>12.500</b>	<b>10.500</b>	-	-	-	-	-	-	-	-	<b>841.439</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	308.031	13.920	21.875	-	-	-	-	-	-	-	-	208.535

**Description:**

The M240 Medium Machine Gun (7.62mm) program supports the Army Modernization priorities (Build a More Lethal Force) through enhancement of Joint Lethality in contested environments by minimizing and eliminating erosion of close combat capability relative to peer competitors in complex terrain as outlined in the National Defense Strategy (NDS). The M240 series machine guns are available in different configurations for various applications. The M240B Machine Gun is a ground version of the original M240 Machine Gun, 7.62MM Medium Machine Gun class weapon, designed as a coaxial/pintle-mounted weapon for tanks and light armored vehicles. The M240B also includes: a flash suppressor, front sight, carrying handle, buttstock, pistol grip, bipod, heat shield and rear sight assembly. The M240B Machine Gun may also be tripod-mounted and used in conjunction with a traversing and elevating mechanism and mount pintle. The M240H is a variant of this same family of Machine Guns and is employed as the self defensive armament subsystem for the UH-60 BLACK HAWK and CH-47 Chinook Helicopters. The M240H uses the same receiver and barrel as the M240B but has a spade grip trigger assembly. It also has a unique mounting interface and pintle to properly interface with the helicopter platform. The lighter M240L replaces the M240B in Special Forces/Rangers, Light Infantry and Airborne units. The M240L significantly reduces the weight of the current M240B, by approximately 6 pounds, while maintaining the same level of reliability. The weight reduction is accomplished through the use of lightweight materials and innovative manufacturing techniques.

Secondary Distribution	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027
Army	Quantity	898	432	-	-	-	-	-	-
	Total Obligation Authority	12.500	9.450	-	-	-	-	-	-
ANG	Quantity	-	39	-	-	-	-	-	-
	Total Obligation Authority	-	0.853	-	-	-	-	-	-
AR	Quantity	-	9	-	-	-	-	-	-
	Total Obligation Authority	-	0.197	-	-	-	-	-	-
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	<b>898</b>	<b>480</b>	-	-	-	-	-	-
	<b>Total Obligation Authority</b>	<b>12.500</b>	<b>10.500</b>	-	-	-	-	-	-

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<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2023 Army		<b>Date:</b> April 2022
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A: Procurement of W&TCV, Army / BA 02: Weapons and Other Combat Vehicles / BSA 10: Weapons & Other Combat Vehicles		<b>P-1 Line Item Number / Title:</b> 2472G13000 / M240 Medium Machine Gun (7.62mm)
<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A	<b>Program Elements for Code B Items:</b> 0604601A	<b>Other Related Program Elements:</b> N/A
<b>Line Item MDAP/MAIS Code:</b> N/A		
<b>Justification:</b> There is no FY 2023 budget request for this funding line.  In accordance with Section 1815 of the FY 2008 National Defense Authorization Act (P.L.110-181), this item is necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities.		

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**Exhibit P-40, Budget Line Item Justification:** PB 2023 Army **Date:** April 2022

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A: Procurement of W&TCV, Army / BA 02: Weapons and Other Combat Vehicles / BSA 10: Weapons & Other Combat Vehicles	<b>P-1 Line Item Number / Title:</b> 3736G13101 / MULTI-ROLE ANTI-ARMOR ANTI-PERSONNEL WEAPON SYSTEM
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> 0604601A
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**Line Item MDAP/MAIS Code:** 1D0

Resource Summary	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	546	284	330	315	-	315	-	-	-	-	-	1,475
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	65.588	22.629	31.623	26.627	-	26.627	-	-	-	-	-	146.467
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	65.588	22.629	31.623	26.627	-	26.627	-	-	-	-	-	146.467
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>65.588</b>	<b>22.629</b>	<b>31.623</b>	<b>26.627</b>	<b>-</b>	<b>26.627</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>146.467</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	120.125	79.680	95.827	84.530	-	84.530	-	-	-	-	-	99.300

**Description:**

This program supports the Army Modernization priorities (Build a More Lethal Force) through enhancement of Soldier Lethality in contested environments. The Multi-Role Anti-Armor/Anti-Personnel Weapon System (MAAWS) or, M3/M3E1 Carl Gustaf MAAWS is a man-portable shoulder-fired, 84mm reusable recoilless rifle/launcher weapon system with an effective firing range of up to 1300 meters based on ammunition used. It can be fired by one man from the standing, kneeling, sitting or prone positions and supports full and sub caliber training systems. The M3/M3E1 MAAWS is capable of engaging, neutralizing and destroying lightly armored vehicles, soft skinned vehicles, personnel in the open or defilade, and field fortifications in both open urban and rural operational environments. The M3/M3E1 MAAWS is also capable of marking threat targets with smoke for supporting weapons, obscuring threat weapons and illuminating threat targets.

Secondary Distribution	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027
Army	Quantity	191	307	279	-	279	-	-	-
	Total Obligation Authority	14.866	29.413	23.587	-	23.587	-	-	-
ANG	Quantity	93	23	36	-	36	-	-	-
	Total Obligation Authority	7.763	2.210	3.040	-	3.040	-	-	-
<b>Total:</b>	<b>Quantity</b>	<b>284</b>	<b>330</b>	<b>315</b>	<b>-</b>	<b>315</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>22.629</b>	<b>31.623</b>	<b>26.627</b>	<b>-</b>	<b>26.627</b>	<b>-</b>	<b>-</b>	<b>-</b>

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**Exhibit P-40, Budget Line Item Justification:** PB 2023 Army **Date:** April 2022

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A: Procurement of W&TCV, Army / BA 02: Weapons and Other Combat Vehicles / BSA 10: Weapons & Other Combat Vehicles	<b>P-1 Line Item Number / Title:</b> 3736G13101 / MULTI-ROLE ANTI-ARMOR ANTI-PERSONNEL WEAPON SYSTEM
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ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0604601A
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**Line Item MDAP/MAIS Code:** 1D0

Exhibits Schedule					Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 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	G13101 / MULTI-ROLE ANTI-ARMOR ANTI-PERSONNEL WEAPON SYSTEM	P-5a	A		546 / 65.588	284 / 22.629	330 / 31.623	315 / 26.627	- / -	315 / 26.627
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>546 / 65.588</b>	<b>284 / 22.629</b>	<b>330 / 31.623</b>	<b>315 / 26.627</b>	<b>- / -</b>	<b>315 / 26.627</b>

\*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:**  
 FY 2023 Base procurement dollars in the amount of \$26.627 million will support the Active Army and National Guard through the procurement of 315 M3E1 Lightweight recoilless rifle/launcher weapon systems, fire control, headsets, sub caliber adapters, and initial spares. Funds will also provide for all program support, transport and fielding of the weapon system. The M3/M3E1 is a man-portable shoulder-fired, 84mm reusable recoilless rifle/launcher weapon system capable of engaging, neutralizing and destroying lightly armored vehicles, soft skinned vehicles, personnel in the open or defilade, and field fortifications in both open urban and rural operational environments.

In accordance with Section 1815 of the FY 2008 National Defense Authorization Act (P.L. 110-181), this item is necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities.

Army Acquisition Objective (AAO): 2,460

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<b>Exhibit P-5, Cost Analysis: PB 2023 Army</b>		<b>Date:</b> April 2022
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 02 / 10	<b>P-1 Line Item Number / Title:</b> 3736G13101 / MULTI-ROLE ANTI-ARMOR ANTI-PERSONNEL WEAPON SYSTEM	<b>Item Number / Title [DODIC]:</b> G13101 / MULTI-ROLE ANTI-ARMOR ANTI-PERSONNEL WEAPON SYSTEM

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A				<b>MDAP/MAIS Code:</b>			
Resource Summary		Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Procurement Quantity (Units in Each)		546	284	330	315	-	315
Gross/Weapon System Cost (\$ in Millions)		65.588	22.629	31.623	26.627	-	26.627
Less PY Advance Procurement (\$ in Millions)		-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)		65.588	22.629	31.623	26.627	-	26.627
Plus CY Advance Procurement (\$ in Millions)		-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>		<b>65.588</b>	<b>22.629</b>	<b>31.623</b>	<b>26.627</b>	<b>-</b>	<b>26.627</b>
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>							
Initial Spares (\$ in Millions)		-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)		120.125	79.680	95.827	84.530	-	84.530

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

Cost Elements	Prior Years			FY 2021			FY 2022			FY 2023 Base			FY 2023 OCO			FY 2023 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)
<b>Hardware Cost</b>																		
<b>Recurring Cost</b>																		
M3A1 <sup>(†)</sup>	30.751	875	26.907	30.710	214	6.572	28.567	330	9.427	29.832	315	9.397	-	-	-	29.832	315	9.397
Fire Control <sup>(†)</sup>	28.741	875	25.148	34.000	214	7.276	28.632	330	9.449	29.205	315	9.200	-	-	-	29.205	315	9.200
Sub Caliber Adapter <sup>(†)</sup>	4.716	370	1.745	6.598	214	1.412	6.674	949	6.334	6.808	460	3.132	-	-	-	6.808	460	3.132
Comtac Headset w/ Push talk Assembly <sup>(†)</sup>	1.152	600	0.691	-	-	-	1.164	844	0.982	1.186	630	0.747	-	-	-	1.186	630	0.747
<i>Subtotal: Recurring Cost</i>	-	-	54.491	-	-	15.260	-	-	26.192	-	-	22.476	-	-	-	-	-	22.476
<b>Non Recurring Cost</b>																		
M3 OCO <sup>(†)</sup>	28.786	28	0.806	36.000	60	2.160	-	-	-	-	-	-	-	-	-	-	-	-
M3 OCO Fire Control <sup>(†)</sup>	28.679	28	0.803	34.000	60	2.040	-	-	-	-	-	-	-	-	-	-	-	-
M3 OCO Sub Caliber Adapter <sup>(†)</sup>	-	-	-	6.500	60	0.390	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Non Recurring Cost</i>	-	-	1.609	-	-	4.590	-	-	-	-	-	-	-	-	-	-	-	-
<b>Subtotal: Hardware Cost</b>	-	-	<b>56.100</b>	-	-	<b>19.850</b>	-	-	<b>26.192</b>	-	-	<b>22.476</b>	-	-	-	-	-	<b>22.476</b>
<b>Logistics Cost</b>																		
<b>Recurring Cost</b>																		
M3A1 Transport	-	-	0.025	-	-	0.285	-	-	0.375	-	-	0.248	-	-	-	-	-	0.248

LI 3736G13101 - MULTI-ROLE ANTI-ARMOR ANTI-PERSONNEL  
WEA...  
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<b>Exhibit P-5, Cost Analysis: PB 2023 Army</b>												<b>Date:</b> April 2022					
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 02 / 10						<b>P-1 Line Item Number / Title:</b> 3736G13101 / MULTI-ROLE ANTI-ARMOR ANTI-PERSONNEL WEAPON SYSTEM						<b>Item Number / Title [DODIC]:</b> G13101 / MULTI-ROLE ANTI-ARMOR ANTI-PERSONNEL WEAPON SYSTEM					
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A												<b>MDAP/MAIS Code:</b>					

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

Cost Elements	Prior Years			FY 2021			FY 2022			FY 2023 Base			FY 2023 OCO			FY 2023 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)
Integrated Logistical Support-Crane	-	-	-	-	-	-	-	-	0.800	-	-	0.746	-	-	-	-	-	0.746
FCS13 Contractor Fielding Support - Vendor	-	-	0.748	-	-	-	-	-	1.489	-	-	0.634	-	-	-	-	-	0.634
<i>Subtotal: Recurring Cost</i>	-	-	0.773	-	-	0.285	-	-	2.664	-	-	1.628	-	-	-	-	-	1.628
Non Recurring Cost																		
M3 OCO Transport	-	-	0.049	-	-	0.065	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Non Recurring Cost</i>	-	-	0.049	-	-	0.065	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Logistics Cost</i>	-	-	0.822	-	-	0.350	-	-	2.664	-	-	1.628	-	-	-	-	-	1.628
Support - Contractor Logistics Support (CLS) Cost																		
Oversight	-	-	0.383	-	-	0.295	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - Contractor Logistics Support (CLS) Cost</i>	-	-	0.383	-	-	0.295	-	-	-	-	-	-	-	-	-	-	-	-
Support - Initial Spares and Repair Parts Cost																		
Initial Spares and Repair Parts	-	-	2.149	-	-	0.871	-	-	1.193	-	-	0.764	-	-	-	-	-	0.764
<i>Subtotal: Support - Initial Spares and Repair Parts Cost</i>	-	-	2.149	-	-	0.871	-	-	1.193	-	-	0.764	-	-	-	-	-	0.764
Support - New Equipment Training (NET) Cost																		
Equipment	-	-	0.843	-	-	0.518	-	-	0.700	-	-	0.859	-	-	-	-	-	0.859
<i>Subtotal: Support - New Equipment Training (NET) Cost</i>	-	-	0.843	-	-	0.518	-	-	0.700	-	-	0.859	-	-	-	-	-	0.859
Support - Program Management Cost																		
Government Management	-	-	5.291	-	-	0.745	-	-	0.874	-	-	0.900	-	-	-	-	-	0.900
<i>Subtotal: Support - Program Management Cost</i>	-	-	5.291	-	-	0.745	-	-	0.874	-	-	0.900	-	-	-	-	-	0.900
<b>Gross/Weapon System Cost</b>	<b>120.125</b>	<b>546</b>	<b>65.588</b>	<b>79.680</b>	<b>284</b>	<b>22.629</b>	<b>95.827</b>	<b>330</b>	<b>31.623</b>	<b>84.530</b>	<b>315</b>	<b>26.627</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>84.530</b>	<b>315</b>	<b>26.627</b>

Secondary Distribution			FY 2021			FY 2022			FY 2023 Base			FY 2023 OCO			FY 2023 Total		
Army	Quantity		191			307			279			-			279		

LI 3736G13101 - MULTI-ROLE ANTI-ARMOR ANTI-PERSONNEL  
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<b>Exhibit P-5, Cost Analysis: PB 2023 Army</b>		<b>Date:</b> April 2022
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 02 / 10	<b>P-1 Line Item Number / Title:</b> 3736G13101 / MULTI-ROLE ANTI-ARMOR ANTI-PERSONNEL WEAPON SYSTEM	<b>Item Number / Title [DODIC]:</b> G13101 / MULTI-ROLE ANTI-ARMOR ANTI-PERSONNEL WEAPON SYSTEM

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A		<b>MDAP/MAIS Code:</b>				
<b>Secondary Distribution</b>		<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023 Base</b>	<b>FY 2023 OCO</b>	<b>FY 2023 Total</b>
	Total Obligation Authority	14.866	29.413	23.587	-	23.587
ANG	Quantity	93	23	36	-	36
	Total Obligation Authority	7.763	2.210	3.040	-	3.040
<b>Total:</b>	<b>Quantity</b>	<b>284</b>	<b>330</b>	<b>315</b>	-	<b>315</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>22.629</b>	<b>31.623</b>	<b>26.627</b>	-	<b>26.627</b>

(t) indicates the presence of a P-5a



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**Exhibit P-5a, Procurement History and Planning: PB 2023 Army** **Date:** April 2022

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 02 / 10	<b>P-1 Line Item Number / Title:</b> 3736G13101 / MULTI-ROLE ANTI-ARMOR ANTI-PERSONNEL WEAPON SYSTEM	<b>Item Number / Title [DODIC]:</b> G13101 / MULTI-ROLE ANTI-ARMOR ANTI-PERSONNEL WEAPON SYSTEM
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Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty <i>(Each)</i>	Unit Cost <i>(\$ K)</i>	Specs Avail Now?	Date Revision Available	RFP Issue Date
M3A1		2021	Saab Dynamics AB / Sweden	SS / IDIQ	ACC-NJ, Picatinny Arsenal, NJ	Nov 2020	May 2021	214	30.710	Y		
M3A1		2022	Saab Dynamics AB / Sweden	SS / IDIQ	ACC-NJ, Picatinny Arsenal, NJ	Nov 2021	May 2022	330	28.567	Y		
M3A1		2023	Saab Dynamics AB / Sweden	SS / IDIQ	ACC-NJ, Picatinny Arsenal, NJ	Nov 2022	May 2023	315	29.832	Y		
Fire Control		2021	Aimpoint / Sweden	MIPR	DLA Troop Support	Dec 2020	Apr 2021	214	34.000	Y		
Fire Control		2022	Aimpoint / Sweden	MIPR	DLA Troop Support	Dec 2021	Apr 2022	330	28.632	Y		
Fire Control		2023	Aimpoint / Sweden	MIPR	DLA Troop Support	Dec 2022	Apr 2023	315	29.206	Y		
Sub Caliber Adapter		2021	Saab Dynamics AB / Sweden	SS / IDIQ	Naval Surface Warfare Center, Crane, IN	Dec 2020	Apr 2021	214	6.598	Y		
Sub Caliber Adapter		2022	Saab Dynamics AB / Sweden	SS / IDIQ	Naval Surface Warfare Center, Crane, IN	Dec 2021	Apr 2022	949	6.674	Y		
Sub Caliber Adapter		2023	Saab Dynamics AB / Sweden	SS / IDIQ	Naval Surface Warfare Center, Crane, IN	Dec 2022	Apr 2023	460	6.809	Y		
Comtac Headset w/ Push talk Assembly		2022	Atlantic Signal, LLC / Topeka, Kansas	MIPR	DLA Troop Support	Dec 2021	Apr 2022	844	1.164	Y		
Comtac Headset w/ Push talk Assembly		2023	Atlantic Signal, LLC / Topeka, Kansas	MIPR	DLA Troop Support	Dec 2022	Apr 2023	630	1.186	Y		
M3 OCO	✓	2021	Saab Dynamics AB / Sweden	SS / IDIQ	ACC-NJ, Picatinny Arsenal, NJ	Nov 2020	May 2021	60	36.000	Y		
M3 OCO Fire Control	✓	2021	Aimpoint / Sweden	MIPR	DLA Troop Support	Dec 2020	Apr 2021	60	34.000	Y		
M3 OCO Sub Caliber Adapter	✓	2021	Saab Dynamics AB / Sweden	SS / IDIQ	Naval Surface Warfare Center, Crane, IN	Dec 2020	Apr 2021	60	6.500	Y		

**Remarks:**  
P-21 is not required, as all hardware items procured are Commercial Off the Shelf (COTS) or Commercial Off the Shelf/Non-Developmental Items (COTS/NDI).

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**Exhibit P-40, Budget Line Item Justification:** PB 2023 Army **Date:** April 2022

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A: Procurement of W&TCV, Army / BA 02: Weapons and Other Combat Vehicles / BSA 10: Weapons & Other Combat Vehicles	<b>P-1 Line Item Number / Title:</b> 6580G02200 / Mortar Systems
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	580	0	78	6	-	6	5	6	10	9	Continuing	Continuing
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	467.963	20.748	32.985	8.516	-	8.516	6.961	8.733	14.849	14.487	Continuing	Continuing
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	467.963	20.748	32.985	8.516	-	8.516	6.961	8.733	14.849	14.487	Continuing	Continuing
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>467.963</b>	<b>20.748</b>	<b>32.985</b>	<b>8.516</b>	<b>-</b>	<b>8.516</b>	<b>6.961</b>	<b>8.733</b>	<b>14.849</b>	<b>14.487</b>	<b>Continuing</b>	<b>Continuing</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	806.833	-	422.885	1,419.333	-	1,419.333	1,392.200	1,455.500	1,484.900	1,609.667	Continuing	Continuing

**Description:**

Mortar Systems includes the production of 60mm Light Weight M224A1, 81mm Light Weight M252A1, and 120mm M120A1/M121 mortar weapon systems; including subsystems components M326 Mortar Stowage Kit (MSK), M1101 and M1102 trailers and associated supporting sub systems, Basic Issue Items (BI), Additional Authorized List (AAL) and tool kits. These mortar weapon systems and associated equipment and subsystem components support the mounted and dismounted vehicle platforms in the Armor Brigade Combat Teams (ABCTs), Stryker Brigade Combat Teams (SBCTs), and Infantry Brigade Combat Teams (IBCTs). The Dismounted 120mm (M120A1) system's Mortar Stowage Kit (MSK) sub systems assembly enables rapid emplacement and displacement of the M120A1 from the M1101 and M1102 Trailers or IBCT platforms. The 60mm, 81mm and 120mm mortar weapon systems and its components fulfills current and future Army Acquisition Objective (AAO) gaps, Operational Need Statement (ONS) requirements, increase of Army re-organizations and Army stand up unit requirements. The M1121 and M120A1 system will also be mounted or integrated on the Army's current and future vehicle and trailer systems.

Secondary Distribution	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	
Army	Quantity	-	78	6	-	6	5	6	10	9
	Total Obligation Authority	20.748	32.985	8.516	-	8.516	6.961	8.733	14.849	14.487
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	<b>-</b>	<b>78</b>	<b>6</b>	<b>-</b>	<b>6</b>	<b>5</b>	<b>6</b>	<b>10</b>	<b>9</b>
	<b>Total Obligation Authority</b>	<b>20.748</b>	<b>32.985</b>	<b>8.516</b>	<b>-</b>	<b>8.516</b>	<b>6.961</b>	<b>8.733</b>	<b>14.849</b>	<b>14.487</b>

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**Exhibit P-40, Budget Line Item Justification:** PB 2023 Army **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A: Procurement of W&TCV, Army / BA 02: Weapons and Other Combat Vehicles / BSA 10: Weapons & Other Combat Vehicles **P-1 Line Item Number / Title:** 6580G02200 / Mortar Systems

**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 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 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	G02202 / Mtr Wpn Sys	P-5a	A		580 / 467.963	0 / 20.748	78 / 32.985	6 / 8.516	- / -	6 / 8.516
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>580 / 467.963</b>	<b>0 / 20.748</b>	<b>78 / 32.985</b>	<b>6 / 8.516</b>	<b>- / -</b>	<b>6 / 8.516</b>

\*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:**

FY 2023 funding total includes \$4.883 million for Base and \$3.633 million for Enduring Costs in the Base Budget.

FY 2023 Base procurement dollars in the amount of \$8.516 million support the procurement of six (6) each M121 120mm mortar weapon systems, M298 barrels, sub systems, and support equipment such as mortar weapon system kits, Modified Work Order (MWO) kits and Basic Issue Item (BII) kits, Engineering Change Proposals (ECPs), Technical Data Packages (TDP), technical issues and obsolescence related to weapon system safety, and the procurement of mortar weapon system kits for special force requirements and modernized mounted and dismounted platforms in the Infantry Brigade Combat Teams (IBCT). Funding is essential to fill shortages of 120mm mortar weapon systems resulting from Army reorganization of IBCTs from two Battalions per Brigade to three Battalions per Brigade and increase in Army Acquisition Objective (AAO) for new stand up units.

In accordance with Section 1815 of the FY 2008 National Defense Authorization Act (P.L.110-181) this item is necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities.

Note: FY 2023 quantity totals six (6) each full systems.

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<b>Exhibit P-5, Cost Analysis: PB 2023 Army</b>											<b>Date:</b> April 2022							
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 02 / 10						<b>P-1 Line Item Number / Title:</b> 6580G02200 / Mortar Systems						<b>Item Number / Title [DODIC]:</b> G02202 / Mtr Wpn Sys						
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A											<b>MDAP/MAIS Code:</b>							
Resource Summary				Prior Years		FY 2021			FY 2022			FY 2023 Base			FY 2023 OCO		FY 2023 Total	
Procurement Quantity (Units in Each)				580		0			78			6			-		6	
Gross/Weapon System Cost (\$ in Millions)				467.963		20.748			32.985			8.516			-		8.516	
Less PY Advance Procurement (\$ in Millions)				-		-			-			-			-		-	
Net Procurement (P-1) (\$ in Millions)				467.963		20.748			32.985			8.516			-		8.516	
Plus CY Advance Procurement (\$ in Millions)				-		-			-			-			-		-	
<b>Total Obligation Authority (\$ in Millions)</b>				<b>467.963</b>		<b>20.748</b>			<b>32.985</b>			<b>8.516</b>			<b>-</b>		<b>8.516</b>	
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>																		
Initial Spares (\$ in Millions)				-		-			-			-			-		-	
Gross/Weapon System Unit Cost (\$ in Thousands)				806.833		-			422.885			1,419.333			-		1,419.333	

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

Cost Elements	Prior Years			FY 2021			FY 2022			FY 2023 Base			FY 2023 OCO			FY 2023 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)
<b>Hardware Cost</b>																		
<b>Recurring Cost</b>																		
120mm (M121) Mortar System <sup>(†)</sup>	-	-	-	124.730	18	2.245	150.000	36	5.400	150.000	6	0.900	-	-	-	150.000	6	0.900
120mm (M120A1) Mortar System <sup>(†)</sup>	-	-	-	-	-	-	260.000	42	10.920	-	-	-	-	-	-	-	-	-
120mm Cannon Tubes <sup>(†)</sup>	33.675	306	10.304	-	-	-	60.011	124	7.441	-	-	-	-	-	-	-	-	-
120mm Mortar System <sup>(†)</sup>	50.349	306	15.407	135.077	38	5.133	-	-	-	-	-	-	-	-	-	-	-	-
M326 Mortar Stowage Kit <sup>(†)</sup>	101.569	76	7.719	105.000	38	3.990	-	-	-	-	-	-	-	-	-	-	-	-
120mm Mortar Component	18.371	306	5.621	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Light Tactical Trailer <sup>(†)</sup>	-	-	-	10.000	38	0.380	-	-	-	-	-	-	-	-	-	-	-	-
81mm Mortar System	16.371	326	5.337	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
81mm Cannon Tubes	28.950	326	9.438	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
81mm Mortar Component	47.528	326	15.494	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	69.321	-	-	11.748	-	-	23.761	-	-	0.900	-	-	-	-	-	0.900
<i>Subtotal: Hardware Cost</i>	-	-	<b>69.321</b>	-	-	<b>11.748</b>	-	-	<b>23.761</b>	-	-	<b>0.900</b>	-	-	-	-	-	<b>0.900</b>
<b>Logistics Cost</b>																		
<b>Recurring Cost</b>																		

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<b>Exhibit P-5, Cost Analysis: PB 2023 Army</b>		<b>Date:</b> April 2022
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 02 / 10		<b>P-1 Line Item Number / Title:</b> 6580G02200 / Mortar Systems
		<b>Item Number / Title [DODIC]:</b> G02202 / Mtr Wpn Sys

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A	<b>MDAP/MAIS Code:</b>
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Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2021			FY 2022			FY 2023 Base			FY 2023 OCO			FY 2023 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)
Government ILS	-	-	1.873	-	-	0.550	-	-	0.555	-	-	0.560	-	-	-	-	-	0.560
<i>Subtotal: Recurring Cost</i>	-	-	1.873	-	-	0.550	-	-	0.555	-	-	0.560	-	-	-	-	-	0.560
<i>Subtotal: Logistics Cost</i>	-	-	1.873	-	-	0.550	-	-	0.555	-	-	0.560	-	-	-	-	-	0.560
Support - Acceptance Testing Cost																		
Acceptance Test	-	-	2.475	-	-	0.799	-	-	0.824	-	-	0.206	-	-	-	-	-	0.206
First Article Test	-	-	2.296	-	-	1.046	-	-	1.077	-	-	0.269	-	-	-	-	-	0.269
<i>Subtotal: Support - Acceptance Testing Cost</i>	-	-	4.771	-	-	1.845	-	-	1.901	-	-	0.475	-	-	-	-	-	0.475
Support - Fielding Cost																		
Fielding	-	-	2.623	-	-	1.100	-	-	1.133	-	-	1.136	-	-	-	-	-	1.136
<i>Subtotal: Support - Fielding Cost</i>	-	-	2.623	-	-	1.100	-	-	1.133	-	-	1.136	-	-	-	-	-	1.136
Support - Production Engineering Cost																		
Production Engineering	-	-	383.995	-	-	3.679	-	-	3.755	-	-	3.848	-	-	-	-	-	3.848
<i>Subtotal: Support - Production Engineering Cost</i>	-	-	383.995	-	-	3.679	-	-	3.755	-	-	3.848	-	-	-	-	-	3.848
Support - Staging and Transportation Cost																		
Staging and Transportation	-	-	3.555	-	-	1.125	-	-	1.159	-	-	0.858	-	-	-	-	-	0.858
<i>Subtotal: Support - Staging and Transportation Cost</i>	-	-	3.555	-	-	1.125	-	-	1.159	-	-	0.858	-	-	-	-	-	0.858
Support - Training Cost																		
Services	-	-	1.825	-	-	0.700	-	-	0.721	-	-	0.739	-	-	-	-	-	0.739
<i>Subtotal: Support - Training Cost</i>	-	-	1.825	-	-	0.700	-	-	0.721	-	-	0.739	-	-	-	-	-	0.739
<b>Gross/Weapon System Cost</b>	<b>806.833</b>	<b>580</b>	<b>467.963</b>	-	<b>0</b>	<b>20.748</b>	<b>422.885</b>	<b>78</b>	<b>32.985</b>	<b>1,419.333</b>	<b>6</b>	<b>8.516</b>	-	-	-	<b>1,419.333</b>	<b>6</b>	<b>8.516</b>

**Remarks:**  
Note: FY 2023 quantity totals six (6) each full systems.

Secondary Distribution		FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Army	Quantity	-	78	6	-	6
	Total Obligation Authority	20.748	32.985	8.516	-	8.516
<b>Total:</b>	<b>Quantity</b>	<b>0</b>	<b>78</b>	<b>6</b>	-	<b>6</b>

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<b>Exhibit P-5, Cost Analysis: PB 2023 Army</b>				<b>Date:</b> April 2022		
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 02 / 10		<b>P-1 Line Item Number / Title:</b> 6580G02200 / Mortar Systems		<b>Item Number / Title [DODIC]:</b> G02202 / Mtr Wpn Sys		
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A			<b>MDAP/MAIS Code:</b>			
<b>Secondary Distribution</b>		<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023 Base</b>	<b>FY 2023 OCO</b>	<b>FY 2023 Total</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	20.748	32.985	8.516	-	8.516

(t) indicates the presence of a P-5a

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**Exhibit P-5a, Procurement History and Planning: PB 2023 Army** **Date:** April 2022

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 02 / 10	<b>P-1 Line Item Number / Title:</b> 6580G02200 / Mortar Systems	<b>Item Number / Title [DODIC]:</b> G02202 / Mtr Wpn Sys
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Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty <i>(Each)</i>	Unit Cost <i>(\$ K)</i>	Specs Avail Now?	Date Revision Available	RFP Issue Date
120mm (M121) Mortar System		2021	EFW Inc / Fort Worth, TX	Option / FFP	Picatinny Arsenal, NJ	Mar 2021	Jul 2023	18	124.730	Y		
120mm (M121) Mortar System		2022	TBS01 / TBS	C / FFP	Picatinny Arsenal, NJ	Mar 2022	Jul 2024	36	150.000	Y		
120mm (M121) Mortar System		2023	TBS01 / TBS	C / FFP	Picatinny Arsenal, NJ	Mar 2023	Jul 2025	6	150.000	Y		
120mm (M120A1) Mortar System		2022	TBS01 / TBS	C / FFP	Picatinny Arsenal, NJ	Mar 2022	Jul 2024	42	260.000	Y		
120mm Cannon Tubes		2022	TBS01 / TBS	C / FFP	Picatinny Arsenal, NJ	Mar 2022	Mar 2024	124	60.011	Y		
120mm Mortar System		2021	EFW Inc / Fort Worth, TX	Option / FFP	Picatinny Arsenal, NJ	Mar 2021	Jul 2023	38	135.077	Y		
M326 Mortar Stowage Kit		2021	EFW Inc / Fort Worth, TX	Option / FFP	Picatinny Arsenal, NJ	Mar 2021	Jul 2023	38	105.000	Y		
Light Tactical Trailer	✓	2021	Sierra Army Depot / Sierra, NV	MIPR	Picatinny Arsenal, NJ	Mar 2021	Mar 2022	38	10.000	Y		

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**Exhibit P-40, Budget Line Item Justification:** PB 2023 Army **Date:** April 2022

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A: Procurement of W&TCV, Army / BA 02: Weapons and Other Combat Vehicles / BSA 10: Weapons & Other Combat Vehicles	<b>P-1 Line Item Number / Title:</b> 6659G08100 / LOCATION & AZIMUTH DETERMINATION SYSTEM (LADS)
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	126	-	126	-	-	-	-	Continuing	Continuing
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	-	-	-	48.301	-	48.301	3.236	2.720	-	-	Continuing	Continuing
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	-	-	-	48.301	-	48.301	3.236	2.720	-	-	Continuing	Continuing
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	-	-	-	<b>48.301</b>	-	<b>48.301</b>	<b>3.236</b>	<b>2.720</b>	-	-	<b>Continuing</b>	<b>Continuing</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	383.341	-	383.341	-	-	-	-	Continuing	Continuing

**Description:**

The Location and Azimuth Determining System (LADS) provides a lightweight, portable, and deployable common inertial survey capability for field artillery cannon, rocket, missile, radar and mortar platforms that is not dependent on the Global Positioning System (GPS). LADS provides accurate location, elevation and direction for all field artillery systems while being reliable, intuitive to use, and more cost effective than the predecessor system while operating in GPS denied and degraded environments. The LADS system is operable by multiple military occupational specialties (MOS) and can be integrated into multiple vehicles.

Secondary Distribution		FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027
Army	Quantity	-	-	126	-	126	-	-	-	-
	Total Obligation Authority	-	-	48.301	-	48.301	3.236	2.720	-	-
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	<b>-</b>	<b>-</b>	<b>126</b>	<b>-</b>	<b>126</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
	<b>Total Obligation Authority</b>	<b>-</b>	<b>-</b>	<b>48.301</b>	<b>-</b>	<b>48.301</b>	<b>3.236</b>	<b>2.720</b>	<b>-</b>	<b>-</b>



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**Exhibit P-40, Budget Line Item Justification:** PB 2023 Army **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A: Procurement of W&TCV, Army / BA 02: Weapons and Other Combat Vehicles / BSA 10: Weapons & Other Combat Vehicles **P-1 Line Item Number / Title:** 6659G08100 / LOCATION & AZIMUTH DETERMINATION SYSTEM (LADS)

**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 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 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	G08112 / LOCATION & AZIMUTH DETERMINATION SYSTEM	P-5a, P-21			- / -	- / -	- / -	126 / 48.301	- / -	126 / 48.301
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>126 / 48.301</b>	<b>- / -</b>	<b>126 / 48.301</b>

\*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:**  
 FY 2023 Base procurement funds in the amount of \$48.301 million provides for the procurement of 126 Location and Azimuth Determining Systems (LADS) and initial spares. Funding also supports the training package development production engineering support, initial spares and fielding costs. The Location and Azimuth Determining System (LADS) provides a lightweight, portable, and deployable common inertial survey capability for field artillery cannon, rocket, missile, radar and mortar platforms that is not dependent on the Global Positioning System (GPS). LADS provides accurate location, elevation and direction for all field artillery systems while being reliable, intuitive to use, and more cost effective than the predecessor system while operating in GPS denied and degraded environments.

"In accordance with Section 1815 of the FY 2008 National Defense Authorization Act (P.L. 110-181), this item is necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities."

LOCATION & AZIMUTH DETERMINATION SYSTEM (LADS) is a new start in FY 2023.

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<b>Exhibit P-5, Cost Analysis: PB 2023 Army</b>		<b>Date:</b> April 2022
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 02 / 10	<b>P-1 Line Item Number / Title:</b> 6659G08100 / LOCATION & AZIMUTH DETERMINATION SYSTEM (LADS)	<b>Item Number / Title [DODIC]:</b> G08112 / LOCATION & AZIMUTH DETERMINATION SYSTEM

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :				<b>MDAP/MAIS Code:</b>					
<b>Resource Summary</b>				<b>Prior Years</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023 Base</b>	<b>FY 2023 OCO</b>	<b>FY 2023 Total</b>
Procurement Quantity <i>(Units in Each)</i>				-	-	-	126	-	126
Gross/Weapon System Cost <i>(\$ in Millions)</i>				-	-	-	48.301	-	48.301
Less PY Advance Procurement <i>(\$ in Millions)</i>				-	-	-	-	-	-
Net Procurement (P-1) <i>(\$ in Millions)</i>				-	-	-	48.301	-	48.301
Plus CY Advance Procurement <i>(\$ in Millions)</i>				-	-	-	-	-	-
<b>Total Obligation Authority</b> <i>(\$ in Millions)</i>				-	-	-	<b>48.301</b>	-	<b>48.301</b>
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>									
Initial Spares <i>(\$ in Millions)</i>				-	-	-	-	-	-
Gross/Weapon System Unit Cost <i>(\$ in Thousands)</i>				-	-	-	383.341	-	383.341

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

Cost Elements	Prior Years			FY 2021			FY 2022			FY 2023 Base			FY 2023 OCO			FY 2023 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)
<b>Hardware Cost</b>																		
Recurring Cost																		
Hardware <sup>(†)</sup>	-	-	-	-	-	-	-	-	-	286.563	126	36.107	-	-	-	286.563	126	36.107
Assembly & Integration	-	-	-	-	-	-	-	-	-	-	-	0.681	-	-	-	-	-	0.681
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	36.788	-	-	-	-	-	36.788
<i>Subtotal: Hardware Cost</i>	-	-	-	-	-	-	-	-	-	-	-	36.788	-	-	-	-	-	36.788
<b>Package Fielding Cost</b>																		
Non Recurring Cost																		
Technical Manual & Publication	-	-	-	-	-	-	-	-	-	-	-	0.907	-	-	-	-	-	0.907
<i>Subtotal: Non Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	0.907	-	-	-	-	-	0.907
<i>Subtotal: Package Fielding Cost</i>	-	-	-	-	-	-	-	-	-	-	-	0.907	-	-	-	-	-	0.907
<b>Support - Initial Spares and Repair Parts Cost</b>																		
Initial Spares and Repair Parts <sup>(†)</sup>	-	-	-	-	-	-	-	-	-	372.200	25	9.305	-	-	-	372.200	25	9.305
<i>Subtotal: Support - Initial Spares and Repair Parts Cost</i>	-	-	-	-	-	-	-	-	-	-	-	9.305	-	-	-	-	-	9.305
<b>Support - Production Engineering Cost</b>																		
Production Engineering	-	-	-	-	-	-	-	-	-	-	-	1.036	-	-	-	-	-	1.036

LI 6659G08100 - LOCATION & AZIMUTH DETERMINATION SYSTEM ...  
Army

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<b>Exhibit P-5, Cost Analysis: PB 2023 Army</b>		<b>Date:</b> April 2022
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 02 / 10	<b>P-1 Line Item Number / Title:</b> 6659G08100 / LOCATION & AZIMUTH DETERMINATION SYSTEM (LADS)	<b>Item Number / Title [DODIC]:</b> G08112 / LOCATION & AZIMUTH DETERMINATION SYSTEM
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :		<b>MDAP/MAIS Code:</b>

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

Cost Elements	Prior Years			FY 2021			FY 2022			FY 2023 Base			FY 2023 OCO			FY 2023 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)
<i>Subtotal: Support - Production Engineering Cost</i>	-	-	-	-	-	-	-	-	-	-	-	1.036	-	-	-	-	-	1.036
Support - System Engineering Cost																		
System Engineering	-	-	-	-	-	-	-	-	-	-	-	0.265	-	-	-	-	-	0.265
<i>Subtotal: Support - System Engineering Cost</i>	-	-	-	-	-	-	-	-	-	-	-	0.265	-	-	-	-	-	0.265
<b>Gross/Weapon System Cost</b>	-	-	-	-	-	-	-	-	-	383.341	126	48.301	-	-	-	383.341	126	48.301

Secondary Distribution		FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Army	Quantity	-	-	126	-	126
	Total Obligation Authority	-	-	48.301	-	48.301
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	-	-	126	-	126
	<b>Total Obligation Authority</b>	-	-	48.301	-	48.301

(t) indicates the presence of a P-5a

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<b>Exhibit P-5a, Procurement History and Planning:</b> PB 2023 Army							<b>Date:</b> April 2022				
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 02 / 10			<b>P-1 Line Item Number / Title:</b> 6659G08100 / LOCATION & AZIMUTH DETERMINATION SYSTEM (LADS)				<b>Item Number / Title [DODIC]:</b> G08112 / LOCATION & AZIMUTH DETERMINATION SYSTEM				

Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty <i>(Each)</i>	Unit Cost <i>(\$ K)</i>	Specs Avail Now?	Date Revision Available	RFP Issue Date
Hardware <sup>(†)</sup>		2023	TBD / TBD	TBD	Picatinny Arsenal, NJ	Feb 2023	Jan 2024	126	286.563	Y		
Initial Spares and Repair Parts <sup>(†)</sup>		2023	TBD / TBD	TBD	Picatinny Arsenal, NJ	Feb 2023	Jan 2024	25	372.200	Y		

<sup>(†)</sup> indicates the presence of a P-21

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Exhibit P-21, Production Schedule: PB 2023 Army																		Date: April 2022																		
Appropriation / Budget Activity / Budget Sub Activity: 2033A / 02 / 10											P-1 Line Item Number / Title: 6659G08100 / LOCATION & AZIMUTH DETERMINATION SYSTEM (LADS)							Item Number / Title [DODIC]: G08112 / LOCATION & AZIMUTH DETERMINATION SYSTEM																		
Cost Elements (Units in Each)						Fiscal Year 2023												Fiscal Year 2024												BALANCE						
O C C O #	M F R #	FY	SERVICE	PROC QTY	ACCE PT P R I O R T O 1 O C T 2 0 2 2	BAL D U E A S O F 1 O C T	Calendar Year 2023												Calendar Year 2024																	
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G		S E P					
Hardware																																				
1	2023	ARMY		126	0	126						A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	13	13	13	13	13	13	13	13	9
Initial Spares and Repair Parts																																				
2	2023	ARMY		25	0	25						A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	2	2	2	2	2	2	2	7
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P						

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<b>Exhibit P-21, Production Schedule:</b> PB 2023 Army													<b>Date:</b> April 2022																
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 02 / 10						<b>P-1 Line Item Number / Title:</b> 6659G08100 / LOCATION & AZIMUTH DETERMINATION SYSTEM (LADS)												<b>Item Number / Title [DODIC]:</b> G08112 / LOCATION & AZIMUTH DETERMINATION SYSTEM											

Cost Elements <i>(Units in Each)</i>						Fiscal Year 2025												Fiscal Year 2026												B A L A N C E				
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2024	BAL DUE AS OF 1 OCT	Calendar Year 2025												Calendar Year 2026															
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G		S E P			
Hardware																												0						
	1	2023	ARMY	126	117	9	9																											0
Initial Spares and Repair Parts																												0						
	2	2023	ARMY	25	18	7	2	2	3																								0	
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P				

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<b>Exhibit P-21, Production Schedule:</b> PB 2023 Army		<b>Date:</b> April 2022
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 02 / 10		<b>P-1 Line Item Number / Title:</b> 6659G08100 / LOCATION & AZIMUTH DETERMINATION SYSTEM (LADS)
		<b>Item Number / Title [DODIC]:</b> G08112 / LOCATION & AZIMUTH DETERMINATION SYSTEM

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Month)			Procurement Leadtime (Months)							
		MSR For 2023	1-8-5 For 2023	MAX For 2023	Initial				Reorder			
					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 - TBD	13	13	13	0	5	11	16	0	0	0	0
2	TBD - TBD	13	13	13	0	5	11	16	0	0	0	0

"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).

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**Exhibit P-40, Budget Line Item Justification:** PB 2023 Army **Date:** April 2022

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A: Procurement of W&TCV, Army / BA 02: Weapons and Other Combat Vehicles / BSA 10: Weapons & Other Combat Vehicles	<b>P-1 Line Item Number / Title:</b> 8181G01501 / XM320 Grenade Launcher Module (GLM)
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	266.307	5.969	8.666	11.703	-	11.703	14.361	17.985	18.146	18.148	Continuing	Continuing
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	266.307	5.969	8.666	11.703	-	11.703	14.361	17.985	18.146	18.148	Continuing	Continuing
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>266.307</b>	<b>5.969</b>	<b>8.666</b>	<b>11.703</b>	<b>-</b>	<b>11.703</b>	<b>14.361</b>	<b>17.985</b>	<b>18.146</b>	<b>18.148</b>	<b>Continuing</b>	<b>Continuing</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	1,775.380	2.787	-	-	-	-	-	-	-	-	Continuing	Continuing

**Description:**

This program supports the Army Modernization priorities (Build a More Lethal Force) through enhancement of Joint Lethality in contested environments by minimizing and eliminating erosion of close combat capability relative to peer competitors in complex terrain as outlined in the National Defense Strategy (NDS). The M320 Grenade Launcher Module (GLM) is a 40mm low-velocity grenade launching weapon system that is a direct replacement to all M203 series of grenade launchers on M16 Rifles and M4 Carbines. The M320 Grenade Launcher Module (GLM) is a modular system that mounts under the barrel of the rifle or carbine. This weapon can also be used in the stand-alone configuration. The M320 Grenade Launcher Module (GLM) has an integrated leaf sight and some improved safety features. This weapon also has a side-loading unrestricted breech that permits the firing of longer 40mm low-velocity projectiles (NATO standard and non-standard). The M320 Grenade Launcher Module (GLM) is more reliable and safer because of the use of a more modern double-action trigger/firing system. The new pistol grip design eliminates the need to use the M4 magazine as a hand grip. The latest innovations in lightweight material composites improve durability. Procurement of hand-held Laser Range Finder (LRF) and Grenadier Sighting System (GSS) are delivered as system components, one each per system. M320 Grenade Launcher Modules (GLMs) will also be fitted with an additional system components, such as a leaf sight, barrel, improved butt stock, and a XM100 40mm fuze programmer, to support the High Explosive Air Burst (HEAB) and M433E1 capability to be delivered by the new 40mm Family of Ammunition (FOA).

Secondary Distribution		FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	5.969	4.194	6.308	-	6.308	7.397	9.807	9.891	9.893
ANG	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	-	4.318	5.215	-	5.215	6.786	8.024	8.101	8.101
AR	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	-	0.154	0.180	-	0.180	0.178	0.154	0.154	0.154
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
	<b>Total Obligation Authority</b>	<b>5.969</b>	<b>8.666</b>	<b>11.703</b>	<b>-</b>	<b>11.703</b>	<b>14.361</b>	<b>17.985</b>	<b>18.146</b>	<b>18.148</b>



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**Exhibit P-40, Budget Line Item Justification:** PB 2023 Army **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A: Procurement of W&TCV, Army / BA 02: Weapons and Other Combat Vehicles / BSA 10: Weapons & Other Combat Vehicles **P-1 Line Item Number / Title:** 8181G01501 / XM320 Grenade Launcher Module (GLM)

**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 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 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	G01501 / XM320 Grenade Launcher Module (GLM)	P-5a	A		- / 266.307	- / 5.969	- / 8.666	- / 11.703	- / -	- / 11.703
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 266.307</b>	<b>- / 5.969</b>	<b>- / 8.666</b>	<b>- / 11.703</b>	<b>- / -</b>	<b>- / 11.703</b>

\*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:**  
 FY 2023 Base procurement dollars in the amount of \$11.703 million supports M320 Grenade Launcher Module (GLM) system fielding efforts, procurement of Grenadier Sighting Systems (GSS), the modification work order (MWO) for the GSS. The Grenadier Sighting Systems (GSS) provides the ability to engage targets during day or night and is capable of multiple ballistic solutions, which can be differentiated by the user. The XM100 40mm Fuze Programmer may potentially be bought if available from Joint Program Executive Office (JPEO) Armaments and Ammunition after Milestone C. M320 GLM accessories / modifications may be procured to accommodate greater shock profiles associated with new ammunition if confirmed by JPEO Armaments and Ammunition.

In accordance with Section 1815 of the FY 2008 National Defense Act, (P.L.110-181), this item is necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities.

Grenadier Sighting System (GSS), a required component of M320 GLM, is in production and the Army Acquisition Objective (AAO) is the same as the M320's Grenade Launcher Army Acquisition Objective (AAO) of 73,024. The M320 Grenade Launcher (GLM) weapon AAO has been met.

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<b>Exhibit P-5, Cost Analysis: PB 2023 Army</b>													<b>Date:</b> April 2022					
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 02 / 10						<b>P-1 Line Item Number / Title:</b> 8181G01501 / XM320 Grenade Launcher Module (GLM)						<b>Item Number / Title [DODIC]:</b> G01501 / XM320 Grenade Launcher Module (GLM)						
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A										<b>MDAP/MAIS Code:</b>								
<b>Resource Summary</b>				<b>Prior Years</b>		<b>FY 2021</b>		<b>FY 2022</b>		<b>FY 2023 Base</b>		<b>FY 2023 OCO</b>		<b>FY 2023 Total</b>				
Procurement Quantity (Units in Each)				-		-		-		-		-		-				
Gross/Weapon System Cost (\$ in Millions)				266.307		5.969		8.666		11.703		-		11.703				
Less PY Advance Procurement (\$ in Millions)				-		-		-		-		-		-				
Net Procurement (P-1) (\$ in Millions)				266.307		5.969		8.666		11.703		-		11.703				
Plus CY Advance Procurement (\$ in Millions)				-		-		-		-		-		-				
<b>Total Obligation Authority (\$ in Millions)</b>				<b>266.307</b>		<b>5.969</b>		<b>8.666</b>		<b>11.703</b>		<b>-</b>		<b>11.703</b>				
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>																		
Initial Spares (\$ in Millions)				-		-		-		-		-		-				
Gross/Weapon System Unit Cost (\$ in Thousands)				1,775.380		2.787		-		-		-		-				
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
<b>Cost Elements</b>	<b>Prior Years</b>			<b>FY 2021</b>			<b>FY 2022</b>			<b>FY 2023 Base</b>			<b>FY 2023 OCO</b>			<b>FY 2023 Total</b>		
	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>
Flyaway Cost																		
Recurring Cost																		
M320A1 Grenade Launcher (GL)	4.214	45,347	191.084	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Laser Range Finder (LRF)	0.489	46,794	22.905	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tool Set/ASL	0.499	2,669	1.333	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arms Racks	1.064	3,448	3.667	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RIA Program Management Spt	-	-	0.824	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Buttstock & Leafsight	-	-	-	0.531	2,150	1.141	-	-	-	0.548	781	0.428	-	-	-	0.548	781	0.428
Grenadier Sighting System (GSS) <sup>(†)</sup>	-	-	-	1.900	2,150	4.085	1.900	1,523	2.894	1.900	3,881	7.374	-	-	-	1.900	3,881	7.374
<i>Subtotal: Recurring Cost</i>	-	-	<i>219.813</i>	-	-	<i>5.226</i>	-	-	<i>2.894</i>	-	-	<i>7.802</i>	-	-	-	-	-	<i>7.802</i>
<i>Subtotal: Flyaway Cost</i>	-	-	<i>219.813</i>	-	-	<i>5.226</i>	-	-	<i>2.894</i>	-	-	<i>7.802</i>	-	-	-	-	-	<i>7.802</i>
Hardware Cost																		
Recurring Cost																		
XM100 40mm Fuze Setter	-	-	-	-	-	-	0.841	1,916	1.611	0.851	1,222	1.040	-	-	-	0.851	1,222	1.040
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	<i>1.611</i>	-	-	<i>1.040</i>	-	-	-	-	-	<i>1.040</i>
<i>Subtotal: Hardware Cost</i>	-	-	-	-	-	-	-	-	<i>1.611</i>	-	-	<i>1.040</i>	-	-	-	-	-	<i>1.040</i>
Package Fielding Cost																		

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<b>Exhibit P-5, Cost Analysis: PB 2023 Army</b>												<b>Date:</b> April 2022					
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 02 / 10						<b>P-1 Line Item Number / Title:</b> 8181G01501 / XM320 Grenade Launcher Module (GLM)						<b>Item Number / Title [DODIC]:</b> G01501 / XM320 Grenade Launcher Module (GLM)					
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A												<b>MDAP/MAIS Code:</b>					

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

Cost Elements	Prior Years			FY 2021			FY 2022			FY 2023 Base			FY 2023 OCO			FY 2023 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)
<b>Recurring Cost</b>																		
Total Package Fielding (TPF)	-	-	4.640	-	-	-	-	-	0.864	-	-	0.175	-	-	-	-	-	0.175
<i>Subtotal: Recurring Cost</i>	-	-	4.640	-	-	-	-	-	0.864	-	-	0.175	-	-	-	-	-	0.175
<i>Subtotal: Package Fielding Cost</i>	-	-	4.640	-	-	-	-	-	0.864	-	-	0.175	-	-	-	-	-	0.175
<b>Logistics Cost</b>																		
<b>Recurring Cost</b>																		
Integrated Logistics Support (ILS)	-	-	2.271	-	-	-	-	-	0.285	-	-	0.443	-	-	-	-	-	0.443
New Equipment Training (NET)	-	-	0.366	-	-	-	-	-	0.395	-	-	0.139	-	-	-	-	-	0.139
<i>Subtotal: Recurring Cost</i>	-	-	2.637	-	-	-	-	-	0.680	-	-	0.582	-	-	-	-	-	0.582
<i>Subtotal: Logistics Cost</i>	-	-	2.637	-	-	-	-	-	0.680	-	-	0.582	-	-	-	-	-	0.582
<b>Support - Acceptance Testing Cost</b>																		
First Article Test	-	-	7.403	-	-	-	-	-	0.100	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - Acceptance Testing Cost</i>	-	-	7.403	-	-	-	-	-	0.100	-	-	-	-	-	-	-	-	-
<b>Support - Program Management Cost</b>																		
Government Management	-	-	7.983	-	-	0.742	-	-	0.768	-	-	0.607	-	-	-	-	-	0.607
<i>Subtotal: Support - Program Management Cost</i>	-	-	7.983	-	-	0.742	-	-	0.768	-	-	0.607	-	-	-	-	-	0.607
<b>Support - System Engineering Cost</b>																		
System Engineering	-	-	17.942	-	-	-	-	-	1.749	-	-	1.497	-	-	-	-	-	1.497
<i>Subtotal: Support - System Engineering Cost</i>	-	-	17.942	-	-	-	-	-	1.749	-	-	1.497	-	-	-	-	-	1.497
<b>Support - Training Cost</b>																		
Equipment	-	-	5.903	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - Training Cost</i>	-	-	5.903	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Gross/Weapon System Cost</b>	<b>1,775.380</b>	-	<b>266.307</b>	<b>2.787</b>	-	<b>5.969</b>	-	-	<b>8.666</b>	-	-	<b>11.703</b>	-	-	-	-	-	<b>11.703</b>

**Remarks:**  
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**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis:</b> PB 2023 Army		<b>Date:</b> April 2022
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 02 / 10	<b>P-1 Line Item Number / Title:</b> 8181G01501 / XM320 Grenade Launcher Module (GLM)	<b>Item Number / Title [DODIC]:</b> G01501 / XM320 Grenade Launcher Module (GLM)

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A	<b>MDAP/MAIS Code:</b>
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Secondary Distribution		FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Army	Quantity	-	-	-	-	-
	Total Obligation Authority	5.969	4.194	6.308	-	6.308
ANG	Quantity	-	-	-	-	-
	Total Obligation Authority	-	4.318	5.215	-	5.215
AR	Quantity	-	-	-	-	-
	Total Obligation Authority	-	0.154	0.180	-	0.180
<b>Total:</b>	<b>Quantity</b>	-	-	-	-	-
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>5.969</b>	<b>8.666</b>	<b>11.703</b>	-	<b>11.703</b>

(t) indicates the presence of a P-5a

**UNCLASSIFIED**

<b>Exhibit P-5a, Procurement History and Planning:</b> PB 2023 Army							<b>Date:</b> April 2022				
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 02 / 10			<b>P-1 Line Item Number / Title:</b> 8181G01501 / XM320 Grenade Launcher Module (GLM)				<b>Item Number / Title [DODIC]:</b> G01501 / XM320 Grenade Launcher Module (GLM)				

Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty <i>(Each)</i>	Unit Cost <i>(\$ K)</i>	Specs Avail Now?	Date Revision Available	RFP Issue Date
Grenadier Sighting System (GSS)		2021	Wilcox / Portsmouth, NH	C / FFP	ACC-Picatinny, Picatinny, NJ	Dec 2020	Mar 2021	2,150	1.900	Y		
Grenadier Sighting System (GSS)		2022	Wilcox / Portsmouth, NH	C / FFP	ACC-Picatinny, Picatinny, NJ	Dec 2021	Dec 2021	1,523	1.900	Y		
Grenadier Sighting System (GSS)		2023	Wilcox / Portsmouth, NH	C / FFP	ACC-Picatinny, Picatinny, NJ	Dec 2022	Dec 2022	3,881	1.900	Y		

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**Exhibit P-40, Budget Line Item Justification:** PB 2023 Army **Date:** April 2022

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A: Procurement of W&TCV, Army / BA 02: Weapons and Other Combat Vehicles / BSA 10: Weapons & Other Combat Vehicles	<b>P-1 Line Item Number / Title:</b> 8190G01506 / Precision Sniper Rifle
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	315	456	485	321	-	321	244	273	291	162	Continuing	Continuing
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	5.747	8.895	9.240	6.436	-	6.436	5.350	6.161	6.216	6.216	Continuing	Continuing
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	5.747	8.895	9.240	6.436	-	6.436	5.350	6.161	6.216	6.216	Continuing	Continuing
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>5.747</b>	<b>8.895</b>	<b>9.240</b>	<b>6.436</b>	<b>-</b>	<b>6.436</b>	<b>5.350</b>	<b>6.161</b>	<b>6.216</b>	<b>6.216</b>	<b>Continuing</b>	<b>Continuing</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	18.244	19.507	19.052	20.050	-	20.050	21.926	22.568	21.361	38.370	Continuing	Continuing

**Description:**

The Precision Sniper Rifle (PSR) program supports the Army Modernization priorities (Build a More Lethal Force) through enhancement of Joint Lethality in contested environments by minimizing and eliminating erosion of close combat capability relative to peer competitors in complex terrain as outlined in the National Defense Strategy (NDS). This program will become the primary sniper weapon system in all Army sniper teams. It is a Non-Developmental Item (NDI) that is a multi-caliber, bolt-action sniper rifle, which is effective against personnel and materiel targets at extreme ranges. The Precision Sniper Rifle (PSR) provides increased probability of hit over the current M2010 Enhanced Sniper Rifle (ESR) configuration at distances beyond twelve-hundred (1200) meters, which enhances the sniper role in supporting combat operations and improves sniper survivability. The Precision Sniper Rifle (PSR) provides extended effective range by three-hundred (300) meters over M2010 Enhanced Sniper Rifle (ESR) out to fifteen-hundred (1500) meters, which increases stand-off distances ensuring overmatch against enemy counter sniper engagements and increases sniper capabilities. The Precision Sniper Rifle (PSR) also replaces the anti-materiel M107 semi-automatic .50 caliber sniper rifle, offering improved accuracy in a lighter weight package. The Precision Sniper Rifle (PSR) includes a sound suppressor and direct view optic with fire control capabilities. This allows snipers, when supplemented with a clip-on image intensifier or thermal sensor system, to effectively engage enemy snipers, as well as crew served and indirect fire weapons virtually undetected in any light condition.

Secondary Distribution	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	
Army	Quantity	456	413	141	-	141	137	102	123	69
	Total Obligation Authority	8.895	7.868	2.825	-	2.825	2.998	2.309	2.634	2.634
ANG	Quantity	-	72	180	-	180	105	171	168	93
	Total Obligation Authority	-	1.372	3.611	-	3.611	2.289	3.852	3.582	3.582
AR	Quantity	-	-	-	-	-	2	-	-	-
	Total Obligation Authority	-	-	-	-	-	0.063	-	-	-
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	<b>456</b>	<b>485</b>	<b>321</b>	<b>-</b>	<b>321</b>	<b>244</b>	<b>273</b>	<b>291</b>	<b>162</b>
	<b>Total Obligation Authority</b>	<b>8.895</b>	<b>9.240</b>	<b>6.436</b>	<b>-</b>	<b>6.436</b>	<b>5.350</b>	<b>6.161</b>	<b>6.216</b>	<b>6.216</b>

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**Exhibit P-40, Budget Line Item Justification:** PB 2023 Army **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A: Procurement of W&TCV, Army / BA 02: Weapons and Other Combat Vehicles / BSA 10: Weapons & Other Combat Vehicles **P-1 Line Item Number / Title:** 8190G01506 / Precision Sniper Rifle

**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 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 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	G01506 / Precision Sniper Rifle	P-5a	A		315 / 5.747	456 / 8.895	485 / 9.240	321 / 6.436	- / -	321 / 6.436
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>315 / 5.747</b>	<b>456 / 8.895</b>	<b>485 / 9.240</b>	<b>321 / 6.436</b>	<b>- / -</b>	<b>321 / 6.436</b>

\*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:**  
 FY 2023 Base procurement dollars in the amount of \$6.436 million supports the Active Army through procurement of Precision Sniper Rifle (PSR) Systems to include but not limited to direct view optics with fire control capabilities, optical augmentation devices, suppressors and other components of end items / basic issue items. Precision Sniper Rifle (PSR) will become the primary anti-personnel Sniper Weapon System (SWS) in all Army Sniper Teams. It is a Non-Developmental Item (NDI) that is a multi-caliber, bolt-action sniper rifle, which is effective against personnel and materiel targets at extreme ranges. The Precision Sniper Rifle (PSR) provides increased probability of hit over the current M2010 Enhanced Sniper Rifle (ESR) configuration at distances up to twelve-hundred (1200) meters and increases range out to fifteen-hundred (1500), which enhances the sniper role in supporting combat operations and improves sniper survivability.

Army Acquisition Objective (AAO): 2,800

In accordance with Section 1815 of the FY 2008 National Defense Authorization Act (P.L. 110-181), this item is necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities.

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2023 Army</b>		<b>Date:</b> April 2022
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 02 / 10	<b>P-1 Line Item Number / Title:</b> 8190G01506 / Precision Sniper Rifle	<b>Item Number / Title [DODIC]:</b> G01506 / Precision Sniper Rifle

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A	<b>MDAP/MAIS Code:</b>
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Resource Summary	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Procurement Quantity (Units in Each)	315	456	485	321	-	321
Gross/Weapon System Cost (\$ in Millions)	5.747	8.895	9.240	6.436	-	6.436
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	5.747	8.895	9.240	6.436	-	6.436
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>5.747</b>	<b>8.895</b>	<b>9.240</b>	<b>6.436</b>	<b>-</b>	<b>6.436</b>

*(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)	18.244	19.507	19.052	20.050	-	20.050

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

Cost Elements	Prior Years			FY 2021			FY 2022			FY 2023 Base			FY 2023 OCO			FY 2023 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)
Flyaway Cost																		
Recurring Cost																		
Precision Sniper Rifle <sup>(f)</sup>	14.324	315	4.512	14.344	456	6.541	14.429	485	6.998	14.614	321	4.691	-	-	-	14.614	321	4.691
Program Management	-	-	-	-	-	0.300	-	-	0.544	-	-	0.620	-	-	-	-	-	0.620
Engineering Support	-	-	0.309	-	-	0.808	-	-	0.643	-	-	0.605	-	-	-	-	-	0.605
Integrated Logistics Support (ILS)	-	-	0.179	-	-	0.229	-	-	0.225	-	-	0.195	-	-	-	-	-	0.195
Total Package Fielding (TPF)	-	-	0.140	-	-	0.178	-	-	0.225	-	-	0.150	-	-	-	-	-	0.150
New Equipment Training (NET)	-	-	0.607	-	-	0.839	-	-	0.605	-	-	0.150	-	-	-	-	-	0.150
ASR Conversions	-	-	-	-	-	-	-	-	-	-	-	0.025	-	-	-	-	-	0.025
<i>Subtotal: Recurring Cost</i>	-	-	5.747	-	-	8.895	-	-	9.240	-	-	6.436	-	-	-	-	-	6.436
<i>Subtotal: Flyaway Cost</i>	-	-	5.747	-	-	8.895	-	-	9.240	-	-	6.436	-	-	-	-	-	6.436
<b>Gross/Weapon System Cost</b>	<b>18.244</b>	<b>315</b>	<b>5.747</b>	<b>19.507</b>	<b>456</b>	<b>8.895</b>	<b>19.052</b>	<b>485</b>	<b>9.240</b>	<b>20.050</b>	<b>321</b>	<b>6.436</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>20.050</b>	<b>321</b>	<b>6.436</b>

**Remarks:**

No P-21 form is required for the Precision Sniper Rifle (PSR), as it is a Non-Developmental Item (NDI) Commercial Off-The-Shelf (COTS) solution. Weapon System Unit Cost (U/C) reflects all system components to include the rifle scope, suppressor, optical augmentation device and all other Components Of the End Item (COEI), Basic Issue Items (BII).

FY 2022 - 2024 procurement quantities include upgrades to previously fielded SOCOM MK 22s in to Army PSRs for USASOC units included in the Army AAO.



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<b>Exhibit P-5, Cost Analysis: PB 2023 Army</b>		<b>Date:</b> April 2022
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 02 / 10	<b>P-1 Line Item Number / Title:</b> 8190G01506 / Precision Sniper Rifle	<b>Item Number / Title [DODIC]:</b> G01506 / Precision Sniper Rifle
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A		<b>MDAP/MAIS Code:</b>

Actuals:  
 Prior Year and FY 2021 quantities will be updated to reflect actual quantities procured. Prior Years quantities should be 326 and FY 2021 quantities should be 537 and updates will be made in October 2022 when we update for FY 2022 actual execution and prior to the submission of the FY 2024 President's Budget.

Secondary Distribution		FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Army	Quantity	456	413	141	-	141
	Total Obligation Authority	8.895	7.868	2.825	-	2.825
ANG	Quantity	-	72	180	-	180
	Total Obligation Authority	-	1.372	3.611	-	3.611
<b>Total:</b>	<b>Quantity</b>	<b>456</b>	<b>485</b>	<b>321</b>	-	<b>321</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>8.895</b>	<b>9.240</b>	<b>6.436</b>	-	<b>6.436</b>

(t) indicates the presence of a P-5a

**UNCLASSIFIED**

**Exhibit P-5a, Procurement History and Planning:** PB 2023 Army **Date:** April 2022

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 02 / 10	<b>P-1 Line Item Number / Title:</b> 8190G01506 / Precision Sniper Rifle	<b>Item Number / Title [DODIC]:</b> G01506 / Precision Sniper Rifle
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Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty <i>(Each)</i>	Unit Cost <i>(\$ K)</i>	Specs Avail Now?	Date Revision Available	RFP Issue Date
Precision Sniper Rifle		2021	Barrett Firearms / Murfreesboro, TN	C / FFP	USSCCOM/SOF ATL - KR/ MacDill AFB, FL	Jul 2021	Oct 2021	456	14.344	Y		
Precision Sniper Rifle		2022	Barrett Firearms / Murfreesboro, TN	C / FFP	ACC-NJ Picatinny	Mar 2022	Sep 2022	485	14.429	N		
Precision Sniper Rifle		2023	Barrett Firearms / Murfreesboro, TN	SS / FFP	ACC-NJ Picatinny	Jan 2023	Apr 2023	321	14.614	Y		

**Remarks:**  
Some system sub-components and SOCOM upgrade scope kits may be procured through the DLA Tailored Logistics Support contract where practical and cost effective.

**Actuals:**  
Prior Year and FY 2021 quantities will be updated to reflect actual quantities procured. Prior Years quantities should be 326 and FY 2021 quantities should be 537 and updates will be made in October 2022 when we update for FY 2022 actual execution and prior to the submission of the FY 2024 President's Budget.

Projected: FY 2022 quantity 461 - unit cost \$14.429K.

FY 2021 and FY 2022 Contract Method/Type is Sole Source (SS); Location is ACC-NJ at Picatinny, NJ; and Specs are Available.

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**Exhibit P-40, Budget Line Item Justification:** PB 2023 Army **Date:** April 2022

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A: Procurement of W&TCV, Army / BA 02: Weapons and Other Combat Vehicles / BSA 10: Weapons & Other Combat Vehicles	<b>P-1 Line Item Number / Title:</b> 8194G01507 / COMPACT SEMI-AUTOMATIC SNIPER SYSTEM
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready): B	<b>Program Elements for Code B Items:</b> 0604601A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	6,174	-	-	-	-	-	-	-	-	-	-	6,174
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	56.353	0.999	-	-	-	-	-	-	-	-	-	57.352
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	56.353	0.999	-	-	-	-	-	-	-	-	-	57.352
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>56.353</b>	<b>0.999</b>	-	-	-	-	-	-	-	-	-	<b>57.352</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	9.127	-	-	-	-	-	-	-	-	-	-	9.289

**Description:**

The Compact Semi-Automatic Sniper System supports the Army Modernization priority (Build a More Lethal Force) through enhancement of Joint Lethality in contested environments by minimizing and eliminating erosion of close combat capability, relative to peer competitors in complex terrain, as outlined in the National Defense Strategy (NDS). Brigade Combat Teams (BCT) require the capability to engage threat personnel with lethal and accurate fires at ranges exceeding the squad rifleman capability provided today. The Army is addressing this capability gap through the procurement of the Squad Designated Marksman Rifle (SDMR). The Squad Designated Marksman Rifle consists of a 7.62x51mm semi-automatic rifle with suppressor, optic, and additional authorized equipment. Additionally, the SDMR fulfills the procurement authority outlined in the National Defense Authorization Act for Fiscal Year 18, Pub. L. 115-91, Section 111.

Secondary Distribution	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027
Army									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	0.999	-	-	-	-	-	-	-	-
<b>Total:</b>									
<b>Secondary Distribution</b>									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	<b>0.999</b>	-	-	-	-	-	-	-	-

**Justification:**

There is no FY 2023 budget request for this funding line.

In accordance with Section 1815 of the FY 2008 National Defense Authorization Act (P.L.110-181), this item is necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities.

Army Acquisition Objective (AAO): 6,291

**UNCLASSIFIED**

**Exhibit P-40, Budget Line Item Justification:** PB 2023 Army **Date:** April 2022

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A: Procurement of W&TCV, Army / BA 02: Weapons and Other Combat Vehicles / BSA 10: Weapons & Other Combat Vehicles	<b>P-1 Line Item Number / Title:</b> 8201G13501 / Carbine
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	133,725	0	699	-	-	-	-	-	-	-	-	134,424
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	276.927	5.411	4.434	-	-	-	-	-	-	-	-	286.772
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	276.927	5.411	4.434	-	-	-	-	-	-	-	-	286.772
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>276.927</b>	<b>5.411</b>	<b>4.434</b>	-	-	-	-	-	-	-	-	<b>286.772</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	2.071	-	6.343	-	-	-	-	-	-	-	-	2.133

**Description:**

The Carbine program supports the Army Modernization priorities (Build a More Lethal Force) through enhancement of Joint Lethality in contested environments by minimizing and eliminating erosion of close combat capability relative to peer competitors in complex terrain as outlined in the National Defense Strategy (NDS). This funding is used to procure M4A1 Carbines for the Army and 30 round Enhanced Performance Magazine (EPM). The M4A1 Carbines are 5.56mm, gas operated, air-cooled weapons designed for lightness, speed, mobility and firepower. The M4A1 Carbine is a more compact weapon than the M16 rifle series since it uses a shorter barrel and collapsible stock. When compared to the M4 Carbine, the M4A1 Carbine has a (safe/semi-automatic/full automatic) trigger group, with a heavier barrel thickness to support increased sustained rates of fire, and an ambidextrous fire control selector. The M4A1 Carbine also includes a back-up iron sight and the adapter rail system to attach accessories and components.

Secondary Distribution	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027
Army	Quantity	-	699	-	-	-	-	-	-
	Total Obligation Authority	5.411	4.434	-	-	-	-	-	-
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	<b>-</b>	<b>699</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
	<b>Total Obligation Authority</b>	<b>5.411</b>	<b>4.434</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>

**Justification:**

There is no FY 2023 budget request for this funding line

In accordance with Section 1815 of the FY 2008 National Defense Authorization Act (P.L. 110-181), this item is necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities.

M4A1's Army Acquisition Objective (AAO): 845,563

**UNCLASSIFIED**

**Exhibit P-40, Budget Line Item Justification:** PB 2023 Army **Date:** April 2022

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A: Procurement of W&TCV, Army / BA 02: Weapons and Other Combat Vehicles / BSA 10: Weapons & Other Combat Vehicles	<b>P-1 Line Item Number / Title:</b> 8205G14510 / Next Generation Squad Weapon
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready): B	<b>Program Elements for Code B Items:</b> 0604601A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	3,983	9,380	29,046	-	29,046	45,428	51,302	27,746	28,646	Continuing	Continuing
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	-	35.822	97.087	221.293	-	221.293	344.693	394.239	240.441	240.465	Continuing	Continuing
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	-	35.822	97.087	221.293	-	221.293	344.693	394.239	240.441	240.465	Continuing	Continuing
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	-	<b>35.822</b>	<b>97.087</b>	<b>221.293</b>	-	<b>221.293</b>	<b>344.693</b>	<b>394.239</b>	<b>240.441</b>	<b>240.465</b>	<b>Continuing</b>	<b>Continuing</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	-	8.994	10.350	7.619	-	7.619	7.588	7.685	8.666	8.394	Continuing	Continuing

**Description:**

This funding line is directly aligned to the Army Soldier Lethality Modernization Priority.

This program also supports the National Defense Strategy (NDS) of "Build a More Lethal Force" and the program supports these goals through enhancement of Joint Lethality in contested environments by means of elimination and/or minimization of close combat capability erosion; specifically, relative to peer competitors, in complex terrain, as outlined in the National Defense Strategy (NDS).

Next Generation Squad Weapons (NGSW) is a family of products that includes the XM5 Rifle (NGSW-R) and XM250 Automatic Rifle (NGSW-AR) that integrate an the XM157 fire control (NGSW-FC) and common 6.8mm ammunition. The XM5 NGSW-R and XM250 NGSW-AR are the planned replacements for select weapons system for individual soldiers, squads, and/or platoons, capable of defeating protected and unprotected threats. The XM5 NGSW-R and XM250 NGSW-AR ensure increased lethality against a broad spectrum of targets beyond current/legacy weapon capabilities; increased range, accuracy, and probability of hit; reduced engagement time; suppressed flash/sound signature; improved controllability and mobility.

The XM157 Next Generation Squad Weapons - Fire Control (NGSW-FC) is an advanced individual fire control device that supports the XM5 NGSW-R, XM250 NGSW-AR, and other individual and squad weapon systems. The XM157 NGSW-FC increases the probability of hit and decreases engagement time through a variable-powered direct view optic with integrated range finder, ballistic calculator, and digital display capable of providing an adjusted aim point. The XM157 utilizes open architecture to deliver to an initial augmented core capability followed by increasing increments of capability over time as technology matures and evolves.

Secondary Distribution		FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027
Army	Quantity	3,983	9,380	16,908	-	16,908	20,196	21,532	14,285	14,285
	Total Obligation Authority	35.822	97.087	124.580	-	124.580	163.412	170.054	127.393	127.417
ANG	Quantity	-	-	12,138	-	12,138	24,003	29,770	13,461	14,361
	Total Obligation Authority	-	-	96.713	-	96.713	173.567	224.185	113.048	113.048
AR	Quantity	-	-	-	-	-	1,229	-	-	-
	Total Obligation Authority	-	-	-	-	-	7.714	-	-	-

**UNCLASSIFIED**

**Exhibit P-40, Budget Line Item Justification:** PB 2023 Army **Date:** April 2022

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A: Procurement of W&TCV, Army / BA 02: Weapons and Other Combat Vehicles / BSA 10: Weapons & Other Combat Vehicles	<b>P-1 Line Item Number / Title:</b> 8205G14510 / Next Generation Squad Weapon
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready): B	<b>Program Elements for Code B Items:</b> 0604601A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Secondary Distribution		FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027
<b>Total:</b>	Quantity	3,983	9,380	29,046	-	29,046	45,428	51,302	27,746	28,646
<b>Secondary Distribution</b>	Total Obligation Authority	35.822	97.087	221.293	-	221.293	344.693	394.239	240.441	240.465

**UNCLASSIFIED**

**Exhibit P-40, Budget Line Item Justification:** PB 2023 Army **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A: Procurement of W&TCV, Army / BA 02: Weapons and Other Combat Vehicles / BSA 10: Weapons & Other Combat Vehicles **P-1 Line Item Number / Title:** 8205G14510 / Next Generation Squad Weapon

**ID Code** (A=Service Ready, B=Not Service Ready): B **Program Elements for Code B Items:** 0604601A **Other Related Program Elements:** N/A

**Line Item MDAP/MAIS Code:** N/A

Exhibits Schedule					Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 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	G14511 / Next Generation Squad Weapon-Automatic Rifle	P-5a, P-21	B		- / -	- / -	399 / 3.630	1,704 / 13.548	- / -	1,704 / 13.548
P-5	G14512 / NEXT GENERATION SQUAD WEAPON-RIFLE	P-5a, P-21	B		- / -	- / -	3,725 / 20.862	15,348 / 60.100	- / -	15,348 / 60.100
P-5	G14513 / Next Generation Squad Weapon - Fire Control	P-5a, P-21	B		- / -	3,983 / 35.822	5,256 / 72.595	11,994 / 147.645	- / -	11,994 / 147.645
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				- / -	<b>3,983 / 35.822</b>	<b>9,380 / 97.087</b>	<b>29,046 / 221.293</b>	- / -	<b>29,046 / 221.293</b>

\*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:**

FY 2023 Base procurement dollars in the amount of \$221.293 supports the following:

FY 2023 Base procurement dollars in the amount of \$13.548 million supports the procurement and fielding of 1,704 XM250 Next Generation Squad Weapon Automatic Rifles (NGSW-AR) which is the planned replacement for the M249 Squad Automatic Weapon (SAW) within the Close Combat Force.

FY 2023 Base procurement dollars in the amount of \$60.100 million supports the procurement and fielding of 15,348 XM5 Next Generation Squad Weapon Rifles (NGSW-R) which is the planned replacement for the M4A1 Carbine within the Close Combat Force.

The XM250 NGSW-AR and XM5 NGSW-R ensures increased lethality against a broad spectrum of targets beyond current/legacy weapon capabilities; increased range, accuracy, and probability of hit; reduced engagement time; suppressed flash/sound signature; improved controllability and mobility. The NGSW-AR, NGSW-Rifle, NGSW-Fire Control and 6.8mm Common Cartridge are fielded concurrently to provide a squad level capability improvement to maintain overmatch against near peer enemy threats.

FY 2023 Base procurement dollars in the amount of \$147.645 million supports the procurement and fielding of 11,994 XM157 Next Generation Squad Weapons Fire Controls (NGSW-FC). And will have both close quarter and extended range capabilities and is integrated with both the Next Generation Squad Weapon-Rifle (NGSW-R) and the Next Generation Squad Weapon-Automatic Rifle (NGSW-AR). The XM157 increases the probability of hit and decreases engagement time through a variable-powered direct view optic with integrated range finder, ballistic calculator, and digital display capable of providing an adjusted aim point. The XM157 Fire Control, XM5 Rifle, XM250 Automatic Rifle and 6.8mm Common Cartridge are fielded concurrently to provide a squad level capability improvement to maintain overmatch against near peer enemy threats.

This funding line is directly aligned to the Army Soldier Lethality Modernization Priority.

In accordance with Section 1815 of the FY 2008 National Defense Authorization Act (P.L. 110-181), this item is necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities.

**Army Acquisition Objectives (AAOs):**

Next Generation Squad Weapons - XM5 Rifle (NGSW-R): 111,428

Next Generation Squad Weapons - XM250 Automatic Rifle (NGSW-AR): 13,334

Next Generation Squad Weapons - XM157 Fire Control (NGSW-FC): 124,749

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<b>Exhibit P-5, Cost Analysis: PB 2023 Army</b>													<b>Date:</b> April 2022					
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 02 / 10						<b>P-1 Line Item Number / Title:</b> 8205G14510 / Next Generation Squad Weapon						<b>Item Number / Title [DODIC]:</b> G14511 / Next Generation Squad Weapon-Automatic Rifle						
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : B									<b>MDAP/MAIS Code:</b>									
<b>Resource Summary</b>				<b>Prior Years</b>		<b>FY 2021</b>			<b>FY 2022</b>			<b>FY 2023 Base</b>			<b>FY 2023 OCO</b>		<b>FY 2023 Total</b>	
Procurement Quantity ( <i>Units in Each</i> )				-		-			399			1,704			-		1,704	
Gross/Weapon System Cost ( <i>\$ in Millions</i> )				-		-			3.630			13.548			-		13.548	
Less PY Advance Procurement ( <i>\$ in Millions</i> )				-		-			-			-			-		-	
Net Procurement (P-1) ( <i>\$ in Millions</i> )				-		-			3.630			13.548			-		13.548	
Plus CY Advance Procurement ( <i>\$ in Millions</i> )				-		-			-			-			-		-	
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )				-		-			<b>3.630</b>			<b>13.548</b>			-		<b>13.548</b>	
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>																		
Initial Spares ( <i>\$ in Millions</i> )				-		-			-			-			-		-	
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )				-		-			9.098			7.951			-		7.951	
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
<b>Cost Elements</b>	<b>Prior Years</b>			<b>FY 2021</b>			<b>FY 2022</b>			<b>FY 2023 Base</b>			<b>FY 2023 OCO</b>			<b>FY 2023 Total</b>		
	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)
Hardware Cost																		
Recurring Cost																		
Next Generation Squad Weapon - Automatic Rifle <sup>(†)</sup>	-	-	-	-	-	-	7.321	399	2.921	6.982	1,704	11.897	-	-	-	6.982	1,704	11.897
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	2.921	-	-	11.897	-	-	-	-	-	11.897
<i>Subtotal: Hardware Cost</i>	-	-	-	-	-	-	-	-	<b>2.921</b>	-	-	<b>11.897</b>	-	-	-	-	-	<b>11.897</b>
Package Fielding Cost																		
Recurring Cost																		
Total Package Fielding	-	-	-	-	-	-	-	-	0.115	-	-	0.315	-	-	-	-	-	0.315
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	0.115	-	-	0.315	-	-	-	-	-	0.315
<i>Subtotal: Package Fielding Cost</i>	-	-	-	-	-	-	-	-	<b>0.115</b>	-	-	<b>0.315</b>	-	-	-	-	-	<b>0.315</b>
Logistics Cost																		
Recurring Cost																		
Integrated Logistic Support	-	-	-	-	-	-	-	-	0.100	-	-	0.260	-	-	-	-	-	0.260
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	0.100	-	-	0.260	-	-	-	-	-	0.260
<i>Subtotal: Logistics Cost</i>	-	-	-	-	-	-	-	-	<b>0.100</b>	-	-	<b>0.260</b>	-	-	-	-	-	<b>0.260</b>
Support - Data Cost																		
Technical Publications	-	-	-	-	-	-	-	-	0.044	-	-	0.048	-	-	-	-	-	0.048



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<b>Exhibit P-5, Cost Analysis: PB 2023 Army</b>		<b>Date:</b> April 2022
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 02 / 10	<b>P-1 Line Item Number / Title:</b> 8205G14510 / Next Generation Squad Weapon	<b>Item Number / Title [DODIC]:</b> G14511 / Next Generation Squad Weapon-Automatic Rifle
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : B		<b>MDAP/MAIS Code:</b>

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

Cost Elements	Prior Years			FY 2021			FY 2022			FY 2023 Base			FY 2023 OCO			FY 2023 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)
<i>Subtotal: Support - Data Cost</i>	-	-	-	-	-	-	-	-	0.044	-	-	0.048	-	-	-	-	-	0.048
<b>Support - New Equipment Training (NET) Cost</b>																		
Equipment	-	-	-	-	-	-	-	-	0.100	-	-	0.250	-	-	-	-	-	0.250
<i>Subtotal: Support - New Equipment Training (NET) Cost</i>	-	-	-	-	-	-	-	-	0.100	-	-	0.250	-	-	-	-	-	0.250
<b>Support - Program Management Cost</b>																		
Government Management	-	-	-	-	-	-	-	-	0.150	-	-	0.353	-	-	-	-	-	0.353
<i>Subtotal: Support - Program Management Cost</i>	-	-	-	-	-	-	-	-	0.150	-	-	0.353	-	-	-	-	-	0.353
<b>Support - System Engineering Cost</b>																		
System Engineering	-	-	-	-	-	-	-	-	0.200	-	-	0.425	-	-	-	-	-	0.425
<i>Subtotal: Support - System Engineering Cost</i>	-	-	-	-	-	-	-	-	0.200	-	-	0.425	-	-	-	-	-	0.425
<b>Gross/Weapon System Cost</b>	-	-	-	-	-	-	9.098	399	3.630	7.951	1,704	13.548	-	-	-	7.951	1,704	13.548

Secondary Distribution		FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Army	Quantity	-	399	960	-	960
	Total Obligation Authority	-	3.630	7.850	-	7.850
ANG	Quantity	-	-	744	-	744
	Total Obligation Authority	-	-	5.698	-	5.698
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	-	<b>399</b>	<b>1,704</b>	-	<b>1,704</b>
	<b>Total Obligation Authority</b>	-	<b>3.630</b>	<b>13.548</b>	-	<b>13.548</b>

(t) indicates the presence of a P-5a

**UNCLASSIFIED**

<b>Exhibit P-5a, Procurement History and Planning:</b> PB 2023 Army							<b>Date:</b> April 2022					
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 02 / 10			<b>P-1 Line Item Number / Title:</b> 8205G14510 / Next Generation Squad Weapon				<b>Item Number / Title [DODIC]:</b> G14511 / Next Generation Squad Weapon-Automatic Rifle					

<b>Cost Elements</b>	<b>O C O</b>	<b>FY</b>	<b>Contractor and Location</b>	<b>Method/Type or Funding Vehicle</b>	<b>Location of PCO</b>	<b>Award Date</b>	<b>Date of First Delivery</b>	<b>Qty (Each)</b>	<b>Unit Cost (\$ K)</b>	<b>Specs Avail Now?</b>	<b>Date Revision Available</b>	<b>RFP Issue Date</b>
Next Generation Squad Weapon - Automatic Rifle <sup>(†)</sup>		2022	TBD Contractor / TBD	C / FFP	ACC-NJ, Picatinny Arsenal, NJ	Nov 2021	May 2022	399	7.321	N		Jul 2021
Next Generation Squad Weapon - Automatic Rifle <sup>(†)</sup>		2023	TBD Contractor / TBD	C / FFP	ACC-NJ, Picatinny Arsenal, NJ	May 2023	Nov 2023	1,704	6.982	N		

<sup>(†)</sup> indicates the presence of a P-21

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<b>Exhibit P-21, Production Schedule:</b> PB 2023 Army																							<b>Date:</b> April 2022														
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 02 / 10										<b>P-1 Line Item Number / Title:</b> 8205G14510 / Next Generation Squad Weapon										<b>Item Number / Title [DODIC]:</b> G14511 / Next Generation Squad Weapon-Automatic Rifle																	
Cost Elements <i>(Units in Each)</i>						Fiscal Year 2022													Fiscal Year 2023													B A L A N C E					
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2021	BAL DUE AS OF 1 OCT	Calendar Year 2022													Calendar Year 2023																	
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P							
Next Generation Squad Weapon - Automatic Rifle																																					
	1	2022	ARMY	399	0	399		A	-	-	-	-	-	-	35	35	35	35	35	35	35	35	35	35	35	35	14						0				
	1	2023	ARMY	1,704	0	1,704																						A	-	-	-	-	-	1,704			
							O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	A	M	J	J	A	S						
							C	O	E	A	E	A	A	A	U	U	U	E	C	O	D	A	E	A	A	A	A	U	J	J	A	S					
							T	V	C	N	B	R	P	Y	N	L	G	P	T	V	E	N	B	R	R	Y	N	L	U	U	U	P	Y	N	L	G	P

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<b>Exhibit P-21, Production Schedule:</b> PB 2023 Army															<b>Date:</b> April 2022														
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 02 / 10										<b>P-1 Line Item Number / Title:</b> 8205G14510 / Next Generation Squad Weapon										<b>Item Number / Title [DODIC]:</b> G14511 / Next Generation Squad Weapon-Automatic Rifle									

Cost Elements <i>(Units in Each)</i>							Fiscal Year 2024														Fiscal Year 2025														BALANCE
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2023	BAL DUE AS OF 1 OCT	Calendar Year 2024														Calendar Year 2025														
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					
Next Generation Squad Weapon - Automatic Rifle																																			
	1	2022	ARMY	399	399	0																								0					
	1	2023	ARMY	1,704	0	1,704	-	142	142	142	142	142	142	142	142	142	142													0					
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					

**UNCLASSIFIED**

<b>Exhibit P-21, Production Schedule:</b> PB 2023 Army		<b>Date:</b> April 2022
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 02 / 10		<b>P-1 Line Item Number / Title:</b> 8205G14510 / Next Generation Squad Weapon
		<b>Item Number / Title [DODIC]:</b> G14511 / Next Generation Squad Weapon-Automatic Rifle

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Month)			Procurement Leadtime (Months)							
		MSR For 2023	1-8-5 For 2023	MAX For 2023	Initial				Reorder			
					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 Contractor - TBD	20	142	300	4	2	6	8	1	2	6	8

"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).

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2023 Army</b>		<b>Date:</b> April 2022
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 02 / 10		<b>P-1 Line Item Number / Title:</b> 8205G14510 / Next Generation Squad Weapon
		<b>Item Number / Title [DODIC]:</b> G14512 / NEXT GENERATION SQUAD WEAPON-RIFLE

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : B				<b>MDAP/MAIS Code:</b>			
Resource Summary		Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Procurement Quantity (Units in Each)		-	-	3,725	15,348	-	15,348
Gross/Weapon System Cost (\$ in Millions)		-	-	20.862	60.100	-	60.100
Less PY Advance Procurement (\$ in Millions)		-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)		-	-	20.862	60.100	-	60.100
Plus CY Advance Procurement (\$ in Millions)		-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>		-	-	<b>20.862</b>	<b>60.100</b>	-	<b>60.100</b>
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>							
Initial Spares (\$ in Millions)		-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)		-	-	5.601	3.916	-	3.916

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

Cost Elements	Prior Years			FY 2021			FY 2022			FY 2023 Base			FY 2023 OCO			FY 2023 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)
<b>Hardware Cost</b>																		
Recurring Cost																		
Next Generation Squad Weapon - Rifle (NGSW-R) <sup>(†)</sup>	-	-	-	-	-	-	3.451	3,725	12.855	3.367	15,348	51.676	-	-	-	3.367	15,348	51.676
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	12.855	-	-	51.676	-	-	-	-	-	51.676
<i>Subtotal: Hardware Cost</i>	-	-	-	-	-	-	-	-	<b>12.855</b>	-	-	<b>51.676</b>	-	-	-	-	-	<b>51.676</b>
<b>Package Fielding Cost</b>																		
Recurring Cost																		
Total Fielding Package	-	-	-	-	-	-	-	-	0.655	-	-	1.800	-	-	-	-	-	1.800
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	0.655	-	-	1.800	-	-	-	-	-	1.800
<i>Subtotal: Package Fielding Cost</i>	-	-	-	-	-	-	-	-	<b>0.655</b>	-	-	<b>1.800</b>	-	-	-	-	-	<b>1.800</b>
<b>Logistics Cost</b>																		
Recurring Cost																		
Integrated Logistic Support	-	-	-	-	-	-	-	-	0.600	-	-	1.400	-	-	-	-	-	1.400
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	0.600	-	-	1.400	-	-	-	-	-	1.400
<i>Subtotal: Logistics Cost</i>	-	-	-	-	-	-	-	-	<b>0.600</b>	-	-	<b>1.400</b>	-	-	-	-	-	<b>1.400</b>
<b>Support - Acceptance Testing Cost</b>																		
First Article Test	-	-	-	-	-	-	-	-	0.500	-	-	-	-	-	-	-	-	-

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<b>Exhibit P-5, Cost Analysis: PB 2023 Army</b>		<b>Date:</b> April 2022
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 02 / 10	<b>P-1 Line Item Number / Title:</b> 8205G14510 / Next Generation Squad Weapon	<b>Item Number / Title [DODIC]:</b> G14512 / NEXT GENERATION SQUAD WEAPON-RIFLE
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : B		<b>MDAP/MAIS Code:</b>

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

Cost Elements	Prior Years			FY 2021			FY 2022			FY 2023 Base			FY 2023 OCO			FY 2023 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)
<i>Subtotal: Support - Acceptance Testing Cost</i>	-	-	-	-	-	-	-	-	0.500	-	-	-	-	-	-	-	-	-
Support - Data Cost																		
Technical Publications	-	-	-	-	-	-	-	-	0.500	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - Data Cost</i>	-	-	-	-	-	-	-	-	0.500	-	-	-	-	-	-	-	-	-
Support - Engineering Change Proposals Cost																		
Engineering Change Proposals	-	-	-	-	-	-	-	-	0.460	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - Engineering Change Proposals Cost</i>	-	-	-	-	-	-	-	-	0.460	-	-	-	-	-	-	-	-	-
Support - New Equipment Training (NET) Cost																		
Equipment	-	-	-	-	-	-	-	-	0.514	-	-	1.800	-	-	-	-	-	1.800
<i>Subtotal: Support - New Equipment Training (NET) Cost</i>	-	-	-	-	-	-	-	-	0.514	-	-	1.800	-	-	-	-	-	1.800
Support - Program Management Cost																		
Government Management	-	-	-	-	-	-	-	-	1.278	-	-	1.866	-	-	-	-	-	1.866
<i>Subtotal: Support - Program Management Cost</i>	-	-	-	-	-	-	-	-	1.278	-	-	1.866	-	-	-	-	-	1.866
Support - System Engineering Cost																		
System Engineering	-	-	-	-	-	-	-	-	3.500	-	-	1.557	-	-	-	-	-	1.557
<i>Subtotal: Support - System Engineering Cost</i>	-	-	-	-	-	-	-	-	3.500	-	-	1.557	-	-	-	-	-	1.557
<b>Gross/Weapon System Cost</b>	-	-	-	-	-	-	5.601	3,725	20.862	3.916	15,348	60.100	-	-	-	3.916	15,348	60.100

Secondary Distribution		FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Army	Quantity	-	3,725	9,668	-	9,668
	Total Obligation Authority	-	20.862	38.655	-	38.655
ANG	Quantity	-	-	5,680	-	5,680
	Total Obligation Authority	-	-	21.445	-	21.445
<b>Total:</b>	<b>Quantity</b>	-	3,725	15,348	-	15,348

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<b>Exhibit P-5, Cost Analysis:</b> PB 2023 Army		<b>Date:</b> April 2022
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 02 / 10	<b>P-1 Line Item Number / Title:</b> 8205G14510 / Next Generation Squad Weapon	<b>Item Number / Title [DODIC]:</b> G14512 / NEXT GENERATION SQUAD WEAPON-RIFLE

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

Secondary Distribution		FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Secondary Distribution	Total Obligation Authority	-	20.862	60.100	-	60.100

(t) indicates the presence of a P-5a



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<b>Exhibit P-5a, Procurement History and Planning:</b> PB 2023 Army							<b>Date:</b> April 2022					
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 02 / 10			<b>P-1 Line Item Number / Title:</b> 8205G14510 / Next Generation Squad Weapon				<b>Item Number / Title [DODIC]:</b> G14512 / NEXT GENERATION SQUAD WEAPON-RIFLE					

<b>Cost Elements</b>	<b>O C O</b>	<b>FY</b>	<b>Contractor and Location</b>	<b>Method/Type or Funding Vehicle</b>	<b>Location of PCO</b>	<b>Award Date</b>	<b>Date of First Delivery</b>	<b>Qty (Each)</b>	<b>Unit Cost (\$ K)</b>	<b>Specs Avail Now?</b>	<b>Date Revision Available</b>	<b>RFP Issue Date</b>
Next Generation Squad Weapon - Rifle (NGSW-R) <sup>(†)</sup>		2022	TBD Contractor / TBD	C / FFP	ACC-NJ, Picatinny Arsenal, NJ	Nov 2021	May 2022	3,725	3.451	N		Jul 2021
Next Generation Squad Weapon - Rifle (NGSW-R) <sup>(†)</sup>		2023	TBD Contractor / TBD	C / FFP	ACC-NJ, Picatinny Arsenal, NJ	May 2023	Nov 2023	15,348	3.367	N		

<sup>(†)</sup> indicates the presence of a P-21

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<b>Exhibit P-21, Production Schedule:</b> PB 2023 Army															<b>Date:</b> April 2022														
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 02 / 10										<b>P-1 Line Item Number / Title:</b> 8205G14510 / Next Generation Squad Weapon										<b>Item Number / Title [DODIC]:</b> G14512 / NEXT GENERATION SQUAD WEAPON-RIFLE									

Cost Elements <i>(Units in Thousands)</i>						Fiscal Year 2022														Fiscal Year 2023														B A L A N C E			
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2021	BAL DUE AS OF 1 OCT	Calendar Year 2022														Calendar Year 2023																
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P							
Next Generation Squad Weapon - Rifle (NGSW-R)																																					
	1	2022	ARMY	3.725	.000	3.725		A	-	-	-	-	-	-	-	.315	.315	.315	.315	.315	.315	.315	.315	.315	.315	.315	.315	.315	.260						.000		
	1	2023	ARMY	15.348	.000	15.348																														15.348	
								O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	A	M	J	J	A	S					
								C	O	E	A	E	A	P	A	U	U	U	E	C	O	V	E	A	E	A	P	A	U	U	U	E					
								T	V	C	N	B	R	R	Y	N	L	G	P	T	V	C	N	B	R	R	Y	N	L	U	G	P					

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<b>Exhibit P-21, Production Schedule:</b> PB 2023 Army															<b>Date:</b> April 2022														
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 02 / 10										<b>P-1 Line Item Number / Title:</b> 8205G14510 / Next Generation Squad Weapon										<b>Item Number / Title [DODIC]:</b> G14512 / NEXT GENERATION SQUAD WEAPON-RIFLE									

Cost Elements <i>(Units in Thousands)</i>						Fiscal Year 2024												Fiscal Year 2025												BALANCE	
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2023	BAL DUE AS OF 1 OCT	Calendar Year 2024												Calendar Year 2025												
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G		S E P
Next Generation Squad Weapon - Rifle (NGSW-R)																															
	1	2022	ARMY	3.725	3.725	.000																							.000		
	1	2023	ARMY	15.348	.000	15.348	-	1.279	1.279	1.279	1.279	1.279	1.279	1.279	1.279	1.279	1.279												.000		
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	

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<b>Exhibit P-21, Production Schedule:</b> PB 2023 Army		<b>Date:</b> April 2022
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 02 / 10		<b>P-1 Line Item Number / Title:</b> 8205G14510 / Next Generation Squad Weapon
		<b>Item Number / Title [DODIC]:</b> G14512 / NEXT GENERATION SQUAD WEAPON-RIFLE

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Month)			Procurement Leadtime (Months)							
		MSR For 2023	1-8-5 For 2023	MAX For 2023	Initial				Reorder			
					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 Contractor - TBD	250	1,280	5,000	4	2	6	8	1	2	6	8

"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).

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<b>Exhibit P-5, Cost Analysis: PB 2023 Army</b>		<b>Date:</b> April 2022
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 02 / 10	<b>P-1 Line Item Number / Title:</b> 8205G14510 / Next Generation Squad Weapon	<b>Item Number / Title [DODIC]:</b> G14513 / Next Generation Squad Weapon - Fire Control

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : B	<b>MDAP/MAIS Code:</b>
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Resource Summary	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Procurement Quantity (Units in Each)	-	3,983	5,256	11,994	-	11,994
Gross/Weapon System Cost (\$ in Millions)	-	35.822	72.595	147.645	-	147.645
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	-	35.822	72.595	147.645	-	147.645
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	-	<b>35.822</b>	<b>72.595</b>	<b>147.645</b>	-	<b>147.645</b>

*(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)	-	8.994	13.812	12.310	-	12.310

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

Cost Elements	Prior Years			FY 2021			FY 2022			FY 2023 Base			FY 2023 OCO			FY 2023 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)
<b>Hardware Cost</b>																		
<b>Recurring Cost</b>																		
Next Generation Squad Weapons Fire Control <sup>(f)</sup>	-	-	-	12.604	1,989	25.069	12.604	5,256	66.247	11.556	11,994	138.606	-	-	-	11.556	11,994	138.606
Engineering Data	-	-	-	-	-	-	-	-	0.300	-	-	-	-	-	-	-	-	-
Technical Publications	-	-	-	-	-	-	-	-	0.370	-	-	0.497	-	-	-	-	-	0.497
Engineering Change Proposals	-	-	-	-	-	-	-	-	0.350	-	-	-	-	-	-	-	-	-
<b>Subtotal: Recurring Cost</b>	-	-	-	-	-	<b>25.069</b>	-	-	<b>67.267</b>	-	-	<b>139.103</b>	-	-	-	-	-	<b>139.103</b>
<b>Non Recurring Cost</b>																		
First Article Testing	-	-	-	-	-	1.470	-	-	-	-	-	-	-	-	-	-	-	-
Contract Data Requirements List	-	-	-	-	-	9.149	-	-	-	-	-	-	-	-	-	-	-	-
<b>Subtotal: Non Recurring Cost</b>	-	-	-	-	-	<b>10.619</b>	-	-	-	-	-	-	-	-	-	-	-	-
<b>Subtotal: Hardware Cost</b>	-	-	-	-	-	<b>35.688</b>	-	-	<b>67.267</b>	-	-	<b>139.103</b>	-	-	-	-	-	<b>139.103</b>
<b>Package Fielding Cost</b>																		
<b>Recurring Cost</b>																		
Total Package Fielding	-	-	-	-	-	-	-	-	0.720	-	-	1.525	-	-	-	-	-	1.525
<b>Subtotal: Recurring Cost</b>	-	-	-	-	-	-	-	-	<b>0.720</b>	-	-	<b>1.525</b>	-	-	-	-	-	<b>1.525</b>
<b>Subtotal: Package Fielding Cost</b>	-	-	-	-	-	-	-	-	<b>0.720</b>	-	-	<b>1.525</b>	-	-	-	-	-	<b>1.525</b>

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<b>Exhibit P-5, Cost Analysis: PB 2023 Army</b>		<b>Date:</b> April 2022
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 02 / 10		<b>P-1 Line Item Number / Title:</b> 8205G14510 / Next Generation Squad Weapon
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : B		<b>MDAP/MAIS Code:</b>
<b>Item Number / Title [DODIC]:</b> G14513 / Next Generation Squad Weapon - Fire Control		

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

Cost Elements	Prior Years			FY 2021			FY 2022			FY 2023 Base			FY 2023 OCO			FY 2023 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)
Logistics Cost																		
Recurring Cost																		
Integrated Logistics Support (ILS)	-	-	-	-	-	0.124	-	-	0.300	-	-	0.300	-	-	-	-	-	0.300
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	0.124	-	-	0.300	-	-	0.300	-	-	-	-	-	0.300
<i>Subtotal: Logistics Cost</i>	-	-	-	-	-	0.124	-	-	0.300	-	-	0.300	-	-	-	-	-	0.300
Support - New Equipment Training (NET) Cost																		
Equipment	-	-	-	-	-	-	-	-	0.695	-	-	1.475	-	-	-	-	-	1.475
<i>Subtotal: Support - New Equipment Training (NET) Cost</i>	-	-	-	-	-	-	-	-	0.695	-	-	1.475	-	-	-	-	-	1.475
Support - Program Management Cost																		
Government Management	-	-	-	-	-	0.010	-	-	1.743	-	-	3.245	-	-	-	-	-	3.245
<i>Subtotal: Support - Program Management Cost</i>	-	-	-	-	-	0.010	-	-	1.743	-	-	3.245	-	-	-	-	-	3.245
Support - System Engineering Cost																		
System Engineering	-	-	-	-	-	-	-	-	1.500	-	-	2.000	-	-	-	-	-	2.000
<i>Subtotal: Support - System Engineering Cost</i>	-	-	-	-	-	-	-	-	1.500	-	-	2.000	-	-	-	-	-	2.000
Support - System Test and Evaluation Cost																		
Test and Evaluation Support	-	-	-	-	-	-	-	-	0.370	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - System Test and Evaluation Cost</i>	-	-	-	-	-	-	-	-	0.370	-	-	-	-	-	-	-	-	-
<b>Gross/Weapon System Cost</b>	-	-	-	8.994	3,983	35.822	13.812	5,256	72.595	12.310	11,994	147.645	-	-	-	12.310	11,994	147.645

Secondary Distribution		FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Army	Quantity	3,983	5,256	6,280	-	6,280
	Total Obligation Authority	35.822	72.595	78.075	-	78.075
ANG	Quantity	-	-	5,714	-	5,714
	Total Obligation Authority	-	-	69.570	-	69.570
<b>Total:</b>	<b>Quantity</b>	<b>3,983</b>	<b>5,256</b>	<b>11,994</b>	<b>-</b>	<b>11,994</b>

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis:</b> PB 2023 Army		<b>Date:</b> April 2022
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 02 / 10	<b>P-1 Line Item Number / Title:</b> 8205G14510 / Next Generation Squad Weapon	<b>Item Number / Title [DODIC]:</b> G14513 / Next Generation Squad Weapon - Fire Control

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

Secondary Distribution		FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Secondary Distribution	Total Obligation Authority	35.822	72.595	147.645	-	147.645

(t) indicates the presence of a P-5a

**UNCLASSIFIED**

<b>Exhibit P-5a, Procurement History and Planning:</b> PB 2023 Army							<b>Date:</b> April 2022					
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 02 / 10			<b>P-1 Line Item Number / Title:</b> 8205G14510 / Next Generation Squad Weapon				<b>Item Number / Title [DODIC]:</b> G14513 / Next Generation Squad Weapon - Fire Control					

<b>Cost Elements</b>	<b>O C O</b>	<b>FY</b>	<b>Contractor and Location</b>	<b>Method/Type or Funding Vehicle</b>	<b>Location of PCO</b>	<b>Award Date</b>	<b>Date of First Delivery</b>	<b>Qty (Each)</b>	<b>Unit Cost (\$ K)</b>	<b>Specs Avail Now?</b>	<b>Date Revision Available</b>	<b>RFP Issue Date</b>
Next Generation Squad Weapons Fire Control <sup>(†)</sup>		2021	Vortex Optics / 1 Vortex Drive Barneveld, WI 53507	C / FFP	ACC-NJ, Picatinny Arsenal, NJ	Jan 2022	Dec 2022	1,989	12.604	N		Mar 2021
Next Generation Squad Weapons Fire Control <sup>(†)</sup>		2022	Vortex Optics / 1 Vortex Drive Barneveld, WI 53507	C / FFP	ACC-NJ, Picatinny Arsenal, NJ	Jan 2022	Aug 2022	5,256	12.604	N	Mar 2023	
Next Generation Squad Weapons Fire Control <sup>(†)</sup>		2023	Vortex Optics / 1 Vortex Drive Barneveld, WI 53507	C / FFP	ACC-NJ, Picatinny Arsenal, NJ	Mar 2023	Feb 2024	11,994	11.556	N		Sep 2021

<sup>(†)</sup> indicates the presence of a P-21

**Remarks:**

FY 2022 unit cost has not been updated to reflect contract actuals and will be updated in October when updates for actual execution to include the unit cost will be updated to \$12,604.00 prior to the FY 2024 President's Budget.

Manufacturing production lead time increased due to uncertainty in electronic supply chain issues.



**UNCLASSIFIED**

<b>Exhibit P-21, Production Schedule:</b> PB 2023 Army																				<b>Date:</b> April 2022				
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 02 / 10										<b>P-1 Line Item Number / Title:</b> 8205G14510 / Next Generation Squad Weapon										<b>Item Number / Title [DODIC]:</b> G14513 / Next Generation Squad Weapon - Fire Control				

Cost Elements (Units in Thousands)					Fiscal Year 2022															Fiscal Year 2023										B A L A N C E		
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2021	BAL DUE AS OF 1 OCT	Calendar Year 2022															Calendar Year 2023										
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G		S E P	
Next Generation Squad Weapons Fire Control																																
	1	2021	ARMY	1.989	.000	1.989				A	-	-	-	-	-	-	-	-	-	.050	.100	.150	.200	.250	.300	.350	.400	.189		.000		
	1	2022	ARMY	5.256	.000	5.256				A	-	-	-	-	-	.438	.438	.438	.438	.438	.438	.438	.438	.438	.438	.438	.438			.000		
	1	2023	ARMY	11.994	.000	11.994																								11.994		
							O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S		
							C	O	E	A	E	A	P	A	U	U	U	E	C	O	V	E	A	E	A	A	U	U	U	E		
							T	V	C	N	B	R	R	Y	N	L	G	P	T	V	C	N	B	R	P	Y	N	L	G	P		

**UNCLASSIFIED**

<b>Exhibit P-21, Production Schedule:</b> PB 2023 Army															<b>Date:</b> April 2022														
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 02 / 10										<b>P-1 Line Item Number / Title:</b> 8205G14510 / Next Generation Squad Weapon										<b>Item Number / Title [DODIC]:</b> G14513 / Next Generation Squad Weapon - Fire Control									

Cost Elements <i>(Units in Thousands)</i>						Fiscal Year 2024												Fiscal Year 2025												B A L A N C E	
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCE PT PRI OR TO 1 OCT 2023	BAL DUE AS OF 1 OCT	Calendar Year 2024												Calendar Year 2025												
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G		S E P
Next Generation Squad Weapons Fire Control																															
	1	2021	ARMY	1.989	1.989	.000																							.000		
	1	2022	ARMY	5.256	5.256	.000																							.000		
	1	2023	ARMY	11.994	.000	11.994	-	-	-	-	.300	.400	1.380	1.480	1.630	1.780	1.930	1.930	1.164										.000		
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	

**UNCLASSIFIED**

<b>Exhibit P-21, Production Schedule:</b> PB 2023 Army							<b>Date:</b> April 2022					
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 02 / 10				<b>P-1 Line Item Number / Title:</b> 8205G14510 / Next Generation Squad Weapon				<b>Item Number / Title [DODIC]:</b> G14513 / Next Generation Squad Weapon - Fire Control				
MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Month)			Procurement Leadtime (Months)							
		MSR For 2023	1-8-5 For 2023	MAX For 2023	Initial				Reorder			
					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	Vortex Optics - 1 Vortex Drive Barneveld, WI 53507	150	1,435	2,500	6	9	11	20	1	3	10	13

**Remarks:**  
FY 2022 deliveries are not updated to contract actuals and will be updated in October when we update actual FY 2022 execution data.

"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).

**UNCLASSIFIED**

**Exhibit P-40, Budget Line Item Justification:** PB 2023 Army **Date:** April 2022

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A: Procurement of W&TCV, Army / BA 02: Weapons and Other Combat Vehicles / BSA 10: Weapons & Other Combat Vehicles	<b>P-1 Line Item Number / Title:</b> 8310G04700 / Common Remotely Operated Weapons Station
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	12	-	-	-	-	-	-	-	-	-	-	12
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	2,320.105	24.534	-	-	-	-	-	-	-	-	-	2,344.639
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	2,320.105	24.534	-	-	-	-	-	-	-	-	-	2,344.639
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>2,320.105</b>	<b>24.534</b>	-	-	-	-	-	-	-	-	-	<b>2,344.639</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	193,342.083	-	-	-	-	-	-	-	-	-	-	195,386.583

**Description:**

The Common Remotely Operated Weapons Station (CROWS) program supports the Army Modernization priorities (Build a More Lethal Force) through enhancement of Joint Lethality in contested environments by minimizing and eliminating erosion of close combat capability relative to peer competitors in complex terrain as outlined in the National Defense Strategy (NDS). The M153 Common Remotely Operated Weapon Station (CROWS) is an integrated system that provides the capability to remotely operate all standard U.S. Army machine guns (i.e., M2 Heavy Barrel Machine Guns, MK-19 Grenade Machine Guns, M240B/L Medium Machine Guns and M249 Squad Automatic Weapons) and increase lethality solutions (to include Javelin) on a variety of vehicles from an Up-Armored High Mobility Multi-Purpose Wheeled Vehicle (HMMWV) to a M1A2 Main Battle Tank. The CROWS system includes a three axis stabilized mount, a sensor suite with fire control software, and a vehicle integration kit. CROWS permits the gunner to manipulate the sight and weapon from under armor using a hand controller and a flat panel display. Missions can be carried out under conditions of varying visibility via the day camera or thermal camera. The laser range finder and three-axis stabilization allows for accurate fire on the move.

Secondary Distribution	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027
Army	Quantity	-	-	-	-	-	-	-	-
	Total Obligation Authority	24.534	-	-	-	-	-	-	-
<b>Total: Secondary Distribution</b>	Quantity	-	-	-	-	-	-	-	-
	Total Obligation Authority	<b>24.534</b>	-	-	-	-	-	-	-

**Justification:**

There is no FY 2023 budget request for this funding line.

In accordance with Section 1815 of the FY 2008 National Defense Authorization Act (P.L. 110-181), this item is necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities.

**UNCLASSIFIED**

**Exhibit P-40, Budget Line Item Justification:** PB 2023 Army **Date:** April 2022

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A: Procurement of W&TCV, Army / BA 02: Weapons and Other Combat Vehicles / BSA 10: Weapons & Other Combat Vehicles	<b>P-1 Line Item Number / Title:</b> 8635G15325 / Handgun
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ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	64.474	4.662	4.930	-	-	-	-	-	-	-	-	74.066
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	64.474	4.662	4.930	-	-	-	-	-	-	-	-	74.066
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>64.474</b>	<b>4.662</b>	<b>4.930</b>	-	-	-	-	-	-	-	-	<b>74.066</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	0.412	15.644	3.526	-	-	-	-	-	-	-	-	0.469

**Description:**

The Modular Handgun System (MHS) supports the Army Modernization priorities (Build a More Lethal Force) through enhancement of Joint Lethality in contested environments by minimizing and eliminating erosion of close combat capability relative to peer competitors in complex terrain as outlined in the National Defense Strategy (NDS). Currently, the M9 Semi-Automatic Pistol, which has been utilized as the Department of Defense's personal defense weapon since 1985, is being replaced by the new M17 Full Size Modular Handgun . The M18 Compact Size Modular Handgun will replace M11 Handguns. The Modular Handgun System is a Commercial Off the Shelf/ Non-Developmental Item (COTS/NDI) which delivers a more capable system (weapon, ammo and magazines) consistent with the planned force structure and emerging operational needs of the Army. The Modular Handgun System addresses M9 Pistol and M11 Pistol shortcomings with improved lethality, target acquisition, ergonomics, reliability, durability, and maintainability. The Modular Handgun System is ambidextrous capable and accommodates 5th-95th percentile users via modular grips and access to all controls with one hand.

Secondary Distribution	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027
Army	Quantity	-	-	-	-	-	-	-	-
	Total Obligation Authority	4.662	4.930	-	-	-	-	-	-
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	-	-	-	-	-	-	-	-
	<b>Total Obligation Authority</b>	<b>4.662</b>	<b>4.930</b>	-	-	-	-	-	-

**Justification:**

There is no FY 2023 budget request for this funding line.

In accordance with Section 1815 of the FY 2008 National Defense Authorization Act (P.L.110-181), this item is necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities.

Handgun's Army Acquisition Objective (AAO) of 233,429 was met in FY 2019.

**UNCLASSIFIED**

**Exhibit P-40, Budget Line Item Justification:** PB 2023 Army **Date:** April 2022

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A: Procurement of W&TCV, Army / BA 02: Weapons and Other Combat Vehicles / BSA 20: Mod of Weapons and Other Combat Veh	<b>P-1 Line Item Number / Title:</b> 3000GB3000 / MK-19 Grenade Machine Gun MODS
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready): B	<b>Program Elements for Code B Items:</b> 0604601A	<b>Other Related Program Elements:</b> 0604802A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	50.912	6.444	23.027	-	-	-	-	-	-	-	-	80.383
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	50.912	6.444	23.027	-	-	-	-	-	-	-	-	80.383
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>50.912</b>	<b>6.444</b>	<b>23.027</b>	-	-	-	-	-	-	-	-	<b>80.383</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	90.430	5.989	-	-	-	-	-	-	-	-	-	49.044

**Description:**

The MK-19 Grenade Machine Gun MODS program supports the Army Modernization priorities (Build a More Lethal Force) through enhancement of Joint Lethality in contested environments by minimizing and eliminating erosion of close combat capability relative to peer competitors in complex terrain as outlined in the National Defense Strategy (NDS). The MK-19 Mod 3 is a self-powered, air-cooled, 40mm automatic grenade machine gun with a firing rate of 325-375 rounds per minute. It is used to engage point targets up to 1,500 meters and provide suppressive fire at ranges up to 2,200 meters. Various system enhancements have been identified to improve the system by increasing operational capabilities and improving reliability, readiness, maintainability, and safety. The MK-19 is fielded with the MK-93 mount for vehicle utilization and the M3 or M205 Tripod for ground deployment during static defensive operations. An ongoing system improvement is application of an improved mechanical sight thru a Modification Work Order. The improved sight decreases the MK-19 logistic burden by reducing the number of parts as well as increasing Soldier lethality thru updated ballistic solutions. The Mounted Machine Gun Optic (MMO) will provide increased accuracy by equipping the MK-19 with a combined reflex and magnified optic to mounted CS/CSS troops, who currently have no optic. The Mounted Machine Gun Optic (MMO) will significantly improve target identification, target acquisition and effective engagement time at extended ranges while retaining the capability of short range, transition fire. MK-93 Improvement Kits will enhance hit performance and improve Soldier interface with optical sighting systems during on the move engagement by dampening mount movement. The XM101 Programmer Unit (PU) provides the means for fuze setting for the 40mm High Velocity, High Explosive Dual Purpose-Air Burst (HEDP-AB) capability for the MK-19 currently under development.

Secondary Distribution	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027
Army									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	6.444	23.027	-	-	-	-	-	-	-
<b>Total:</b>									
<b>Secondary Distribution</b>									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	<b>6.444</b>	<b>23.027</b>	-	-	-	-	-	-	-

**Justification:**

There is no FY 2023 budget request for this program.

**UNCLASSIFIED**

<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2023 Army		<b>Date:</b> April 2022
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A: Procurement of W&TCV, Army / BA 02: Weapons and Other Combat Vehicles / BSA 20: Mod of Weapons and Other Combat Veh		<b>P-1 Line Item Number / Title:</b> 3000GB3000 / MK-19 Grenade Machine Gun MODS
<b>ID Code</b> (A=Service Ready, B=Not Service Ready): B	<b>Program Elements for Code B Items:</b> 0604601A	<b>Other Related Program Elements:</b> 0604802A
<b>Line Item MDAP/MAIS Code:</b> N/A		
In accordance with Section 1815 of the FY 2008 National Defense Authorization Act (P.L.110-181), this item is necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities.		

**UNCLASSIFIED**

**Exhibit P-40, Budget Line Item Justification:** PB 2023 Army **Date:** April 2022

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A: Procurement of W&TCV, Army / BA 02: Weapons and Other Combat Vehicles / BSA 20: Mod of Weapons and Other Combat Veh	<b>P-1 Line Item Number / Title:</b> 3005GZ1700 / M777 Mods
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ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	204	-	-	-	-	162	-	-	-	366
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	155.262	9.783	16.576	3.374	-	3.374	4.319	9.066	2.467	1.582	-	202.429
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	155.262	9.783	16.576	3.374	-	3.374	4.319	9.066	2.467	1.582	-	202.429
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>155.262</b>	<b>9.783</b>	<b>16.576</b>	<b>3.374</b>	<b>-</b>	<b>3.374</b>	<b>4.319</b>	<b>9.066</b>	<b>2.467</b>	<b>1.582</b>	<b>-</b>	<b>202.429</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	-	-	81.255	-	-	-	-	55.963	-	-	-	553.085

**Description:**

The Lightweight 155mm Howitzer (LW155), also known as the M777A2, is a Joint Service program between the United States Marine Corps (USMC) and the United States Army which provides direct, reinforcing, general support fires to maneuver forces and direct support artillery. The LW155 was first introduced into the US Marine Corps (USMC) in April 2005 and the Marines have fielded the howitzer to all active units. The Army fielded the howitzer to its Stryker Brigade Combat teams (SBCT), Fires Brigades and National Guard. Fielding of the Infantry Brigade Combat Teams (IBCT) was completed in FY 2018. The LW155 saw extensive action in Afghanistan, receiving high marks for its performance. It replaces all howitzers in all USMC missions and replaces the M198 howitzer as the general support artillery for light forces in the Army. The LW155 fires unassisted projectiles to a range of 30 kilometers (km) and assisted projectiles to 40km. The addition of the digital fire control system enables the weapon to program and fire the improved Excalibur precision-guided munitions to ranges in excess of 40km with better than 10-meter Circular Error Probable (CEP) accuracy. The LW155 is the first ground combat system whose major structures are made of high strength titanium alloy and the system makes extensive use of hydraulics to operate the breech, load tray, recoil and wheel arms. The combination of titanium structures and the use of hydraulic systems resulted in a significant weight savings of 7,000 pounds over the M198 system. Compared to the M198, the LW155 emplaces three-times faster and displaces four-times faster. It traverses 32-percent more terrain worldwide and is 70-percent more survivable than the M198. It is a successful joint service program between the USMC and U.S. Army working together to develop, produce, field, and sustain the howitzer. The howitzer will be going through obsolescent replacement of electronic components in its digital fire control system, since it has been in the field for more than fifteen years.

This budget line item provides funding for various hardware and software modifications and modernization efforts such as Digital Fire Control System (DFCS) component refresh and integration and interoperability upgrades including Military Code (M-Code) satellite signal in support of the M777A2 program.

Secondary Distribution	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027
Army									
Quantity	-	204	-	-	-	-	162	-	-
Total Obligation Authority	9.783	16.576	3.374	-	3.374	4.319	9.066	2.467	1.582
<b>Total:</b>									
<b>Secondary Distribution</b>									
Quantity	-	204	-	-	-	-	162	-	-
Total Obligation Authority	9.783	16.576	3.374	-	3.374	4.319	9.066	2.467	1.582

**Justification:**



UNCLASSIFIED

<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2023 Army		<b>Date:</b> April 2022
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A: Procurement of W&TCV, Army / BA 02: Weapons and Other Combat Vehicles / BSA 20: Mod of Weapons and Other Combat Veh		<b>P-1 Line Item Number / Title:</b> 3005GZ1700 / M777 Mods
<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
<b>Line Item MDAP/MAIS Code:</b> N/A		
<p>FY 2023 funding in the amount of \$3.374 million will support the integration of Assured Position, Navigation and Timing (APNT) compliance initiatives onto the M777 howitzer platform; continues the retrofit of previously procured hardware and software modifications; and other modernization efforts to the Digital Fire Control System (DFCS). APNT compliance initiatives will provide the M777A2 howitzer with the continued ability to conduct precision and near precision fires in a Global Positioning System (GPS) challenged environment while maintaining current operational tempo. Modernization efforts to the Digital Fire Control System (DFCS) will enable continued system readiness.</p> <p>Net funding decrease of \$13.202 million from FY 2022 to FY 2023 reflects change of efforts from procurement of the Radio Integration Kits to integration of APNT compliance initiatives.</p> <p>"In accordance with Section 1815 of the FY 2008 National Defense Authorization Act (P.L. 110-181), this item is necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities."</p>		

**UNCLASSIFIED**

**Exhibit P-40, Budget Line Item Justification:** PB 2023 Army **Date:** April 2022

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A: Procurement of W&TCV, Army / BA 02: Weapons and Other Combat Vehicles / BSA 20: Mod of Weapons and Other Combat Veh	<b>P-1 Line Item Number / Title:</b> 3010GB3007 / M4 Carbine Mods
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	969.199	4.824	-	-	-	-	-	-	-	-	Continuing	Continuing
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	969.199	4.824	-	-	-	-	-	-	-	-	Continuing	Continuing
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>969.199</b>	<b>4.824</b>	-	-	-	-	-	-	-	-	<b>Continuing</b>	<b>Continuing</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	12.151	0.760	-	-	-	-	-	-	-	-	Continuing	Continuing

**Description:**

The M4 Carbine Mods program supports the Army Modernization priorities (Build a More Lethal Force) through enhancement of Joint Lethality in contested environments by minimizing and eliminating erosion of close combat capability relative to peer competitors in complex terrain as outlined in the National Defense Strategy (NDS). The M4 Carbine Modification Program provides combat optics, a Close Quarters Battle Kit (CQBK), an Enhanced Performance Magazine (EPM), 5.56mm suppressor, color modifications, and M4 to M4A1 carbine upgrade kits. The Improved Weapons Cleaning Kit (IWCK) contains necessary items to conduct a thorough and efficient cleaning of both weapon and optic, and has been reconfigured into: Individual Kit and Team Kit. The 5.56 Enhanced Performance Magazine (EPM) decreases weapon wear, significantly increases reliability, durability, readiness and maintains terminal performance of the M4 and M16 family of weapons. The 5.56mm suppressor and color modifications reduce the sound and visual signatures of the M4/M4A1 carbine as well as increase the difficulty of enemy forces to easily distinguish the Close Combat Force (CCFT) and other units. The M4 Product Improvement Program converts all fielded M4 Carbines to M4A1 Carbine configuration to include the M4A1 heavy barrel assembly and full auto trigger mechanism and adding new ambidextrous fire control selector assembly.

Secondary Distribution	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027
Army	Quantity	-	-	-	-	-	-	-	-
	Total Obligation Authority	4.824	-	-	-	-	-	-	-
<b>Total:</b> Secondary Distribution	Quantity	-	-	-	-	-	-	-	-
	Total Obligation Authority	<b>4.824</b>	-	-	-	-	-	-	-

**Justification:**

There is no FY 2023 budget request for this funding line.

In accordance with Section 1815 of the FY 2008 National Defense Act, (P.L. 110-181), this item is necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities.

**UNCLASSIFIED**

**Exhibit P-40, Budget Line Item Justification:** PB 2023 Army **Date:** April 2022

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A: Procurement of W&TCV, Army / BA 02: Weapons and Other Combat Vehicles / BSA 20: Mod of Weapons and Other Combat Veh	<b>P-1 Line Item Number / Title:</b> 3015GB4000 / M2 50 Cal Machine Gun MODS
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A	<b>Program Elements for Code B Items:</b> 0604601A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	407.300	-	6.612	-	-	-	-	-	-	-	-	413.912
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	407.300	-	6.612	-	-	-	-	-	-	-	-	413.912
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>407.300</b>	<b>-</b>	<b>6.612</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>413.912</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	157.380	-	-	-	-	-	-	-	-	-	-	159.935

**Description:**

The M2 .50 Cal Machine Gun MODS program supports the Army Modernization priorities (Build a More Lethal Force) through enhancement of Joint Lethality in contested environments by minimizing and eliminating erosion of close combat capability relative to peer competitors in complex terrain as outlined in the National Defense Strategy (NDS). The M2A1 Quick Change Barrel (QCB) Kit provides enhancements for the .50 Caliber M2 Heavy Barrel Machine Gun to provide the Soldier with the ability to quickly change barrels without the need to reset the headspace and timing and also reduces the visible muzzle flash. In a dismounted role, the M2/MK19 Machine Guns utilize the M205 Lightweight Tripod which reduces the Soldier burden by 16 pounds (32%) over the current M3 Tripod which weighs 50 pounds (including traverse and elevation mechanisms and pintle). The M205 Tripod provides integral traverse and elevation mechanisms for easier, more accurate target engagement and adjustable traverse limit stop for night time missions. The Mounted Machine Gun Optic (MMO) will provide increased accuracy by equipping Medium/Heavy Machine Guns, including the M2/M2A1, with a combined reflex and magnified optic to mounted Combat Support & Combat Service Support (CS/CSS) troops, who currently have no optic. The Mounted Machine Gun Optic (MMO) will significantly improve target identification, target acquisition and effective engagement time at extended ranges while retaining the capability of short range, transition fire. The MK93 is the primary mount used to interface the M2/M2A1 with all Army vehicles and ground mounts. MK93 Improvement Kits will enhance hit performance and improve Soldier interface with optical sighting systems during on the move engagement by dampening mount movement.

Secondary Distribution	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027
Army									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	-	6.612	-	-	-	-	-	-	-
<b>Total: Secondary Distribution</b>									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	-	6.612	-	-	-	-	-	-	-

**Justification:**

There is no FY 2023 budget request for this funding line.

In accordance with Section 1815 of the FY 2008 National Defense Authorization Act (P.L. 110-181), this item is necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities.

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<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2023 Army		<b>Date:</b> April 2022
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A: Procurement of W&TCV, Army / BA 02: Weapons and Other Combat Vehicles / BSA 20: Mod of Weapons and Other Combat Veh		<b>P-1 Line Item Number / Title:</b> 3015GB4000 / M2 50 Cal Machine Gun MODS
<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A	<b>Program Elements for Code B Items:</b> 0604601A	<b>Other Related Program Elements:</b> N/A
<b>Line Item MDAP/MAIS Code:</b> N/A		

**UNCLASSIFIED**

**Exhibit P-40, Budget Line Item Justification:** PB 2023 Army **Date:** April 2022

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A: Procurement of W&TCV, Army / BA 02: Weapons and Other Combat Vehicles / BSA 20: Mod of Weapons and Other Combat Veh	<b>P-1 Line Item Number / Title:</b> 3030GZ1300 / M240 Medium Machine Gun MODS
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	185.535	6.385	-	-	-	-	-	-	-	-	-	191.920
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	185.535	6.385	-	-	-	-	-	-	-	-	-	191.920
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>185.535</b>	<b>6.385</b>	-	-	-	-	-	-	-	-	-	<b>191.920</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-

**Description:**

The M240 Medium Machine Gun MODS program supports the Army Modernization priorities (Build a More Lethal Force) through enhancement of Joint Lethality in contested environments by minimizing and eliminating erosion of close combat capability relative to peer competitors in complex terrain as outlined in the National Defense Strategy (NDS). The M240B/L Medium Machine Gun is an infantry version of the M240 Armored Machine Gun used to replace the M60 Series Machine Gun in Light Infantry, Mechanized Infantry, Armor, Rangers, Special Forces, and select Combat Engineer Units. Since the initial fielding of the M240B, various system enhancements have been identified that further improve the use of this weapon system by increasing functionality and performance capabilities, while improving training capability. These include adopting a forward rail system to mount ancillary sighting/night vision equipment, an accessory ammunition pouch, a spare barrel bag to transport and store overheated barrels, and an improved Lightweight Ground Mount. Additional enhancements include improved bipod, sling, short barrel, improved barrel, combat ammo pack, improved hydraulic buffer, drop-in mount cradle, design modifications to the Lightweight Ground Mount, collapsible buttstock and Mounted Machine Gun Optic. These enhancements are applicable to both the M240B and M240L. The M240L reduces the weight of the existing M240B by approximately 6 pounds.

The M197 Vehicle Mount is the current standard used to mount the M249 Squad Automatic Weapon and M240B to most vehicle platforms. A system improvement (drop in mount cradle) adds a link/spent case deflector and ammo handling system to provide capability upgrades addressing issues that Soldiers have identified as shortcomings of the current system. The M192 is the primary ground mount for the M240B/L and M249 machineguns. Based on recent combat experience, improvements are required to address identified shortcomings in the design and to enhance operational performance.

Fielding of the M240H Machine Gun requires replacement/upgrade of the helicopter mounts/cradles to accommodate the replacement M240H. This upgrade enhances the performance of the armament subsystems the M240H is assigned to thereby increasing the overall survivability of the aircraft platform. Improved mounts are required to be fielded to both the UH-60 and CH-47 platforms.

Secondary Distribution	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027
Army	-	-	-	-	-	-	-	-	-
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	6.385	-	-	-	-	-	-	-	-
<b>Total:</b>	-	-	-	-	-	-	-	-	-
<b>Secondary Distribution</b>	<b>6.385</b>	-	-	-	-	-	-	-	-
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	6.385	-	-	-	-	-	-	-	-

**UNCLASSIFIED**

<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2023 Army		<b>Date:</b> April 2022
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A: Procurement of W&TCV, Army / BA 02: Weapons and Other Combat Vehicles / BSA 20: Mod of Weapons and Other Combat Veh		<b>P-1 Line Item Number / Title:</b> 3030GZ1300 / M240 Medium Machine Gun MODS
<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
<b>Line Item MDAP/MAIS Code:</b> N/A		

**Justification:**

There is no FY 2023 budget request for this program.

In accordance with Section 1815 of the FY 2008 National Defense Act, (P.L. 110-181), this item is necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities.

**UNCLASSIFIED**

**Exhibit P-40, Budget Line Item Justification:** PB 2023 Army **Date:** April 2022

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A: Procurement of W&TCV, Army / BA 02: Weapons and Other Combat Vehicles / BSA 20: Mod of Weapons and Other Combat Veh	<b>P-1 Line Item Number / Title:</b> 3181GZ1500 / Sniper Rifles Modifications
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready): B	<b>Program Elements for Code B Items:</b> 0604601A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	48.965	1.898	-	-	-	-	-	-	0.020	0.019	Continuing	Continuing
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	48.965	1.898	-	-	-	-	-	-	0.020	0.019	Continuing	Continuing
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>48.965</b>	<b>1.898</b>	-	-	-	-	-	-	<b>0.020</b>	<b>0.019</b>	<b>Continuing</b>	<b>Continuing</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-

**Description:**

The Sniper Rifles Modifications program supports the Army Modernization priorities (Build a More Lethal Force) through enhancement of Joint Lethality in contested environments by minimizing and eliminating erosion of close combat capability relative to peer competitors in complex terrain as outlined in the National Defense Strategy (NDS). The program conducts investigative engineering studies, procure modifications or conversions of sniper weapons and related system components, Advanced Sniper Accessory Kit (ASAK) items, M151 Spotting Scope System, Tactical Tripod Kit (TTK) components, sniper optics, laser range finders, and ballistic compensating systems. Initial buys of items to support or meet operational needs and lighten sniper load. It includes the procurement of rifle scope optics, spotting scopes, an accompanying Accessory Interface Mounting kit (AIM), Improved Sniper Tripod, improved capabilities including an enhanced common reticle pattern and special tool kit.

This program also provides improved ancillary equipment such as intelligent rails, ballistic chronographs, Ballistic Weather Meter (BWM), Sniper Scope Covert Cap, Weapon Tripod Cradle, Sniper Data Board, improved Sniper Buttstock, Sniper Tool Kit, Sniper Accessory Mount, improved and/or recalibrated barrels, fire controls, muzzles with suppressors, other components, and support costs.

The current Army fleet of sniper weapons, consisting of the M14 Enhanced Battle Rifle (EBR) as interim Squad Designated Marksman weapon, the M110 Semi-Automatic Sniper System (SASS), the M2010 Enhanced Sniper Rifle (ESR), and the M107 Semi-Automatic Long Range Sniper Rifle (LRSR), require continuous upgrades to the weapon, components, and/or ancillary equipment. Sniper upgrades seek to enhance sniper mission capability, effectiveness, and survivability by extending the sniper's influence through emerging technologies in perfecting ballistics with exacting hardware and precise calculations, reducing sniper team burden through decreased weight and enhanced ergonomics, portability, signature-reduction, faster more precise target reconnaissance, surveillance, and target acquisition (RSTA) and precision aiming with automated ballistic prediction systems. Upgrades also support sniper/spotter mission collaboration with information sharing of targets and better situational awareness.

Secondary Distribution	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027
Army	Quantity	-	-	-	-	-	-	-	-
	Total Obligation Authority	1.898	-	-	-	-	-	0.020	0.019
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	-	-	-	-	-	-	-	-
	<b>Total Obligation Authority</b>	<b>1.898</b>	-	-	-	-	-	<b>0.020</b>	<b>0.019</b>

**UNCLASSIFIED**

<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2023 Army		<b>Date:</b> April 2022
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A: Procurement of W&TCV, Army / BA 02: Weapons and Other Combat Vehicles / BSA 20: Mod of Weapons and Other Combat Veh		<b>P-1 Line Item Number / Title:</b> 3181GZ1500 / Sniper Rifles Modifications
<b>ID Code</b> (A=Service Ready, B=Not Service Ready): B	<b>Program Elements for Code B Items:</b> 0604601A	<b>Other Related Program Elements:</b> N/A
<b>Line Item MDAP/MAIS Code:</b> N/A		

**Justification:**  
There is no FY 2023 budget request for this funding line.

In accordance with Section 1815 of the FY 2008 National Defense Act, (P.L.110-181), this item is necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities.



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**Exhibit P-40, Budget Line Item Justification:** PB 2023 Army **Date:** April 2022

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A: Procurement of W&TCV, Army / BA 02: Weapons and Other Combat Vehicles / BSA 20: Mod of Weapons and Other Combat Veh	<b>P-1 Line Item Number / Title:</b> 3640GC0401 / M119 Modifications
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	12	-	12	493	-	-	-	-	505
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	394.732	2.009	-	2.263	-	2.263	9.865	1.333	1.280	1.229	-	412.711
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	394.732	2.009	-	2.263	-	2.263	9.865	1.333	1.280	1.229	-	412.711
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>394.732</b>	<b>2.009</b>	<b>-</b>	<b>2.263</b>	<b>-</b>	<b>2.263</b>	<b>9.865</b>	<b>1.333</b>	<b>1.280</b>	<b>1.229</b>	<b>-</b>	<b>412.711</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	188.583	-	188.583	20.010	-	-	-	-	817.250

**Description:**

The M119A3 Towed Howitzer provides direct fire support for the Infantry Brigade Combat Teams (IBCT). Funding in the M119A3 modifications budget supports the application of modernization system enhancements and includes the integration of digital fire control components previously type classified on other weapons. Other modifications to the Howitzer include items such as: Recoil System Capability Package, to enhance survivability and durability by replacing the Buffer and Recuperator and modifying the suspension; Titanium firing platforms for enhanced durability; Fire Control Computer (FCC) covers to protect the FCC from damage; FCC thumb stick/mouse to allow FCC to remain mission capable with damaged touch screen; Software upgrade to accurately account for the effects of Blast Over Pressure; and digital fire control system modernization upgrades to maintain readiness. Funding in this program also supports the installation and retrofit of modification kits, training devices products and program management and technical support to the M119A3 Howitzer.

Secondary Distribution	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027
Army									
Quantity	-	-	12	-	12	493	-	-	-
Total Obligation Authority	2.009	-	2.263	-	2.263	9.865	1.333	1.280	1.229
<b>Total:</b>									
<b>Secondary Distribution</b>									
Quantity	-	-	12	-	12	493	-	-	-
Total Obligation Authority	2.009	-	2.263	-	2.263	9.865	1.333	1.280	1.229

**Justification:**

FY 2023 funding in the amount of \$2.263 million supports qualification and integration of future engineering changes such as integration kits for a new radio to allow new encryption protocols and other modernization efforts to the Digital Fire Control System (DFCS). Integration of the new radio enables more secure radio communication and facilitates new encryption protocol interoperability between artillery and supported forces as required per Headquarters Department of the Army (HQDA) Execute Order (EXORD) 052-17. The new radio will provide the ability to perform voice and data functions over the same radio which increases operational flexibility for firing units. Modernization efforts to the Digital Fire Control System (DFCS) will enable continued system readiness.

Net funding increase of \$2.263 million from FY 2022 to FY 2023 reflects the commencement of the Radio Integration effort.

**UNCLASSIFIED**

<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2023 Army		<b>Date:</b> April 2022
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A: Procurement of W&TCV, Army / BA 02: Weapons and Other Combat Vehicles / BSA 20: Mod of Weapons and Other Combat Veh		<b>P-1 Line Item Number / Title:</b> 3640GC0401 / M119 Modifications
<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
<b>Line Item MDAP/MAIS Code:</b> N/A		
<p>"In accordance with Section 1815 of the FY 2008 National Defense Authorization Act (P.L. 110-181), this item is necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities."</p>		

**UNCLASSIFIED**

**Exhibit P-40, Budget Line Item Justification:** PB 2023 Army **Date:** April 2022

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A: Procurement of W&TCV, Army / BA 02: Weapons and Other Combat Vehicles / BSA 20: Mod of Weapons and Other Combat Veh	<b>P-1 Line Item Number / Title:</b> 7054G02100 / Mortar Modification
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	To Complete	Total
Procurement Quantity <i>(Units in Each)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost <i>(\$ in Millions)</i>	136.491	1.689	-	-	-	-	-	-	-	-	-	138.180
Less PY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) <i>(\$ in Millions)</i>	136.491	1.689	-	-	-	-	-	-	-	-	-	138.180
Plus CY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority <i>(\$ in Millions)</i></b>	<b>136.491</b>	<b>1.689</b>	-	-	-	-	-	-	-	-	-	<b>138.180</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost <i>(\$ in Thousands)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost <i>(\$ in Thousands)</i>	-	-	-	-	-	-	-	-	-	-	-	-

**Description:**

Mortar System Modification provides 60mm Light Weight M224A1, 81mm Light Weight M252A1 and 120mm M120A1/M121 mortar weapon systems modification to support current and modernized mounted and dismounted platforms and enables the replacement of aging/obsolete major system components and subcomponents including Basic Issue Items (BII) kits, Additional Authorized List (AAL) items, Modified Work Order (MWO) kits, Engineering Change Proposals (ECPs), Technical Data Packages (TDP), etc. Modification efforts increase producibility, manufacturability and procurement of required assets within the United States industrial base, supporting higher firing pressures, integration of new components for system accuracy, reliability, and enables better tracking of cannon service life and addresses obsolescence and/or technical issues related to weapon system safety.

Secondary Distribution	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027
Army									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	1.689	-	-	-	-	-	-	-	-
<b>Total:</b>									
<b>Secondary Distribution</b>									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	1.689	-	-	-	-	-	-	-	-

**Justification:**

There is no FY 2023 budget request for this funding line.

In accordance with Section 1815 of the FY 2008 National Defense Authorization Act (P.L 110-181), this item is necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities.

**UNCLASSIFIED**

**Exhibit P-40, Budget Line Item Justification:** PB 2023 Army **Date:** April 2022

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A: Procurement of W&TCV, Army / BA 02: Weapons and Other Combat Vehicles / BSA 20: Mod of Weapons and Other Combat Veh	<b>P-1 Line Item Number / Title:</b> 9280GC0925 / Modifications Less Than \$5.0m (WOCV-WTCV)
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	221.228	2.604	-	-	-	-	-	-	-	-	-	223.832
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	221.228	2.604	-	-	-	-	-	-	-	-	-	223.832
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>221.228</b>	<b>2.604</b>	-	-	-	-	-	-	-	-	-	<b>223.832</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-

**Description:**

This program supports the Army Modernization priorities (Build a More Lethal Force) through enhancement of Joint Lethality in contested environments by minimizing and eliminating erosion of close combat capability relative to peer competitors in complex terrain as outlined in the National Defense Strategy (NDS). This program procures modification of small arms through the procurement of accessory components, kits, or maintenance work orders (MWO) for weapons ranging up to 40mm caliber. This includes but is not limited to mounting systems, tripods, bipods, rails, barrels, stocks, optics, coatings and lubrications. In addition, engineering studies will investigate modification and production issues of all small arms weapons.

Secondary Distribution	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027
Army									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	2.604	-	-	-	-	-	-	-	-
<b>Total:</b>									
<b>Secondary Distribution</b>									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	<b>2.604</b>	-	-	-	-	-	-	-	-

**Justification:**

There is no FY 2023 budget request for this program.

In accordance with Section 1815 of the FY 2008 National Defense Authorization Act (P.L 110-181), this item is necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities.

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**Exhibit P-40, Budget Line Item Justification:** PB 2023 Army **Date:** April 2022

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A: Procurement of W&TCV, Army / BA 02: Weapons and Other Combat Vehicles / BSA 30: Support Equipment & Facilities	<b>P-1 Line Item Number / Title:</b> 1862GL3200 / Items Less Than \$5.0m (WOCV-WTCV)
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	146.011	2.763	1.068	2.138	-	2.138	1.170	1.075	2.277	2.278	Continuing	Continuing
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	146.011	2.763	1.068	2.138	-	2.138	1.170	1.075	2.277	2.278	Continuing	Continuing
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>146.011</b>	<b>2.763</b>	<b>1.068</b>	<b>2.138</b>	<b>-</b>	<b>2.138</b>	<b>1.170</b>	<b>1.075</b>	<b>2.277</b>	<b>2.278</b>	<b>Continuing</b>	<b>Continuing</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-

**Description:**

This program supports the Army Modernization priorities (Build a More Lethal Force) through enhancement of Joint Lethality in contested environments by minimizing and eliminating erosion of close combat capability relative to peer competitors in complex terrain as outlined in the National Defense Strategy (NDS). Program provides for the procurement of standard and non-standard small arms to include auxiliary components such as combat optics, protective lens coatings for optics, fire controls, suppressors, powered/ intelligent rails, weapon mounts/platforms, and adaptors and to meet urgent needs or initial buys. Weapons and auxiliary components procured under this budget activity in prior years consist of MK48 Machine Guns, Modular Handgun System (MHS) and associated Basic Issue Items (BI), M500 Mossberg Shotguns, MP5KA and APC9K Submachine Guns to include magazines, clamps, holsters, slings, lanyards, spare parts and cleaning kits. Funding will also purchase Non-Standard weapons to support the Regionally Aligned Forces (RAF), Security Force Assistance Brigades, International Special Training Center (ISTC), as well as limited distribution weapons/accessories such as world class Olympic Grade marksmanship weapons and accessories to support the Army Marksmanship Unit (AMU) and Army National Guard to include Biathlon Teams to maintain and procure the specialized target rifles/accessories, replica M1873 ceremonial pistols for the 11th Armored Cavalry Regiment (ACR), pistols and accessories, Air Rifles for Police/Provost Marshal Division to assist with varmint control, standard and non-standard caliber Pistols and Rifles, Shooting glasses and scopes, Shot Guns and bolt action rifles.

Secondary Distribution	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027
Army									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	2.763	1.068	2.138	-	2.138	1.170	1.075	2.277	2.278
<b>Total:</b>									
<b>Secondary Distribution</b>									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	<b>2.763</b>	<b>1.068</b>	<b>2.138</b>	<b>-</b>	<b>2.138</b>	<b>1.170</b>	<b>1.075</b>	<b>2.277</b>	<b>2.278</b>

**Justification:**

FY 2023 Base procurement dollars in the amount of \$2.138 million supports the Active Army by providing funding for the Army Marksmanship Unit (AMU) and National Guard Biathlon Teams and the security force assistance training programs. The Army Marksmanship Unit competes worldwide on a regular basis. Between competitions, the Army Marksmanship Unit fires constantly to hone their skills and maintain their competitive edge resulting in high annual round counts. Despite the high level of maintenance provided, these weapons exceed their stated effective life projections much faster than typical fielded weapons. Requiring the weapons to be coded out and replaced regularly.

**UNCLASSIFIED**

<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2023 Army		<b>Date:</b> April 2022
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A: Procurement of W&TCV, Army / BA 02: Weapons and Other Combat Vehicles / BSA 30: Support Equipment & Facilities		<b>P-1 Line Item Number / Title:</b> 1862GL3200 / Items Less Than \$5.0m (WOCV-WTCV)
<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
<b>Line Item MDAP/MAIS Code:</b> N/A		

Base funding will also provide for the procurement, training, and safety assessments of various Non-Standard Weapons to support the regionally engaged Active Army and Security Force Assistance Brigade personnel as well as other security force assistance training programs. These weapons are required to facilitate training of U.S. Army and foreign security forces on host nation weapon systems prior to deployment in support of Regionally Aligned Force (RAF) and Security Force Assistance Brigade (SFAB) security force assistance missions.

The Army will procure Biathlon Rifles for the Army National Guard Biathlon Teams and will also procure ceremonial pistols for the 11th Armored Cavalry Regiment (ACR) at the National Training Center, Ft. Irwin, California.

The Army will procure the Modular Handgun System (MHS) and associated Basic Issue Items (BII) as needed.

In accordance with Section 1815 of the FY 2008 National Defense Authorization Act (P.L. 110-181), this item is necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities.

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**Exhibit P-40, Budget Line Item Justification:** PB 2023 Army **Date:** April 2022

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A: Procurement of W&TCV, Army / BA 02: Weapons and Other Combat Vehicles / BSA 30: Support Equipment & Facilities	<b>P-1 Line Item Number / Title:</b> 3270GC0050 / Production Base Support (WOCV-WTCV)
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	333.928	65.658	90.819	225.220	-	225.220	110.331	75.628	77.026	77.033	Continuing	Continuing
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	333.928	65.658	90.819	225.220	-	225.220	110.331	75.628	77.026	77.033	Continuing	Continuing
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>333.928</b>	<b>65.658</b>	<b>90.819</b>	<b>225.220</b>	<b>-</b>	<b>225.220</b>	<b>110.331</b>	<b>75.628</b>	<b>77.026</b>	<b>77.033</b>	<b>Continuing</b>	<b>Continuing</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-

**Description:**

This program provides funding to establish, modernize, expand or replace Army-owned industrial facilities and equipment used in production and production testing of Weapons and Tracked Combat Vehicles (WTCV) and their components. The program also provides for the preserving, storing and disposing for facilities and equipment that are either not required for current active production or are not needed by the Army.

Production Base Support occurs at Watervliet Arsenal (WVA), NY; the Joint Systems Manufacturing Center (JSMC), also known as the Lima Army Tank Plant located in Lima, Ohio, and the Joint Manufacturing and Technology Center (JMTC) at Rock Island Arsenal (RIA), IL. This program also provides funding for the Arsenal 5-Year Plan(s) for modernization.

This program also provides funding to the Army Test and Evaluation Command (ATEC) to establish, modernize, expand or replace test facilities used in production testing of Weapons and Tracked Combat Vehicles and their components. It sustains Army production test capabilities through upgrade and replacement of instrumentation and equipment that is technologically and/or economically obsolete. Modernization of test instrumentation and equipment provides increased automation and efficiencies, improved data quality and quantity and cost avoidance to Army Program Managers. Programmed funding will be used to upgrade or replace production test instrumentation and equipment at Aberdeen Test Center (ATC), Aberdeen Proving Ground, MD; White Sands Test Center (WSTC), White Sands Missile Range, NM and Yuma Test Center (YTC), Yuma Proving Ground, AZ.

Secondary Distribution	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027
Army	Quantity	-	-	-	-	-	-	-	-
	Total Obligation Authority	65.658	90.819	225.220	-	225.220	110.331	75.628	77.026
<b>Total: Secondary Distribution</b>	Quantity	-	-	-	-	-	-	-	-
	<b>Total Obligation Authority</b>	<b>65.658</b>	<b>90.819</b>	<b>225.220</b>	<b>-</b>	<b>225.220</b>	<b>110.331</b>	<b>75.628</b>	<b>77.026</b>

**UNCLASSIFIED**

**Exhibit P-40, Budget Line Item Justification:** PB 2023 Army **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:**  
 2033A: Procurement of W&TCV, Army / BA 02: Weapons and Other Combat Vehicles / BSA 30: Support Equipment & Facilities **P-1 Line Item Number / Title:**  
 3270GC0050 / Production Base Support (WOCV-WTCV)

**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

Project Schedule		Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Exhibit Type	Project	Total Cost (\$ M)	Total Cost (\$ M)	Total Cost (\$ M)	Total Cost (\$ M)	Total Cost (\$ M)	Total Cost (\$ M)
<b>(Uncategorized)</b>		-	65.658	90.819	225.220	-	225.220
	<b>Watervliet Arsenal (WVA)</b>	-	20.871	25.662	221.539	-	221.539
P-25	WVA0001 - Mortar Production Modernization	-	10.889	10.662	-	-	-
P-25	WVA0003 - Cannon Production Modernization	-	9.982	-	-	-	-
P-25	WVA0005 - New Paint Booth	-	-	15.000	-	-	-
P-25	WVA0008 - Radial Forge Replacement	-	-	-	65.000	-	65.000
P-25	WVA0009 - Electro-Chemical Machining System for Cannon Rifling	-	-	-	10.000	-	10.000
P-25	WVA0010 - Hex-Trivalent Process Verification	-	-	-	3.850	-	3.850
P-25	WVA0011 - Rifled WaterJet and Verification	-	-	-	10.000	-	10.000
P-25	WVA0012 - ECM Facility Transition (Rifled Tubes)	-	-	-	4.500	-	4.500
P-25	WVA0013 - ECM Tooling and Profile Verification	-	-	-	4.200	-	4.200
P-25	WVA0014 - Convert disused Hexavalent Chrome plating facility to Trivalent Chrome	-	-	-	7.000	-	7.000
P-25	WVA0015 - Chrome Tooling (Anodes & Cathodes)	-	-	-	3.000	-	3.000
P-25	WVA0016 - Rifled Cold-Spray System (Spindle Lathe, Facilities, System)	-	-	-	14.250	-	14.250
P-25	WVA0017 - Anodize Line (Reconstitute in-house process)	-	-	-	2.000	-	2.000
P-25	WVA0018 - Cannon Production High Voltage Substation Modernization	-	-	-	3.000	-	3.000
P-25	WVA0019 - Inspection Gauges - XM35	-	-	-	2.000	-	2.000
P-25	WVA0020 - Cannon Billet Pre-Heat Induction Furnace System	-	-	-	7.000	-	7.000
P-25	WVA0021 - Guided Bore System for ERCA Length Cannon	-	-	-	10.000	-	10.000
P-25	WVA0022 - External Cylindrical Grinder	-	-	-	3.400	-	3.400
P-25	WVA0023 - Overhead Cannon Transport Crane Modernization (Buildings 20, 35, 220, and 135)	-	-	-	17.000	-	17.000
P-25	WVA0024 - ERCA Vertical Turning Lathe Set (Breech Manufacture)	-	-	-	6.800	-	6.800
P-25	WVA0025 - Cannon Production Compressed Air Distribution Modernization	-	-	-	5.000	-	5.000
P-25	WVA0026 - Cannon Production High Voltage Power Distribution Modernization	-	-	-	10.000	-	10.000
P-25	WVA0027 - WVA Miscellaneous Small Projects	-	-	-	4.268	-	4.268
P-25	WVA0035 - Horizontal Milling Center	-	-	-	1.000	-	1.000
P-25	WVA0037 - Excess Equipment, Floor Repairs, Relocate Equipment	-	-	-	0.971	-	0.971
P-25	WVA0038 - Filament Winder 1/2 (120mm Bore Evacuator)	-	-	-	1.000	-	1.000
P-25	WVA0039 - Filament Winder 2/2 (120mm Bore Evacuator)	-	-	-	1.000	-	1.000
P-25	WVA0040 - 2nd M256 Cold Spray System	-	-	-	4.400	-	4.400
P-25	WVA0041 - ID Grinder 1/2	-	-	-	2.850	-	2.850
P-25	WVA0042 - ID Grinder 2/2	-	-	-	2.850	-	2.850
P-25	WVA0043 - Hone 1/2	-	-	-	0.900	-	0.900
P-25	WVA0044 - Hone 2/2	-	-	-	0.900	-	0.900



**UNCLASSIFIED**

**Exhibit P-40, Budget Line Item Justification:** PB 2023 Army **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:**  
 2033A: Procurement of W&TCV, Army / BA 02: Weapons and Other Combat Vehicles / BSA 30: Support Equipment & Facilities

**P-1 Line Item Number / Title:**  
 3270GC0050 / Production Base Support (WOCV-WTCV)

**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

Project Schedule		Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Exhibit Type	Project	Total Cost (\$ M)	Total Cost (\$ M)	Total Cost (\$ M)	Total Cost (\$ M)	Total Cost (\$ M)	Total Cost (\$ M)
P-25	WVA0045 - M256 Waterjet	-	-	-	3.200	-	3.200
P-25	WVA0046 - M256 Waterjet Foundation	-	-	-	1.000	-	1.000
P-25	WVA0047 - Gymnasticator	-	-	-	2.200	-	2.200
P-25	WVA0049 - Horizontal Machining Center	-	-	-	1.000	-	1.000
P-25	WVA0050 - Hollow Spindle Lathe	-	-	-	6.000	-	6.000
	<b>Joint Systems Manufacturing Center (JSMC) - Lima</b>	-	<b>20.871</b>	<b>46.692</b>	-	-	-
P-25	JSMC001 - JSMC Miscellaneous Small Projects	-	2.276	7.485	-	-	-
P-25	JSMC002 - Advanced Welding System	-	1.165	-	-	-	-
P-25	JSMC003 - Large Plate Blast	-	1.344	-	-	-	-
P-25	JSMC004 - VMC 5-Axis (Component Machine)	-	2.351	-	-	-	-
P-25	JSMC005 - Replacement - Fume Extraction in Turret Processing Stations	-	4.901	-	-	-	-
P-25	JSMC006 - Refurb Straightening Press	-	2.280	-	-	-	-
P-25	JSMC007 - Electrical Busbar Replacement in Manufacturing Bldgs	-	6.554	-	-	-	-
P-25	JSMC008 - Remove TM004 and Install New Machine at TM005 Location	-	-	6.500	-	-	-
P-25	JSMC009 - Replace CE92 & CE96 Vertical Machining Centers (VMCs)	-	-	2.500	-	-	-
P-25	JSMC010 - Remove TR76 and TR77 and Replace with (1) Vertical Machining Center (VMC)	-	-	1.750	-	-	-
P-25	JSMC011 - Replace SB13 with Robotic Blast Booth	-	-	5.500	-	-	-
P-25	JSMC012 - RFID Asset Tracking	-	-	1.653	-	-	-
P-25	JSMC013 - Robotic Machine Tending Systems	-	-	1.000	-	-	-
P-25	JSMC014 - Repair/Refurbish/Replace Locomotive(s)	-	-	2.381	-	-	-
P-25	JSMC015 - Autonomous Material Handling	-	-	2.000	-	-	-
P-25	JSMC016 - Build 351 - Rehab South End Office Complex	-	-	2.000	-	-	-
P-25	JSMC017 - Water Tower Piping Renovation	-	-	7.540	-	-	-
P-25	JSMC018 - Replace Arch Beam Cranes - Safety Recall	-	-	4.121	-	-	-
P-25	JSMC020 - Building 281 Replace Drag Line	-	-	1.102	-	-	-
P-25	JSMC021 - Replace Cooling Tower in Power House	-	-	1.160	-	-	-
	<b>Rock Island Arsenal - Joint Manufacturing and Technology Center (RIA-JTMC)</b>	-	<b>20.871</b>	<b>14.982</b>	-	-	-
P-25	JMTC001 - Thick Aluminum Processing Line	-	20.871	-	-	-	-
P-25	JMTC002 - Thick Plate Machining Line Equipment	-	-	10.169	-	-	-
P-25	JMTC003 - Tool Room Modernization	-	-	0.938	-	-	-
P-25	JMTC004 - CNC Cutting Table and Spreader	-	-	0.375	-	-	-
P-25	JMTC004 - Bridge Mill (Thick plate machining line)	-	-	3.500	-	-	-
	<b>Army Test and Evaluation Command (ATEC) Facilities</b>	-	<b>3.045</b>	<b>3.483</b>	<b>3.681</b>	-	<b>3.681</b>
P-25	ATEC - ATEC Facilities	-	3.045	3.483	3.681	-	3.681

**UNCLASSIFIED**

**Exhibit P-40, Budget Line Item Justification:** PB 2023 Army **Date:** April 2022

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A: Procurement of W&TCV, Army / BA 02: Weapons and Other Combat Vehicles / BSA 30: Support Equipment & Facilities	<b>P-1 Line Item Number / Title:</b> 3270GC0050 / Production Base Support (WOCV-WTCV)
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Project Schedule		Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Exhibit Type	Project	Total Cost (\$ M)	Total Cost (\$ M)	Total Cost (\$ M)	Total Cost (\$ M)	Total Cost (\$ M)	Total Cost (\$ M)
<b>Total Gross/Weapon System Cost</b>		-	65.658	90.819	225.220	-	225.220

\*For the P-17 and P-25, the Project column displays a three-level indentation: Project Category (e.g., Environmental), followed by the Facility, followed by the Project Name. Exhibits with no Project Category are included under the "Uncategorized" category. For the P-26, the Project column displays a two-level indentation: Project Type (e.g., Inactive Plants, Inactive Lines at Contractor Plants and Inactive Lines at Active Plants), followed by the Facility. Note also that although all P-17, P-25 and P-26 projects are shown in the project schedule, not all projects will have a corresponding exhibit. A P-17 or P-25 exhibit is only included if data beyond the Project Number, Project Title and Cost are included (for example: for the P-17, Description, Manufacturer, etc.; for the P-25, Narrative Explanation, Cost Elements, Principle Milestones, etc.). A P-26 exhibit is only included if data beyond Project Type and Total Cost are included (for example, Description, Contractor, Maintenance/Recurring/Environmental/Other costs, etc.).

**Justification:**  
 FY 2023 Base procurement dollars in the amount of \$225.220 million supports Army Production Base Support activities at Watervliet Arsenal (WVA) in Watervliet, NY; and the Army Test and Evaluation Command (ATEC).

The significant investment in WVA is due to aging infrastructure and the increased organic industrial base capabilities and capacities related to large caliber weapon tubes, the manufacturing of equipment, and facility improvements. The objective is to advance large caliber weapon tube industrial base capabilities in order to implement risk mitigation strategies that ensure capacities meet required aggregate demand.

The activities of the Army Production Base Support are as follows:

Production Base Support activities:

- Watervliet Arsenal (WVA), NY: \$221.539 million supports organic industrial base upgrades and improvements at Watervliet Arsenal to optimize cannon tube production. Major planned efforts include replacement of a radial forge system, a Electro-Chemical Machining System and new WaterJet system for cannon tube rifling, and improvements to multiple overhead cranes and power distribution in multiple different facilities at WVA.

- Other projects include, but are not limited to, the replacement of the minor heat treat furnace, the upgrade and maintenance of the gymnasticator (which pressure checks the 120mm breechblocks), and the filament winders used to produce 120mm bore evacuators for the Abrams tank production process.

FY 2023 PBS will further support engineering hours, manufacturing feasibility studies, and equipment design efforts associated with planned out-year projects at critical Organic Industrial Base (OIB) production sites. This will reduce contracting lead times, address long lead items, and reduce production risk. These efforts include engineering hours and materials associated with gun tube manufacturing capability, utility upgrades, overhead cranes and lifting devices, maintenance and upgrade to hull and turret machining operations, and maintenance and upgrade of weld capabilities.

Army Test and Evaluation Command (ATEC): \$3.681 million supports:

- Aberdeen Test Center (ATC) continued modernization of fire control instrumentation required to assess weapon system fire control performance on a wide range of test items. Aberdeen Test Center will continue replacing and upgrading weapon, sight, and target scoring high definition video cameras, recorders, digital video processing systems, fiber optic converters, and telemetry systems. Replacement equipment is scheduled to address obsolescence issues, software compatibility gaps, and deterioration of existing hardware while ensuring test equipment maintains pace with technological advances of test items to preclude lack of test support. Aberdeen Test Center will also procure new instrumentation that will allow Electromagnetic Interference (EMI) testing of current and future military platforms, including autonomous vehicles.

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<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2023 Army		<b>Date:</b> April 2022
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A: Procurement of W&TCV, Army / BA 02: Weapons and Other Combat Vehicles / BSA 30: Support Equipment & Facilities		<b>P-1 Line Item Number / Title:</b> 3270GC0050 / Production Base Support (WOCV-WTCV)
<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
<b>Line Item MDAP/MAIS Code:</b> N/A		
<p>- White Sands Test Center (WSTC), ATEC will continue to maintain and upgrade existing equipment and instrumentation for the developing and evolving White Sands Missile Range (WSMR) directed energy - High-Power Microwave (HPM), Electromagnetic Pulse (EMP) and lightning effects test simulators. These items include sensors, oscilloscopes, fiber optic links, vacuum systems, cryogenic superconducting magnets, waveguides, antennas, cathodes, insulators, and various cabling and subassemblies. These effort will help the White Sands Test Center meet regulatory, customer, and/or evolving mission requirements.</p> <p>- Yuma Test Center (YTC) will acquire upgraded sensors, sensor positioning equipment, control hardware, signal conditioners, and other data acquisition equipment and software to modernize and improve accuracy and efficiency of ballistics data acquisition.</p> <p>In accordance with section 1815 of the FY 2008 National Defense Authorization Act (P.L. 110-181), this item is necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses and providing military support to civil authorities.</p>		

**UNCLASSIFIED**

**Exhibit P-25, Production Support and Industrial Facilities Cost Analysis: PB 2023 Army** **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A / 02 / 30 **P-1 Line Item Number / Title:** 3270GC0050 / Production Base Support (WOCV-WTCV)

**Project Title:** Mortar Production Modernization **Project Number:** WVA0001 **Project Category:**

**End Item Supported Model:** Mortar Production **Annual Capacity Before / After (1-8-5):** /

Cost Elements <i>(\$ in Millions)</i>	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	<b>Facility Name:</b> Watervliet Arsenal (WVA) <b>Facility Location:</b> Watervliet, NY <b>Facility Type (GOGO, GOCO, COCO):</b> GOGO						
A. Construction Cost	-	6.662	-	-	-	<b>Principal Milestones</b> <span style="float: right;"><b>Month &amp; Year</b></span> Concept Design Complete: Final Design Complete: Jun 2022 Initial/Final Project Award: Apr 2021 Construction Complete: Jan 2024 Equipment Installation Complete: May 2023 Prove Out Begins: Prove Out Complete:						
B. Equipment Cost	6.605	1.600	-	-	-							
C. Equipment Installation Cost	0.700	2.400	-	-	-							
D. Contractor Support Cost	-	-	-	-	-							
E. Corps of Engineers Support Cost	-	-	-	-	-							
F. Other In-House Support Cost	-	-	-	-	-							
G. Total Facility Project Cost	-	-	-	-	-							
H. Other Costs	3.584	-	-	-	-							
<b>Total Project Cost</b>	<b>10.889</b>	<b>10.662</b>	-	-	-	<b>Related Projects</b>						
						<b>Project Number</b>	<b>Title</b>	<b>FY &amp; Appn</b>	<b>Value (\$ M)</b>	<b>Facing</b>	<b>Start Date</b>	<b>Compl Date</b>

**Narrative Explanation:**  
 There is no FY 2023 budget request for this project.

FY 2022 Base procurement dollars in the amount of \$10.662 million supports construction, as well as, procurement and installation of equipment to continue modernization of Building 125, originally constructed in the early 1900s, into a dedicated mortar factory at Watervliet Arsenal (WVA), NY. This project will provide for a focused factory concept with a consolidated manufacturing line and dedicated team to support the production of all mortar systems. This project will reduce manufacturing lead time by at least 50% and provided increased throughput by 200% - 400%.

FY 2021 Congressional Add in the amount of \$10.889 million supported the procurement and installation of equipment, as well as, specification development, design and project management to modernize Building 125 into a dedicated mortar factory at WVA, New York.

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**Exhibit P-25, Production Support and Industrial Facilities Cost Analysis: PB 2023 Army** **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A / 02 / 30 **P-1 Line Item Number / Title:** 3270GC0050 / Production Base Support (WOCV-WTCV)

**Project Title:** Cannon Production Modernization **Project Number:** WVA0003 **Project Category:**

**End Item Supported Model:** Cannon Production **Annual Capacity Before / After (1-8-5):** /

Cost Elements <i>(\$ in Millions)</i>	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Facility Name: Watervliet Arsenal (WVA) Facility Location: Watervliet, NY Facility Type (GOGO, GOCO, COCO): GOGO						
A. Construction Cost	-	-	-	-	-	<b>Principal Milestones</b> <span style="float: right;"><b>Month &amp; Year</b></span> Concept Design Complete: Final Design Complete: Initial/Final Project Award: <span style="float: right;">Apr 2021</span> Construction Complete: Equipment Installation Complete: <span style="float: right;">Feb 2023</span> Prove Out Begins: Prove Out Complete:						
B. Equipment Cost	9.307	-	-	-	-							
C. Equipment Installation Cost	0.675	-	-	-	-							
D. Contractor Support Cost	-	-	-	-	-							
E. Corps of Engineers Support Cost	-	-	-	-	-							
F. Other In-House Support Cost	-	-	-	-	-							
G. Total Facility Project Cost	-	-	-	-	-							
H. Other Costs	-	-	-	-	-							
<b>Total Project Cost</b>	<b>9.982</b>	-	-	-	-	<b>Related Projects</b>						
						<b>Project Number</b>	<b>Title</b>	<b>FY &amp; Appn</b>	<b>Value (\$ M)</b>	<b>Facing</b>	<b>Start Date</b>	<b>Compl Date</b>

**Narrative Explanation:**  
 There is no FY 2023 budget request for this project.

FY 2021 Congressional Add in the amount of \$9.982 million support the procurement and installation of equipment to modernization cannon production at Watervliet Arsenal (WVA), New York. This modernization effort will address shortfalls in manufacturing capabilities to meet Army demand for production and operation of howitzer weapon systems.

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**Exhibit P-25, Production Support and Industrial Facilities Cost Analysis: PB 2023 Army** **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A / 02 / 30 **P-1 Line Item Number / Title:** 3270GC0050 / Production Base Support (WOCV-WTCV)

**Project Title:** New Paint Booth **Project Number:** WVA0005 **Project Category:**

**End Item Supported Model:** **Annual Capacity Before / After (1-8-5):** /

Cost Elements <i>(\$ in Millions)</i>	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Facility Name: Watervliet Arsenal (WVA) Facility Location: Watervliet, NY Facility Type (GOGO, GOCO, COCO): GOGO	
A. Construction Cost	-	-	-	-	-	<b>Principal Milestones</b> <span style="float: right;"><b>Month &amp; Year</b></span> Concept Design Complete: Final Design Complete: Initial/Final Project Award: Construction Complete: Equipment Installation Complete: Prove Out Begins: Prove Out Complete:	
B. Equipment Cost	-	-	-	-	-		
C. Equipment Installation Cost	-	-	-	-	-		
D. Contractor Support Cost	-	-	-	-	-		
E. Corps of Engineers Support Cost	-	-	-	-	-		
F. Other In-House Support Cost	-	-	-	-	-		
G. Total Facility Project Cost	-	-	-	-	-		
H. Other Costs	-	15.000	-	-	-		
Total Project Cost	-	15.000	-	-	-		
<b>Related Projects</b>							
	<b>Project Number</b>	<b>Title</b>	<b>FY &amp; Appn</b>	<b>Value (\$ M)</b>	<b>Facing</b>	<b>Start Date</b>	<b>Compl Date</b>

**Narrative Explanation:**  
 There is no FY 2023 budget request for this project.

FY 2022 Base procurement dollars in the amount of \$15.000 million support procurement of a new Paint Booth at Watervliet Arsenal (WVA), New York. The current booth is inefficient for cannon tubes and major components; the present booth can only accomodate up to (4) Extended Range Cannon Artillery (ERCA) cannon tubes or a larger number of smaller items. New Paint Booth technologies will include robotics and climate control which will enhance throughput, apply coatings to micron thickness and reduce rework. This project will also benefit other programs like Abrams and Mortars, which are painted at WVA.

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**Exhibit P-25, Production Support and Industrial Facilities Cost Analysis: PB 2023 Army** **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A / 02 / 30 **P-1 Line Item Number / Title:** 3270GC0050 / Production Base Support (WOCV-WTCV)

**Project Title:** Radial Forge Replacement **Project Number:** WVA0008 **Project Category:**

**End Item Supported Model:** Cannon Production **Annual Capacity Before / After (1-8-5):** /

Cost Elements <i>(\$ in Millions)</i>	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Facility Name: Watervliet Arsenal (WVA) Facility Location: Watervliet, NY Facility Type (GOGO, GOCO, COCO): GOGO														
A. Construction Cost	-	-	14.000	-	14.000	<b>Principal Milestones</b> <span style="float: right;"><b>Month &amp; Year</b></span> Concept Design Complete: Final Design Complete: Initial/Final Project Award: Construction Complete: Equipment Installation Complete: Prove Out Begins: Prove Out Complete:  <div style="text-align: center;"><b>Related Projects</b></div> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">Project Number</th> <th style="width: 40%;">Title</th> <th style="width: 10%;">FY &amp; Appn</th> <th style="width: 10%;">Value (\$ M)</th> <th style="width: 10%;">Facing</th> <th style="width: 10%;">Start Date</th> <th style="width: 10%;">Compl Date</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	Project Number	Title	FY & Appn	Value (\$ M)	Facing	Start Date	Compl Date							
Project Number	Title	FY & Appn	Value (\$ M)	Facing	Start Date		Compl Date													
B. Equipment Cost	-	-	25.000	-	25.000															
C. Equipment Installation Cost	-	-	7.000	-	7.000															
D. Contractor Support Cost	-	-	-	-	-															
E. Corps of Engineers Support Cost	-	-	6.000	-	6.000															
F. Other In-House Support Cost	-	-	-	-	-															
G. Total Facility Project Cost	-	-	8.000	-	8.000															
H. Other Costs	-	-	5.000	-	5.000															
Total Project Cost	-	-	65.000	-	65.000															

**Narrative Explanation:**  
 FY 2023 Base procurement dollars in the amount of \$65.000 million supports the procurement and installation of replacement Radial Forge for use at Watervliet Arsenal, NY. The existing Radial Forge was installed and has been in operation since 1974. Across the five decades of operation, several refurbishments and modifications the system is reaching end of life. Component failures are increasing, and the Watervliet Arsenal must often manufacture replacement parts because they are not available elsewhere. The existing forge requires a two step procedure to manufacture ERCA length and longer cannons. The Replacement Radial Forge supports manufacture of cannons exceeding the length of current ERCA in a single manufacturing step. The new system applies greater force during forging, allowing the forge to draw and shape a Cannon Preform Billet into a Cannon Rough Shape in less than 80% of the time required by the current system. The new systems incorporates additional automation and machine control to the forging process, producing more conformal rough shapes that reduce the amount of subsequent time and machining steps needed to produce a cannon.

New start effort in FY 2023.

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**Exhibit P-25, Production Support and Industrial Facilities Cost Analysis: PB 2023 Army** **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A / 02 / 30 **P-1 Line Item Number / Title:** 3270GC0050 / Production Base Support (WOCV-WTCV)

**Project Title:** Electro-Chemical Machining System for Cannon Rifling **Project Number:** WVA0009 **Project Category:**

**End Item Supported Model:** Rifled Cannon Production **Annual Capacity Before / After (1-8-5):** /

Cost Elements <i>(\$ in Millions)</i>	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	<b>Facility Name:</b> Watervliet Arsenal (WVA) <b>Facility Location:</b> Watervliet, NY <b>Facility Type (GOGO, GOCO, COCO):</b> GOGO						
A. Construction Cost	-	-	-	-	-	<b>Principal Milestones</b> <span style="float: right;"><b>Month &amp; Year</b></span> Concept Design Complete: Final Design Complete: Initial/Final Project Award: Construction Complete: Equipment Installation Complete: Prove Out Begins: Prove Out Complete:	<b>Related Projects</b>					
B. Equipment Cost	-	-	7.000	-	7.000							
C. Equipment Installation Cost	-	-	3.000	-	3.000							
D. Contractor Support Cost	-	-	-	-	-							
E. Corps of Engineers Support Cost	-	-	-	-	-							
F. Other In-House Support Cost	-	-	-	-	-							
G. Total Facility Project Cost	-	-	-	-	-							
H. Other Costs	-	-	-	-	-							
Total Project Cost	-	-	10.000	-	10.000							
						<b>Project Number</b>	<b>Title</b>	<b>FY &amp; Appn</b>	<b>Value (\$ M)</b>	<b>Facing</b>	<b>Start Date</b>	<b>Compl Date</b>

**Narrative Explanation:**  
 FY 2023 Base procurement dollars in the amount of \$10.000 million supports the procurement and installation of an Electro Chemical Machining systems to be used for cannon rifling. Electro Chemical Machining is a highly automated process, using electrically controlled fluid removal of metal to surface finish quality. Electro Chemical Machining is mature commercial manufacturing technology being adapted to improve the accuracy and reduce the time needed to rifle cannon tubes. Electro Chemical Machining uses electrically conductive fluids passing under moderate pressures with easily fabricated anodes to precisely and rapidly remove metal molecules from the inside of the cannon barrel. This systems will be able to rifle ERCA length and specialty steel barrels in less than 2/3 the time required using the current broaching technique. Electro Chemical Machining costs per barrel are projected to be less than half of the current broach method, requiring less time to rifle cannon barrels with greater precision.

New start effort in FY 2023.



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**Exhibit P-25, Production Support and Industrial Facilities Cost Analysis: PB 2023 Army** **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A / 02 / 30 **P-1 Line Item Number / Title:** 3270GC0050 / Production Base Support (WOCV-WTCV)

**Project Title:** Hex-Trivalent Process Verification **Project Number:** WVA0010 **Project Category:**

**End Item Supported Model:** Cannon Production **Annual Capacity Before / After (1-8-5):** /

Cost Elements <i>(\$ in Millions)</i>	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	<b>Facility Name:</b> Watervliet Arsenal (WVA) <b>Facility Location:</b> Watervliet, NY <b>Facility Type (GOGO, GOCO, COCO):</b> GOGO							
A. Construction Cost	-	-	-	-	-	<b>Principal Milestones</b> <span style="float: right;"><b>Month &amp; Year</b></span> Concept Design Complete: Final Design Complete: Initial/Final Project Award: Construction Complete: Equipment Installation Complete: Prove Out Begins: Prove Out Complete:							
B. Equipment Cost	-	-	0.750	-	0.750								
C. Equipment Installation Cost	-	-	-	-	-								
D. Contractor Support Cost	-	-	-	-	-								
E. Corps of Engineers Support Cost	-	-	-	-	-								
F. Other In-House Support Cost	-	-	-	-	-								
G. Total Facility Project Cost	-	-	2.100	-	2.100								
H. Other Costs	-	-	1.000	-	1.000								
Total Project Cost	-	-	3.850	-	3.850								
							Related Projects						
							Project Number	Title	FY & Appn	Value <i>(\$ M)</i>	Facing	Start Date	Compl Date

**Narrative Explanation:**  
 FY 2023 Base procurement dollars in the amount of \$3.850 million supports production process verification of the use of Trivalent Chromium plating for cannon bores and cannon minor parts. Trivalent Chromium, a more environment and occupational health safe material is replacing the use of the more hazardous Hexavalent Chromium plating process used for over 5 decades. This project provides materials and effort required to verify plating processes and demonstrate performance of Trivalent Chromium on plated surfaces. This project builds upon other efforts, including the repair of the Watervliet Arsenal chrome plating facility and conversion of the disused commercial plating facility back to Arsenal use. This project introduces and verifies new processes to qualify Trivalent Chromium for cannon bore and minor parts plating.

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**Exhibit P-25, Production Support and Industrial Facilities Cost Analysis: PB 2023 Army** **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A / 02 / 30 **P-1 Line Item Number / Title:** 3270GC0050 / Production Base Support (WOCV-WTCV)

**Project Title:** Rifled WaterJet and Verification **Project Number:** WVA0011 **Project Category:**

**End Item Supported Model:** Cannon Production **Annual Capacity Before / After (1-8-5):** /

Cost Elements <i>(\$ in Millions)</i>	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	<b>Facility Name:</b> Watervliet Arsenal (WVA) <b>Facility Location:</b> Watervliet, NY <b>Facility Type (GOGO, GOCO, COCO):</b> GOGO						
A. Construction Cost	-	-	0.950	-	0.950	<b>Principal Milestones</b> <span style="float: right;"><b>Month &amp; Year</b></span> Concept Design Complete: Final Design Complete: Initial/Final Project Award: Construction Complete: Equipment Installation Complete: Prove Out Begins: Prove Out Complete:						
B. Equipment Cost	-	-	4.750	-	4.750							
C. Equipment Installation Cost	-	-	0.500	-	0.500							
D. Contractor Support Cost	-	-	0.250	-	0.250							
E. Corps of Engineers Support Cost	-	-	-	-	-							
F. Other In-House Support Cost	-	-	2.500	-	2.500							
G. Total Facility Project Cost	-	-	-	-	-							
H. Other Costs	-	-	1.050	-	1.050							
<b>Total Project Cost</b>	-	-	10.000	-	10.000	<b>Related Projects</b>						
						<b>Project Number</b>	<b>Title</b>	<b>FY &amp; Appn</b>	<b>Value (\$ M)</b>	<b>Facing</b>	<b>Start Date</b>	<b>Compl Date</b>

**Narrative Explanation:**  
 FY 2023 Base procurement dollars in the amount of \$10.000 million supports procurement and installation of a complete Waterjet System to be used for the production of Rifled Cannons. The Waterjet is being procured to serve as a combined rifling and surface finishing tool. Waterjet rifling uses high pressure slurry to precisely cut groves into the cannon bore steel. Waterjet surface finishing provides precise material removal to provide required inner diameter dimensions and required surface smoothness. Waterjet finishing is necessary to allow the use of Cold-Spray coatings in rifled cannon barrels. Waterjet rifling introduces a new capability to WVA to replace some traditional cannon production processes and complement other new technologies such as Electro-Chemical Machining and Cold-Spray applied coatings.

New start effort in FY 2023.

**UNCLASSIFIED**

**Exhibit P-25, Production Support and Industrial Facilities Cost Analysis: PB 2023 Army** **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A / 02 / 30 **P-1 Line Item Number / Title:** 3270GC0050 / Production Base Support (WOCV-WTCV)

**Project Title:** ECM Facility Transition (Rifled Tubes) **Project Number:** WVA0012 **Project Category:**

**End Item Supported Model:** Cannon Production **Annual Capacity Before / After (1-8-5):** /

Cost Elements <i>(\$ in Millions)</i>	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	<b>Facility Name:</b> Watervliet Arsenal (WVA) <b>Facility Location:</b> Watervliet, NY <b>Facility Type (GOGO, GOCO, COCO):</b> GOGO						
A. Construction Cost	-	-	1.900	-	1.900	<b>Principal Milestones</b> <span style="float: right;"><b>Month &amp; Year</b></span> Concept Design Complete: Final Design Complete: Initial/Final Project Award: Construction Complete: Equipment Installation Complete: Prove Out Begins: Prove Out Complete:						
B. Equipment Cost	-	-	-	-	-							
C. Equipment Installation Cost	-	-	1.600	-	1.600							
D. Contractor Support Cost	-	-	-	-	-							
E. Corps of Engineers Support Cost	-	-	-	-	-							
F. Other In-House Support Cost	-	-	0.700	-	0.700							
G. Total Facility Project Cost	-	-	-	-	-							
H. Other Costs	-	-	0.300	-	0.300							
<b>Total Project Cost</b>	-	-	4.500	-	4.500	<b>Related Projects</b>						
						<b>Project Number</b>	<b>Title</b>	<b>FY &amp; Appn</b>	<b>Value (\$ M)</b>	<b>Facing</b>	<b>Start Date</b>	<b>Compl Date</b>

**Narrative Explanation:**  
 FY 2023 Base procurement dollars in the amount of \$4.500 million supports the conversion of the prototype Electro Chemical Machining System to production capability for rifled cannon up to ERCA tube length. The ECM system provides precise removal of metal to rifle and finish cannon bores. This system replaces the traditional cannon rifling process that pulls broaches through the tube to cut and finish lands and grooves. ECM reduces mechanical stresses broaching introduces into cannon tubes. ECM will be the primary method to rifle ERCA cannon tubes and is expected to replace broach rifling for large cannon. This machine compliments new capability to WVA.

**UNCLASSIFIED**

**Exhibit P-25, Production Support and Industrial Facilities Cost Analysis: PB 2023 Army** **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A / 02 / 30 **P-1 Line Item Number / Title:** 3270GC0050 / Production Base Support (WOCV-WTCV)

**Project Title:** ECM Tooling and Profile Verification **Project Number:** WVA0013 **Project Category:**

**End Item Supported Model:** Cannon Production **Annual Capacity Before / After (1-8-5):** /

Cost Elements <i>(\$ in Millions)</i>	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Facility Name: Watervliet Arsenal (WVA) Facility Location: Watervliet, NY Facility Type (GOGO, GOCO, COCO): GOGO														
A. Construction Cost	-	-	-	-	-	<b>Principal Milestones</b> <span style="float: right;"><b>Month &amp; Year</b></span> Concept Design Complete: Final Design Complete: Initial/Final Project Award: Construction Complete: Equipment Installation Complete: Prove Out Begins: Prove Out Complete:  <div align="center"><b>Related Projects</b></div> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">Project Number</th> <th style="width: 30%;">Title</th> <th style="width: 10%;">FY &amp; Appn</th> <th style="width: 10%;">Value (\$ M)</th> <th style="width: 10%;">Facing</th> <th style="width: 10%;">Start Date</th> <th style="width: 10%;">Compl Date</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	Project Number	Title	FY & Appn	Value (\$ M)	Facing	Start Date	Compl Date							
Project Number	Title	FY & Appn	Value (\$ M)	Facing	Start Date		Compl Date													
B. Equipment Cost	-	-	0.900	-	0.900															
C. Equipment Installation Cost	-	-	0.300	-	0.300															
D. Contractor Support Cost	-	-	0.600	-	0.600															
E. Corps of Engineers Support Cost	-	-	-	-	-															
F. Other In-House Support Cost	-	-	1.750	-	1.750															
G. Total Facility Project Cost	-	-	-	-	-															
H. Other Costs	-	-	0.650	-	0.650															
Total Project Cost	-	-	4.200	-	4.200															

**Narrative Explanation:**  
 FY 2023 Base procurement dollars in the amount of \$4.200 million supports production Electro-Chemical Machining tooling procurement and process verification for 155mm cannon including ERCA. This project procures the production required ECM heads, guides, and other cannon specific items needed to perform rifling for M777, M109A7, and XM1299 ERCA cannons. This project verifies that the ECM processes used to rifle each cannon provide required inner diameter, surface finish, and required service performance. This project compliments other cannon production modernization investments at WVA.

**UNCLASSIFIED**

**Exhibit P-25, Production Support and Industrial Facilities Cost Analysis: PB 2023 Army** **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A / 02 / 30 **P-1 Line Item Number / Title:** 3270GC0050 / Production Base Support (WOCV-WTCV)

**Project Title:** Convert disused Hexavalent Chrome plating facility to Trivalent Chrome **Project Number:** WVA0014 **Project Category:**

**End Item Supported Model:** ERCA and other Cannon Production **Annual Capacity Before / After (1-8-5):** /

Cost Elements <i>(\$ in Millions)</i>	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	<b>Facility Name:</b> Watervliet Arsenal (WVA) <b>Facility Location:</b> Watervliet, NY <b>Facility Type (GOGO, GOCO, COCO):</b> GOGO						
A. Construction Cost	-	-	-	-	-	<b>Principal Milestones</b> <span style="float: right;"><b>Month &amp; Year</b></span> Concept Design Complete: Final Design Complete: Initial/Final Project Award: Construction Complete: Equipment Installation Complete: Prove Out Begins: Prove Out Complete:						
B. Equipment Cost	-	-	-	-	-							
C. Equipment Installation Cost	-	-	-	-	-							
D. Contractor Support Cost	-	-	-	-	-							
E. Corps of Engineers Support Cost	-	-	-	-	-							
F. Other In-House Support Cost	-	-	-	-	-							
G. Total Facility Project Cost	-	-	6.500	-	6.500							
H. Other Costs	-	-	0.500	-	0.500							
Total Project Cost	-	-	7.000	-	7.000	<b>Related Projects</b>						
						<b>Project Number</b>	<b>Title</b>	<b>FY &amp; Appn</b>	<b>Value (\$ M)</b>	<b>Facing</b>	<b>Start Date</b>	<b>Compl Date</b>

**Narrative Explanation:**  
 FY 2023 Base procurement dollars in the amount of \$7.000 million supports the conversion of not currently-in-use Chrome plating tanks to operational condition and filling with Trivalent Chrome (CrIL3). This set of plating tanks will be used to qualify Trivalent Chrome for ERCA cannon bore plating at Watervliet Arsenal, NY. This conversion is a risk reduction measure being performed in conjunction with the larger U.S. Army Tank Automotive and Armaments Command (TACOM) sponsored repair of the Watervliet cannon bore Chrome Plating facility. Army directed conversion to Trivalent chrome requires the development of new tooling and plating techniques to achieve equal-to or better-than performance compared to existing Hexavalent Chrome (Cr6) . The conversion of these tanks allows full length plating of ERCA length cannon bores with Trivalent chrome while the repaired plating facility continues using Hexavalent Chrome. Multiple cannon tubes will be coated and subjected to live fire and laboratory testing as part of this effort. This plating facility may have future utility in the production of other howitzers, tank cannons, and weapons.

New start effort in FY 2023.

**UNCLASSIFIED**

**Exhibit P-25, Production Support and Industrial Facilities Cost Analysis: PB 2023 Army** **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A / 02 / 30 **P-1 Line Item Number / Title:** 3270GC0050 / Production Base Support (WOCV-WTCV)

**Project Title:** Chrome Tooling (Anodes & Cathodes) **Project Number:** WVA0015 **Project Category:**

**End Item Supported Model:** Cannon Production **Annual Capacity Before / After (1-8-5):** /

Cost Elements <i>(\$ in Millions)</i>	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	<b>Facility Name:</b> Watervliet Arsenal (WVA) <b>Facility Location:</b> Watervliet, NY <b>Facility Type (GOGO, GOCO, COCO):</b> GOGO																									
A. Construction Cost	-	-	-	-	-	<b>Principal Milestones</b> <span style="float: right;"><b>Month &amp; Year</b></span> Concept Design Complete: Final Design Complete: Initial/Final Project Award: Construction Complete: Equipment Installation Complete: Prove Out Begins: Prove Out Complete:	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th align="center" colspan="6"><b>Related Projects</b></th> </tr> <tr> <th style="width: 10%;">Project Number</th> <th style="width: 30%;">Title</th> <th style="width: 10%;">FY &amp; Appn</th> <th style="width: 10%;">Value <i>(\$ M)</i></th> <th style="width: 10%;">Facing</th> <th style="width: 10%;">Start Date</th> <th style="width: 10%;">Compl Date</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>					<b>Related Projects</b>						Project Number	Title	FY & Appn	Value <i>(\$ M)</i>	Facing	Start Date	Compl Date							
<b>Related Projects</b>																															
Project Number	Title	FY & Appn	Value <i>(\$ M)</i>	Facing	Start Date							Compl Date																			
B. Equipment Cost	-	-	0.857	-	0.857																										
C. Equipment Installation Cost	-	-	2.143	-	2.143																										
D. Contractor Support Cost	-	-	-	-	-																										
E. Corps of Engineers Support Cost	-	-	-	-	-																										
F. Other In-House Support Cost	-	-	-	-	-																										
G. Total Facility Project Cost	-	-	-	-	-																										
H. Other Costs	-	-	-	-	-																										
<b>Total Project Cost</b>	-	-	3.000	-	3.000																										

**Narrative Explanation:**  
 FY 2023 Base procurement dollars in the amount of \$3.000 million supports procurement and configuration costs to procure new anodes, cathodes, and associated tooling required to chrome plate cannon bores. This equipment is needed to provide optimum plating performance when the Chrome Plating facility is replaced.

**UNCLASSIFIED**

**Exhibit P-25, Production Support and Industrial Facilities Cost Analysis:** PB 2023 Army **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A / 02 / 30 **P-1 Line Item Number / Title:** 3270GC0050 / Production Base Support (WOCV-WTCV)

**Project Title:** Rifled Cold-Spray System (Spindle Lathe, Facilities, System) **Project Number:** WVA0016 **Project Category:**

**End Item Supported Model:** Cannon Production **Annual Capacity Before / After (1-8-5):** /

Cost Elements <i>(\$ in Millions)</i>	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	<b>Facility Name:</b> Watervliet Arsenal (WVA) <b>Facility Location:</b> Watervliet, NY <b>Facility Type (GOGO, GOCO, COCO):</b> GOGO						
A. Construction Cost	-	-	1.500	-	1.500	<b>Principal Milestones</b> <span style="float: right;"><b>Month &amp; Year</b></span> Concept Design Complete: Final Design Complete: Initial/Final Project Award: Construction Complete: Equipment Installation Complete: Prove Out Begins: Prove Out Complete:						
B. Equipment Cost	-	-	7.600	-	7.600							
C. Equipment Installation Cost	-	-	1.680	-	1.680							
D. Contractor Support Cost	-	-	0.600	-	0.600							
E. Corps of Engineers Support Cost	-	-	-	-	-							
F. Other In-House Support Cost	-	-	1.500	-	1.500							
G. Total Facility Project Cost	-	-	-	-	-							
H. Other Costs	-	-	1.370	-	1.370							
<b>Total Project Cost</b>	-	-	14.250	-	14.250	<b>Related Projects</b>						
						<b>Project Number</b>	<b>Title</b>	<b>FY &amp; Appn</b>	<b>Value (\$ M)</b>	<b>Facing</b>	<b>Start Date</b>	<b>Compl Date</b>

**Narrative Explanation:**  
 FY 2023 Base procurement dollars in the amount of \$14.250 million supports procurement and installation of a Cold-Spray production system for use in bore coating rifled cannon. The Cold-Spray system is used to apply a multi-layer coating to the cannon bore in lieu of chromium plating. The coating is more resistant to wear compared to chromium plating, increasing cannon operation life. The Cold-Spray system will support coating of rifled cannons up to ERCA length. This project procures the Cold-Spray System, supporting spindle lathes, and the tooling required to coat the cannon lengths now or planned for production. The projects funds verification of the production coating processes and durability when the cannon is fired. The rifled cannon Cold-Spray system introduces a new capability to WVA, complimenting other cannon production modernization projects..

New start effort in FY 2023.

**UNCLASSIFIED**

**Exhibit P-25, Production Support and Industrial Facilities Cost Analysis: PB 2023 Army** **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A / 02 / 30 **P-1 Line Item Number / Title:** 3270GC0050 / Production Base Support (WOCV-WTCV)

**Project Title:** Anodize Line (Reconstitute in-house process) **Project Number:** WVA0017 **Project Category:**

**End Item Supported Model:** Cannon Production **Annual Capacity Before / After (1-8-5):** /

Cost Elements <i>(\$ in Millions)</i>	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Facility Name: Watervliet Arsenal (WVA) Facility Location: Watervliet, NY Facility Type (GOGO, GOCO, COCO): GOGO						
A. Construction Cost	-	-	-	-	-	<b>Principal Milestones</b> <span style="float: right;"><b>Month &amp; Year</b></span> Concept Design Complete: Final Design Complete: Initial/Final Project Award: Construction Complete: Equipment Installation Complete: Prove Out Begins: Prove Out Complete:	<b>Related Projects</b>					
B. Equipment Cost	-	-	1.600	-	1.600							
C. Equipment Installation Cost	-	-	0.400	-	0.400							
D. Contractor Support Cost	-	-	-	-	-							
E. Corps of Engineers Support Cost	-	-	-	-	-							
F. Other In-House Support Cost	-	-	-	-	-							
G. Total Facility Project Cost	-	-	-	-	-							
H. Other Costs	-	-	-	-	-							
Total Project Cost	-	-	2.000	-	2.000							
						<b>Project Number</b>	<b>Title</b>	<b>FY &amp; Appn</b>	<b>Value (\$ M)</b>	<b>Facing</b>	<b>Start Date</b>	<b>Compl Date</b>

**Narrative Explanation:**

FY 2023 Base procurement dollars in the amount of \$2.000 million supports the procurement and installation of Anodization equipment at Watervliet Arsenal (WVA) New York. This system will allow the Arsenal to anodize metal parts to provide corrosion and wear resistance. Bringing this capability into WVA will increase cannon production rates by eliminating the delays caused by long lead times at outside vendors.



**UNCLASSIFIED**

**Exhibit P-25, Production Support and Industrial Facilities Cost Analysis: PB 2023 Army** **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A / 02 / 30 **P-1 Line Item Number / Title:**  
3270GC0050 / Production Base Support (WOCV-WTCV)

**Project Title:** Cannon Production High Voltage Substation Modernization **Project Number:** WVA0018 **Project Category:**

**End Item Supported Model:** ERCA and other Cannon Production **Annual Capacity Before / After (1-8-5):** /

Cost Elements <i>(\$ in Millions)</i>	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Facility Name: Watervliet Arsenal (WVA) Facility Location: Watervliet, NY Facility Type (GOGO, GOCO, COCO): GOGO						
A. Construction Cost	-	-	-	-	-	<b>Principal Milestones</b> <span style="float: right;"><b>Month &amp; Year</b></span> Concept Design Complete: Final Design Complete: Initial/Final Project Award: Construction Complete: Equipment Installation Complete: Prove Out Begins: Prove Out Complete:						
B. Equipment Cost	-	-	2.000	-	2.000							
C. Equipment Installation Cost	-	-	0.800	-	0.800							
D. Contractor Support Cost	-	-	-	-	-							
E. Corps of Engineers Support Cost	-	-	-	-	-							
F. Other In-House Support Cost	-	-	-	-	-							
G. Total Facility Project Cost	-	-	-	-	-							
H. Other Costs	-	-	0.200	-	0.200							
Total Project Cost	-	-	3.000	-	3.000							
							Related Projects					
						Project Number	Title	FY & Appn	Value <i>(\$ M)</i>	Facing	Start Date	Compl Date

**Narrative Explanation:**  
 FY 2023 Base procurement dollars in the amount of \$3.000 million supports the procurement and installation of a High Voltage Substation system to convert electric grid power for cannon production at Watervliet Arsenal, NY. This system replaces obsolete equipment with more automated and reliable power conversion to support cannon production. The new substation will provide more reliable and consistent power conversion needed by modern production equipment being procured and installed. This system is scaled to support production of current and planned extended range artillery cannons, howitzers, tank cannons, and other weapons.

**UNCLASSIFIED**

**Exhibit P-25, Production Support and Industrial Facilities Cost Analysis: PB 2023 Army** **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A / 02 / 30 **P-1 Line Item Number / Title:** 3270GC0050 / Production Base Support (WOCV-WTCV)

**Project Title:** Inspection Gauges - XM35 **Project Number:** WVA0019 **Project Category:**

**End Item Supported Model:** XM35 **Annual Capacity Before / After (1-8-5):** /

Cost Elements <i>(\$ in Millions)</i>	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	<b>Facility Name:</b> Watervliet Arsenal (WVA) <b>Facility Location:</b> Watervliet, NY <b>Facility Type (GOGO, GOCO, COCO):</b> GOGO						
A. Construction Cost	-	-	-	-	-	<b>Principal Milestones</b> <span style="float: right;"><b>Month &amp; Year</b></span> Concept Design Complete: Final Design Complete: Initial/Final Project Award: Construction Complete: Equipment Installation Complete: Prove Out Begins: Prove Out Complete:	<b>Related Projects</b>					
B. Equipment Cost	-	-	1.500	-	1.500							
C. Equipment Installation Cost	-	-	0.250	-	0.250							
D. Contractor Support Cost	-	-	0.250	-	0.250							
E. Corps of Engineers Support Cost	-	-	-	-	-							
F. Other In-House Support Cost	-	-	-	-	-							
G. Total Facility Project Cost	-	-	-	-	-							
H. Other Costs	-	-	-	-	-							
Total Project Cost	-	-	2.000	-	2.000							
						<b>Project Number</b>	<b>Title</b>	<b>FY &amp; Appn</b>	<b>Value (\$ M)</b>	<b>Facing</b>	<b>Start Date</b>	<b>Compl Date</b>

**Narrative Explanation:**  
 FY 2023 Base procurement dollars in the amount of \$2.000 million supports the inspection gauges for XM 35 components. The equipment replaces obsolete equipment and supports newer metrology technologies.

**UNCLASSIFIED**

**Exhibit P-25, Production Support and Industrial Facilities Cost Analysis: PB 2023 Army** **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A / 02 / 30 **P-1 Line Item Number / Title:** 3270GC0050 / Production Base Support (WOCV-WTCV)

**Project Title:** Cannon Billet Pre-Heat Induction Furnace System **Project Number:** WVA0020 **Project Category:**

**End Item Supported Model:** ERCA and other Cannon Production **Annual Capacity Before / After (1-8-5):** /

Cost Elements <i>(\$ in Millions)</i>	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	<b>Facility Name:</b> Watervliet Arsenal (WVA) <b>Facility Location:</b> Watervliet, NY <b>Facility Type (GOGO, GOCO, COCO):</b> GOGO						
A. Construction Cost	-	-	-	-	-	<b>Principal Milestones</b> <span style="float: right;"><b>Month &amp; Year</b></span> Concept Design Complete: Final Design Complete: Initial/Final Project Award: Construction Complete: Equipment Installation Complete: Prove Out Begins: Prove Out Complete:	<b>Related Projects</b>					
B. Equipment Cost	-	-	4.500	-	4.500							
C. Equipment Installation Cost	-	-	2.250	-	2.250							
D. Contractor Support Cost	-	-	-	-	-							
E. Corps of Engineers Support Cost	-	-	-	-	-							
F. Other In-House Support Cost	-	-	-	-	-							
G. Total Facility Project Cost	-	-	-	-	-							
H. Other Costs	-	-	0.250	-	0.250							
Total Project Cost	-	-	7.000	-	7.000							
												<b>Project Number</b>

**Narrative Explanation:**  
 FY 2023 Base procurement dollars in the amount of \$7.000 million supports the procurement and installation of a set of 5 automated Electric Induction Furnaces to pre-heat cannon steel billets prior to shaping in the Radial Forge. This set of furnaces will replace the natural gas powered furnace currently in use at Watervliet Arsenal, NY. These Induction Furnaces will reduce energy demand and waste heat generated during cannon billet preheating and reduce combustion gas emissions on the arsenal. The furnaces will more rapidly heat the billets and reduce exposure to contaminants, better preserving the material properties of the ERCA cannon steel. The induction furnaces will be used in the production of other howitzers, tank cannons, and weapons.

New start effort in FY 2023.

**UNCLASSIFIED**

**Exhibit P-25, Production Support and Industrial Facilities Cost Analysis: PB 2023 Army** **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A / 02 / 30 **P-1 Line Item Number / Title:** 3270GC0050 / Production Base Support (WOCV-WTCV)

**Project Title:** Guided Bore System for ERCA Length Cannon **Project Number:** WVA0021 **Project Category:**

**End Item Supported Model:** ERCA and other Cannon Production **Annual Capacity Before / After (1-8-5):** /

Cost Elements <i>(\$ in Millions)</i>	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	<b>Facility Name:</b> Watervliet Arsenal (WVA) <b>Facility Location:</b> Watervliet, NY <b>Facility Type (GOGO, GOCO, COCO):</b> GOGO						
A. Construction Cost	-	-	1.000	-	1.000	<b>Principal Milestones</b> <span style="float: right;"><b>Month &amp; Year</b></span> Concept Design Complete: Final Design Complete: Initial/Final Project Award: Construction Complete: Equipment Installation Complete: Prove Out Begins: Prove Out Complete:						
B. Equipment Cost	-	-	7.700	-	7.700							
C. Equipment Installation Cost	-	-	1.000	-	1.000							
D. Contractor Support Cost	-	-	-	-	-							
E. Corps of Engineers Support Cost	-	-	-	-	-							
F. Other In-House Support Cost	-	-	-	-	-							
G. Total Facility Project Cost	-	-	-	-	-							
H. Other Costs	-	-	0.300	-	0.300							
<b>Total Project Cost</b>	-	-	10.000	-	10.000	<b>Related Projects</b>						
						<b>Project Number</b>	<b>Title</b>	<b>FY &amp; Appn</b>	<b>Value (\$ M)</b>	<b>Facing</b>	<b>Start Date</b>	<b>Compl Date</b>

**Narrative Explanation:**  
 FY 2023 Base procurement dollars in the amount of \$10.000 million supports the procurement an automated guided bore cutting system scaled to support ERCA length cannon production at Watervliet Arsenal, NY. This equipment is required to precisely machine the inner bore of the cannon prior to rifling and coating. This system is scaled to support production of the ERCA cannons. The system may have utility in the production of other howitzers, tank cannons, and weapons.

New start effort in FY 2023.

**UNCLASSIFIED**

**Exhibit P-25, Production Support and Industrial Facilities Cost Analysis: PB 2023 Army** **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A / 02 / 30 **P-1 Line Item Number / Title:** 3270GC0050 / Production Base Support (WOCV-WTCV)

**Project Title:** External Cylindrical Grinder **Project Number:** WVA0022 **Project Category:**

**End Item Supported Model:** Cannon Production **Annual Capacity Before / After (1-8-5):** /

Cost Elements <i>(\$ in Millions)</i>	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Facility Name: Watervliet Arsenal (WVA) Facility Location: Watervliet, NY Facility Type (GOGO, GOCO, COCO): GOGO						
A. Construction Cost	-	-	-	-	-	<b>Principal Milestones</b> <span style="float: right;"><b>Month &amp; Year</b></span> Concept Design Complete: Final Design Complete: Initial/Final Project Award: Construction Complete: Equipment Installation Complete: Prove Out Begins: Prove Out Complete:	<b>Related Projects</b>					
B. Equipment Cost	-	-	2.720	-	2.720							
C. Equipment Installation Cost	-	-	0.680	-	0.680							
D. Contractor Support Cost	-	-	-	-	-							
E. Corps of Engineers Support Cost	-	-	-	-	-							
F. Other In-House Support Cost	-	-	-	-	-							
G. Total Facility Project Cost	-	-	-	-	-							
H. Other Costs	-	-	-	-	-							
Total Project Cost	-	-	3.400	-	3.400							
						<b>Project Number</b>	<b>Title</b>	<b>FY &amp; Appn</b>	<b>Value (\$ M)</b>	<b>Facing</b>	<b>Start Date</b>	<b>Compl Date</b>

**Narrative Explanation:**  
 FY 2023 Base procurement dollars in the amount of \$3.400 million supports the procurement and installation of an automated external cylindrical grinder with sufficient bed length to rough and finish the outside surfaces of cannons and other large cylindrical parts. This automated system supports production of longer cannon tubes in production and development, replacing obsolete and less capable equipment.

**UNCLASSIFIED**

**Exhibit P-25, Production Support and Industrial Facilities Cost Analysis: PB 2023 Army** **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A / 02 / 30 **P-1 Line Item Number / Title:** 3270GC0050 / Production Base Support (WOCV-WTCV)

**Project Title:** Overhead Cannon Transport Crane Modernization (Buildings 20, 35, 220, and 135) **Project Number:** WVA0023 **Project Category:**

**End Item Supported Model:** ERCA and other Cannon Production **Annual Capacity Before / After (1-8-5):** /

Cost Elements <i>(\$ in Millions)</i>	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Facility Name: Watervliet Arsenal (WVA) Facility Location: Watervliet, NY Facility Type (GOGO, GOCO, COCO): GOGO														
A. Construction Cost	-	-	-	-	-	<b>Principal Milestones</b> <span style="float: right;"><b>Month &amp; Year</b></span> Concept Design Complete: Final Design Complete: Initial/Final Project Award: Construction Complete: Equipment Installation Complete: Prove Out Begins: Prove Out Complete:  <div align="center"><b>Related Projects</b></div> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">Project Number</th> <th style="width: 30%;">Title</th> <th style="width: 10%;">FY &amp; Appn</th> <th style="width: 10%;">Value (\$ M)</th> <th style="width: 10%;">Facing</th> <th style="width: 10%;">Start Date</th> <th style="width: 10%;">Compl Date</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	Project Number	Title	FY & Appn	Value (\$ M)	Facing	Start Date	Compl Date							
Project Number	Title	FY & Appn	Value (\$ M)	Facing	Start Date		Compl Date													
B. Equipment Cost	-	-	10.000	-	10.000															
C. Equipment Installation Cost	-	-	5.000	-	5.000															
D. Contractor Support Cost	-	-	2.000	-	2.000															
E. Corps of Engineers Support Cost	-	-	-	-	-															
F. Other In-House Support Cost	-	-	-	-	-															
G. Total Facility Project Cost	-	-	-	-	-															
H. Other Costs	-	-	-	-	-															
Total Project Cost	-	-	17.000	-	17.000															

**Narrative Explanation:**  
 FY 2023 Base procurement dollars in the amount of \$17.000 million supports the procurement and installation of modern control systems in overhead cranes in buildings 20, 35, 110, and 135, which are used in cannon production at Watervliet Arsenal, NY. The new control equipment is required to provide higher reliability in crane operation and to improve precision in positioning of overhead cranes used to transport cannons through the production lines. Improved crane operation will have utility in the production of other howitzers, tank cannons, and weapons.

New start effort in FY 2023.

**UNCLASSIFIED**

**Exhibit P-25, Production Support and Industrial Facilities Cost Analysis: PB 2023 Army** **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A / 02 / 30 **P-1 Line Item Number / Title:** 3270GC0050 / Production Base Support (WOCV-WTCV)

**Project Title:** ERCA Vertical Turning Lathe Set (Breech Manufacture) **Project Number:** WVA0024 **Project Category:**

**End Item Supported Model:** ERCA and other Cannon Production **Annual Capacity Before / After (1-8-5):** /

Cost Elements <i>(\$ in Millions)</i>	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	<b>Facility Name:</b> Watervliet Arsenal (WVA) <b>Facility Location:</b> Watervliet, NY <b>Facility Type (GOGO, GOCO, COCO):</b> GOGO						
A. Construction Cost	-	-	-	-	-	<b>Principal Milestones</b> <span style="float: right;"><b>Month &amp; Year</b></span> Concept Design Complete: Final Design Complete: Initial/Final Project Award: Construction Complete: Equipment Installation Complete: Prove Out Begins: Prove Out Complete:						
B. Equipment Cost	-	-	4.600	-	4.600							
C. Equipment Installation Cost	-	-	1.800	-	1.800							
D. Contractor Support Cost	-	-	-	-	-							
E. Corps of Engineers Support Cost	-	-	-	-	-							
F. Other In-House Support Cost	-	-	-	-	-							
G. Total Facility Project Cost	-	-	-	-	-							
H. Other Costs	-	-	0.400	-	0.400							
Total Project Cost	-	-	6.800	-	6.800							
						Related Projects						
						Project Number	Title	FY & Appn	Value <i>(\$ M)</i>	Facing	Start Date	Compl Date

**Narrative Explanation:**  
 FY 2023 Base procurement dollars in the amount of \$6.800 million supports the procurement and installation of a modern Vertical Turning Lathe Set to be used for ERCA cannon production at Watervliet Arsenal, NY. This equipment is required to perform ERCA cannon breech and other machining tasks that cannot be performed on 5 axis milling centers. This set is scaled to support production for current and planned extended range artillery cannons, howitzers, tank cannons, and other weapons.

New start effort in FY 2023.

**UNCLASSIFIED**

**Exhibit P-25, Production Support and Industrial Facilities Cost Analysis: PB 2023 Army** **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A / 02 / 30 **P-1 Line Item Number / Title:** 3270GC0050 / Production Base Support (WOCV-WTCV)

**Project Title:** Cannon Production Compressed Air Distribution Modernization **Project Number:** WVA0025 **Project Category:**

**End Item Supported Model:** ERCA and other Cannon Production **Annual Capacity Before / After (1-8-5):** /

Cost Elements <i>(\$ in Millions)</i>	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Facility Name: Watervliet Arsenal (WVA) Facility Location: Watervliet, NY Facility Type (GOGO, GOCO, COCO): GOGO																									
A. Construction Cost	-	-	-	-	-	<b>Principal Milestones</b> <span style="float: right;"><b>Month &amp; Year</b></span> Concept Design Complete: Final Design Complete: Initial/Final Project Award: Construction Complete: Equipment Installation Complete: Prove Out Begins: Prove Out Complete:	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th align="center" colspan="6">Related Projects</th> </tr> <tr> <th align="center">Project Number</th> <th align="center">Title</th> <th align="center">FY &amp; Appn</th> <th align="center">Value <i>(\$ M)</i></th> <th align="center">Facing</th> <th align="center">Start Date</th> <th align="center">Compl Date</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>					Related Projects						Project Number	Title	FY & Appn	Value <i>(\$ M)</i>	Facing	Start Date	Compl Date							
Related Projects																															
Project Number	Title	FY & Appn	Value <i>(\$ M)</i>	Facing	Start Date							Compl Date																			
B. Equipment Cost	-	-	1.500	-	1.500																										
C. Equipment Installation Cost	-	-	3.500	-	3.500																										
D. Contractor Support Cost	-	-	-	-	-																										
E. Corps of Engineers Support Cost	-	-	-	-	-																										
F. Other In-House Support Cost	-	-	-	-	-																										
G. Total Facility Project Cost	-	-	-	-	-																										
H. Other Costs	-	-	-	-	-																										
<b>Total Project Cost</b>	-	-	5.000	-	5.000																										

**Narrative Explanation:**  
 FY 2023 Base procurement dollars in the amount of \$5.000 million supports the procurement and installation of a modern compressed air distribution system used for cannon production at Watervliet Arsenal, NY. This equipment replaces obsolete equipment with modern and more highly automated distribution of compressed air used for equipment operation, cleaning, and other purposes. This compressed air system is scaled to support production for current and planned extended range artillery cannons, howitzers, tank cannons, and other weapons.



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**Exhibit P-25, Production Support and Industrial Facilities Cost Analysis: PB 2023 Army** **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A / 02 / 30 **P-1 Line Item Number / Title:** 3270GC0050 / Production Base Support (WOCV-WTCV)

**Project Title:** Cannon Production High Voltage Power Distribution Modernization **Project Number:** WVA0026 **Project Category:**

**End Item Supported Model:** ERCA and other Cannon Production **Annual Capacity Before / After (1-8-5):** /

Cost Elements <i>(\$ in Millions)</i>	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	<b>Facility Name:</b> Watervliet Arsenal (WVA) <b>Facility Location:</b> Watervliet, NY <b>Facility Type (GOGO, GOCO, COCO):</b> GOGO							
A. Construction Cost	-	-	-	-	-	<b>Principal Milestones</b> <span style="float: right;"><b>Month &amp; Year</b></span> Concept Design Complete: Final Design Complete: Initial/Final Project Award: Construction Complete: Equipment Installation Complete: Prove Out Begins: Prove Out Complete:	<b>Related Projects</b>						
B. Equipment Cost	-	-	7.000	-	7.000		<b>Project Number</b>	<b>Title</b>	<b>FY &amp; Appn</b>	<b>Value (\$ M)</b>	<b>Facing</b>	<b>Start Date</b>	<b>Compl Date</b>
C. Equipment Installation Cost	-	-	3.000	-	3.000								
D. Contractor Support Cost	-	-	-	-	-								
E. Corps of Engineers Support Cost	-	-	-	-	-								
F. Other In-House Support Cost	-	-	-	-	-								
G. Total Facility Project Cost	-	-	-	-	-								
H. Other Costs	-	-	-	-	-								
Total Project Cost	-	-	10.000	-	10.000								

**Narrative Explanation:**

FY 2023 Base procurement dollars in the amount of \$10.000 million supports the procurement and installation of high voltage power distribution lines for cannon production manufacturing systems at Watervliet Arsenal, NY. This high voltage power distribution network replaces obsolete equipment to provide power required by manufacturing systems being installed to modernize cannon production. This power distribution network is scaled to support production of current and planned extended range artillery cannons, howitzers, tank cannons, and other weapons.

New start effort in FY 2023.

**UNCLASSIFIED**

**Exhibit P-25, Production Support and Industrial Facilities Cost Analysis: PB 2023 Army** **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A / 02 / 30 **P-1 Line Item Number / Title:** 3270GC0050 / Production Base Support (WOCV-WTCV)

**Project Title:** WVA Miscellaneous Small Projects **Project Number:** WVA0027 **Project Category:**

**End Item Supported Model:** Cannon Production **Annual Capacity Before / After (1-8-5):** /

Cost Elements <i>(\$ in Millions)</i>	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Facility Name: Watervliet Arsenal (WVA) Facility Location: Watervliet, NY Facility Type (GOGO, GOCO, COCO): GOGO														
A. Construction Cost	-	-	0.050	-	0.050	<b>Principal Milestones</b> <span style="float: right;"><b>Month &amp; Year</b></span> Concept Design Complete: Final Design Complete: Initial/Final Project Award: Construction Complete: Equipment Installation Complete: Prove Out Begins: Prove Out Complete:  <div align="center"><b>Related Projects</b></div> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">Project Number</th> <th style="width: 40%;">Title</th> <th style="width: 10%;">FY &amp; Appn</th> <th style="width: 10%;">Value (\$ M)</th> <th style="width: 10%;">Facing</th> <th style="width: 10%;">Start Date</th> <th style="width: 10%;">Compl Date</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	Project Number	Title	FY & Appn	Value (\$ M)	Facing	Start Date	Compl Date							
Project Number	Title	FY & Appn	Value (\$ M)	Facing	Start Date		Compl Date													
B. Equipment Cost	-	-	1.490	-	1.490															
C. Equipment Installation Cost	-	-	0.120	-	0.120															
D. Contractor Support Cost	-	-	-	-	-															
E. Corps of Engineers Support Cost	-	-	-	-	-															
F. Other In-House Support Cost	-	-	0.220	-	0.220															
G. Total Facility Project Cost	-	-	-	-	-															
H. Other Costs	-	-	2.388	-	2.388															
Total Project Cost	-	-	4.268	-	4.268															

**Narrative Explanation:**  
 FY 2023 Base procurement dollars in the amount of \$4.268 million supports miscellaneous small projects at the Watervliet Arsenal (WVA) to include, but are not limited to, the following projects:

- FY 2023 Procurement of a small pit-type tempering furnace for use in treatment of small parts up to cannon breech and breech blocks.
- FY 2023 Procurement of an automated slant bed lathe scaled to fit up to ERCA length cannon.
- FY 2023 Procurement of a more efficient heat treatment furnace used to produce piece parts.
- FY 2023 Procurement of a more efficient endothermic generator to be used with the minor heat treatment furnace.
- FY 2023 Procurement of routine small projects to support facility modernization and overall facility improvements.

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**Exhibit P-25, Production Support and Industrial Facilities Cost Analysis: PB 2023 Army** **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A / 02 / 30 **P-1 Line Item Number / Title:** 3270GC0050 / Production Base Support (WOCV-WTCV)

**Project Title:** Horizontal Milling Center **Project Number:** WVA0035 **Project Category:**

**End Item Supported Model:** Majors/Minors **Annual Capacity Before / After (1-8-5):** /

Cost Elements <i>(\$ in Millions)</i>	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	<b>Facility Name:</b> Watervliet Arsenal (WVA) <b>Facility Location:</b> Watervliet, NY <b>Facility Type (GOGO, GOCO, COCO):</b> GOGO						
A. Construction Cost	-	-	0.500	-	0.500	<b>Principal Milestones</b> <span style="float: right;"><b>Month &amp; Year</b></span> Concept Design Complete: Final Design Complete: Initial/Final Project Award: Construction Complete: Equipment Installation Complete: Prove Out Begins: Prove Out Complete:						
B. Equipment Cost	-	-	0.450	-	0.450							
C. Equipment Installation Cost	-	-	0.050	-	0.050							
D. Contractor Support Cost	-	-	-	-	-							
E. Corps of Engineers Support Cost	-	-	-	-	-							
F. Other In-House Support Cost	-	-	-	-	-							
G. Total Facility Project Cost	-	-	-	-	-							
H. Other Costs	-	-	-	-	-							
<b>Total Project Cost</b>	-	-	1.000	-	1.000	<b>Related Projects</b>						
						<b>Project Number</b>	<b>Title</b>	<b>FY &amp; Appn</b>	<b>Value (\$ M)</b>	<b>Facing</b>	<b>Start Date</b>	<b>Compl Date</b>

**Narrative Explanation:**  
 FY 2023 Base procurement dollars in the amount of \$1.000 million supports the procurement and installation of horizontal milling center. The machine replaces antiquated, worn equipment with modern, reliable machinery with increase capacity.

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**Exhibit P-25, Production Support and Industrial Facilities Cost Analysis: PB 2023 Army** **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A / 02 / 30 **P-1 Line Item Number / Title:** 3270GC0050 / Production Base Support (WOCV-WTCV)

**Project Title:** Excess Equipment, Floor Repairs, Relocate Equipment **Project Number:** WVA0037 **Project Category:**

**End Item Supported Model:** Excess Equipment, Floor Repairs, Relocate Equipment **Annual Capacity Before / After (1-8-5):** /

Cost Elements <i>(\$ in Millions)</i>	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Facility Name: Watervliet Arsenal (WVA) Facility Location: Watervliet, NY Facility Type (GOGO, GOCO, COCO): GOGO														
A. Construction Cost	-	-	-	-	-	<b>Principal Milestones</b> <span style="float: right;"><b>Month &amp; Year</b></span> Concept Design Complete: Final Design Complete: Initial/Final Project Award: Construction Complete: Equipment Installation Complete: Prove Out Begins: Prove Out Complete:														
B. Equipment Cost	-	-	-	-	-															
C. Equipment Installation Cost	-	-	-	-	-															
D. Contractor Support Cost	-	-	0.100	-	0.100															
E. Corps of Engineers Support Cost	-	-	-	-	-															
F. Other In-House Support Cost	-	-	0.020	-	0.020															
G. Total Facility Project Cost	-	-	-	-	-															
H. Other Costs	-	-	0.851	-	0.851															
Total Project Cost	-	-	0.971	-	0.971															
						<b>Related Projects</b>														
						<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">Project Number</th> <th style="width: 30%;">Title</th> <th style="width: 10%;">FY &amp; Appn</th> <th style="width: 10%;">Value (\$ M)</th> <th style="width: 10%;">Facing</th> <th style="width: 10%;">Start Date</th> <th style="width: 10%;">Compl Date</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	Project Number	Title	FY & Appn	Value (\$ M)	Facing	Start Date	Compl Date							
Project Number	Title	FY & Appn	Value (\$ M)	Facing	Start Date	Compl Date														

**Narrative Explanation:**  
 FY 2023 Base procurement dollars in the amount of \$0.971 million supports the removal of excess equipment, floor repairs and relocating beneficial WVA equipment. It is necessary to remove obsolete equipment by making room and prepping locations for new equipment arriving at WVA.

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**Exhibit P-25, Production Support and Industrial Facilities Cost Analysis: PB 2023 Army** **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A / 02 / 30 **P-1 Line Item Number / Title:** 3270GC0050 / Production Base Support (WOCV-WTCV)

**Project Title:** Filament Winder 1/2 (120mm Bore Evacuator) **Project Number:** WVA0038 **Project Category:**

**End Item Supported Model:** Bore Evacuators **Annual Capacity Before / After (1-8-5):** /

Cost Elements <i>(\$ in Millions)</i>	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	<b>Facility Name:</b> Watervliet Arsenal (WVA) <b>Facility Location:</b> Watervliet, NY <b>Facility Type (GOGO, GOCO, COCO):</b> GOGO						
A. Construction Cost	-	-	-	-	-	<b>Principal Milestones</b> <span style="float: right;"><b>Month &amp; Year</b></span> Concept Design Complete: Final Design Complete: Initial/Final Project Award: Construction Complete: Equipment Installation Complete: Prove Out Begins: Prove Out Complete:	<b>Related Projects</b>					
B. Equipment Cost	-	-	0.850	-	0.850							
C. Equipment Installation Cost	-	-	0.100	-	0.100							
D. Contractor Support Cost	-	-	0.050	-	0.050							
E. Corps of Engineers Support Cost	-	-	-	-	-							
F. Other In-House Support Cost	-	-	-	-	-							
G. Total Facility Project Cost	-	-	-	-	-							
H. Other Costs	-	-	-	-	-							
Total Project Cost	-	-	1.000	-	1.000							
						<b>Project Number</b>	<b>Title</b>	<b>FY &amp; Appn</b>	<b>Value (\$ M)</b>	<b>Facing</b>	<b>Start Date</b>	<b>Compl Date</b>

**Narrative Explanation:**  
 FY 2023 Base procurement dollars in the amount of \$1.000 million supports the replacement of filament winders used for M120 bore evacuators. This system replaces obsolete equipment and will prevent single point of failures in the manufacturing process.

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**Exhibit P-25, Production Support and Industrial Facilities Cost Analysis: PB 2023 Army** **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A / 02 / 30 **P-1 Line Item Number / Title:** 3270GC0050 / Production Base Support (WOCV-WTCV)

**Project Title:** Filament Winder 2/2 (120mm Bore Evacuator) **Project Number:** WVA0039 **Project Category:**

**End Item Supported Model:** Bore Evacuators **Annual Capacity Before / After (1-8-5):** /

Cost Elements <i>(\$ in Millions)</i>	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	<b>Facility Name:</b> Watervliet Arsenal (WVA) <b>Facility Location:</b> Watervliet, NY <b>Facility Type (GOGO, GOCO, COCO):</b> GOGO							
A. Construction Cost	-	-	-	-	-	<b>Principal Milestones</b> <span style="float: right;"><b>Month &amp; Year</b></span> Concept Design Complete: Final Design Complete: Initial/Final Project Award: Construction Complete: Equipment Installation Complete: Prove Out Begins: Prove Out Complete:	<b>Related Projects</b>						
B. Equipment Cost	-	-	0.850	-	0.850		<b>Project Number</b>	<b>Title</b>	<b>FY &amp; Appn</b>	<b>Value (\$ M)</b>	<b>Facing</b>	<b>Start Date</b>	<b>Compl Date</b>
C. Equipment Installation Cost	-	-	0.100	-	0.100								
D. Contractor Support Cost	-	-	0.050	-	0.050								
E. Corps of Engineers Support Cost	-	-	-	-	-								
F. Other In-House Support Cost	-	-	-	-	-								
G. Total Facility Project Cost	-	-	-	-	-								
H. Other Costs	-	-	-	-	-								
Total Project Cost	-	-	1.000	-	1.000								

**Narrative Explanation:**  
 FY 2023 Base procurement dollars in the amount of \$1.000 million supports the replacement of filament winders used for M120 bore evacuators. This system replaces obsolete equipment and will prevent single point of failures in the manufacturing process

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**Exhibit P-25, Production Support and Industrial Facilities Cost Analysis: PB 2023 Army** **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A / 02 / 30 **P-1 Line Item Number / Title:** 3270GC0050 / Production Base Support (WOCV-WTCV)

**Project Title:** 2nd M256 Cold Spray System **Project Number:** WVA0040 **Project Category:**

**End Item Supported Model:** Cannon Production **Annual Capacity Before / After (1-8-5):** /

Cost Elements <i>(\$ in Millions)</i>	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	<b>Facility Name:</b> Watervliet Arsenal (WVA) <b>Facility Location:</b> Watervliet, NY <b>Facility Type (GOGO, GOCO, COCO):</b> GOGO						
A. Construction Cost	-	-	0.900	-	0.900	<b>Principal Milestones</b> <span style="float: right;"><b>Month &amp; Year</b></span> Concept Design Complete: Final Design Complete: Initial/Final Project Award: Construction Complete: Equipment Installation Complete: Prove Out Begins: Prove Out Complete:						
B. Equipment Cost	-	-	3.000	-	3.000							
C. Equipment Installation Cost	-	-	0.200	-	0.200							
D. Contractor Support Cost	-	-	0.100	-	0.100							
E. Corps of Engineers Support Cost	-	-	-	-	-							
F. Other In-House Support Cost	-	-	-	-	-							
G. Total Facility Project Cost	-	-	-	-	-							
H. Other Costs	-	-	0.200	-	0.200							
Total Project Cost	-	-	4.400	-	4.400							
						Related Projects						
						Project Number	Title	FY & Appn	Value <i>(\$ M)</i>	Facing	Start Date	Compl Date

**Narrative Explanation:**  
 FY 2023 Base procurement dollars in the amount of \$4.400 million supports procurement and installation of 2nd cold spray system to eliminate a single point of failure and increase capacity for the cold spray technology currently being developed. This machine introduces additional capability for WVA and supports an alternate technology to chrome.

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**Exhibit P-25, Production Support and Industrial Facilities Cost Analysis: PB 2023 Army** **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A / 02 / 30 **P-1 Line Item Number / Title:** 3270GC0050 / Production Base Support (WOCV-WTCV)

**Project Title:** ID Grinder 1/2 **Project Number:** WVA0041 **Project Category:**

**End Item Supported Model:** Cannon Production **Annual Capacity Before / After (1-8-5):** /

Cost Elements <i>(\$ in Millions)</i>	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	<b>Facility Name:</b> Watervliet Arsenal (WVA) <b>Facility Location:</b> Watervliet, NY <b>Facility Type (GOGO, GOCO, COCO):</b> GOGO						
A. Construction Cost	-	-	0.750	-	0.750	<b>Principal Milestones</b> <span style="float: right;"><b>Month &amp; Year</b></span> Concept Design Complete: Final Design Complete: Initial/Final Project Award: Construction Complete: Equipment Installation Complete: Prove Out Begins: Prove Out Complete:						
B. Equipment Cost	-	-	1.250	-	1.250							
C. Equipment Installation Cost	-	-	0.050	-	0.050							
D. Contractor Support Cost	-	-	0.050	-	0.050							
E. Corps of Engineers Support Cost	-	-	-	-	-							
F. Other In-House Support Cost	-	-	-	-	-							
G. Total Facility Project Cost	-	-	-	-	-							
H. Other Costs	-	-	0.750	-	0.750							
<b>Total Project Cost</b>	-	-	2.850	-	2.850	<b>Related Projects</b>						
						<b>Project Number</b>	<b>Title</b>	<b>FY &amp; Appn</b>	<b>Value (\$ M)</b>	<b>Facing</b>	<b>Start Date</b>	<b>Compl Date</b>

**Narrative Explanation:**  
 FY 2023 Base procurement dollars in the amount of \$2.850 million supports procurement and installation of ID Grinder to eliminate a single point of failure and increase capacity for the cold spray technology currently being developed. This machine introduces additional capability for WVA and supports an alternate technology to chrome.



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**Exhibit P-25, Production Support and Industrial Facilities Cost Analysis: PB 2023 Army** **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A / 02 / 30 **P-1 Line Item Number / Title:** 3270GC0050 / Production Base Support (WOCV-WTCV)

**Project Title:** ID Grinder 2/2 **Project Number:** WVA0042 **Project Category:**

**End Item Supported Model:** Cannon Production **Annual Capacity Before / After (1-8-5):** /

Cost Elements <i>(\$ in Millions)</i>	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Facility Name: Watervliet Arsenal (WVA) Facility Location: Watervliet, NY Facility Type (GOGO, GOCO, COCO): GOGO	Principal Milestones	Month & Year				
A. Construction Cost	-	-	0.750	-	0.750	Concept Design Complete: Final Design Complete: Initial/Final Project Award: Construction Complete: Equipment Installation Complete: Prove Out Begins: Prove Out Complete:						
B. Equipment Cost	-	-	1.250	-	1.250							
C. Equipment Installation Cost	-	-	0.050	-	0.050							
D. Contractor Support Cost	-	-	0.050	-	0.050							
E. Corps of Engineers Support Cost	-	-	-	-	-							
F. Other In-House Support Cost	-	-	-	-	-							
G. Total Facility Project Cost	-	-	-	-	-							
H. Other Costs	-	-	0.750	-	0.750							
<b>Total Project Cost</b>	-	-	2.850	-	2.850	<b>Related Projects</b>						
						<b>Project Number</b>	<b>Title</b>	<b>FY &amp; Appn</b>	<b>Value (\$ M)</b>	<b>Facing</b>	<b>Start Date</b>	<b>Compl Date</b>

**Narrative Explanation:**  
 FY 2023 Base procurement dollars in the amount of \$2.850 million supports procurement and installation of ID Grinder to eliminate a single point of failure and increase capacity for the cold spray technology currently being developed. This machine introduces additional capability for WVA and supports an alternate technology to chrome.  
 New start effort in FY 2023.

**UNCLASSIFIED**

**Exhibit P-25, Production Support and Industrial Facilities Cost Analysis: PB 2023 Army** **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A / 02 / 30 **P-1 Line Item Number / Title:** 3270GC0050 / Production Base Support (WOCV-WTCV)

**Project Title:** Hone 1/2 **Project Number:** WVA0043 **Project Category:**

**End Item Supported Model:** Cannon Production **Annual Capacity Before / After (1-8-5):** /

Cost Elements <i>(\$ in Millions)</i>	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	<b>Facility Name:</b> Watervliet Arsenal (WVA) <b>Facility Location:</b> Watervliet, NY <b>Facility Type (GOGO, GOCO, COCO):</b> GOGO																									
A. Construction Cost	-	-	-	-	-	<b>Principal Milestones</b> <span style="float: right;"><b>Month &amp; Year</b></span> Concept Design Complete: Final Design Complete: Initial/Final Project Award: Construction Complete: Equipment Installation Complete: Prove Out Begins: Prove Out Complete:	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th align="center" colspan="6"><b>Related Projects</b></th> </tr> <tr> <th style="width: 10%;">Project Number</th> <th style="width: 30%;">Title</th> <th style="width: 10%;">FY &amp; Appn</th> <th style="width: 10%;">Value <i>(\$ M)</i></th> <th style="width: 10%;">Facing</th> <th style="width: 10%;">Start Date</th> <th style="width: 10%;">Compl Date</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>					<b>Related Projects</b>						Project Number	Title	FY & Appn	Value <i>(\$ M)</i>	Facing	Start Date	Compl Date							
<b>Related Projects</b>																															
Project Number	Title	FY & Appn	Value <i>(\$ M)</i>	Facing	Start Date							Compl Date																			
B. Equipment Cost	-	-	0.700	-	0.700																										
C. Equipment Installation Cost	-	-	0.150	-	0.150																										
D. Contractor Support Cost	-	-	0.050	-	0.050																										
E. Corps of Engineers Support Cost	-	-	-	-	-																										
F. Other In-House Support Cost	-	-	-	-	-																										
G. Total Facility Project Cost	-	-	-	-	-																										
H. Other Costs	-	-	-	-	-																										
<b>Total Project Cost</b>	-	-	0.900	-	0.900																										

**Narrative Explanation:**  
 FY 2023 Base procurement dollars in the amount of \$0.900 million supports procurement and installation of Hone to eliminate a single point of failure and increase capacity for the cold spray technology currently being developed. This machine introduces additional capability for WVA and supports an alternate technology to chrome.

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**Exhibit P-25, Production Support and Industrial Facilities Cost Analysis: PB 2023 Army** **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A / 02 / 30 **P-1 Line Item Number / Title:** 3270GC0050 / Production Base Support (WOCV-WTCV)

**Project Title:** Hone 2/2 **Project Number:** WVA0044 **Project Category:**

**End Item Supported Model:** Cannon Production **Annual Capacity Before / After (1-8-5):** /

Cost Elements <i>(\$ in Millions)</i>	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Facility Name: Watervliet Arsenal (WVA) Facility Location: Watervliet, NY Facility Type (GOGO, GOCO, COCO): GOGO																									
A. Construction Cost	-	-	-	-	-	<b>Principal Milestones</b> <span style="float: right;"><b>Month &amp; Year</b></span> Concept Design Complete: Final Design Complete: Initial/Final Project Award: Construction Complete: Equipment Installation Complete: Prove Out Begins: Prove Out Complete:	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th align="center" colspan="6">Related Projects</th> </tr> <tr> <th align="center">Project Number</th> <th align="center">Title</th> <th align="center">FY &amp; Appn</th> <th align="center">Value <i>(\$ M)</i></th> <th align="center">Facing</th> <th align="center">Start Date</th> <th align="center">Compl Date</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>					Related Projects						Project Number	Title	FY & Appn	Value <i>(\$ M)</i>	Facing	Start Date	Compl Date							
Related Projects																															
Project Number	Title	FY & Appn	Value <i>(\$ M)</i>	Facing	Start Date							Compl Date																			
B. Equipment Cost	-	-	0.700	-	0.700																										
C. Equipment Installation Cost	-	-	0.150	-	0.150																										
D. Contractor Support Cost	-	-	0.050	-	0.050																										
E. Corps of Engineers Support Cost	-	-	-	-	-																										
F. Other In-House Support Cost	-	-	-	-	-																										
G. Total Facility Project Cost	-	-	-	-	-																										
H. Other Costs	-	-	-	-	-																										
Total Project Cost	-	-	0.900	-	0.900																										

**Narrative Explanation:**  
 FY 2023 Base procurement dollars in the amount of \$0.900 million supports procurement and installation of Hone to eliminate a single point of failure and increase capacity for the cold spray technology currently being developed. This machine introduces additional capability for WVA and supports an alternate technology to chrome.  
 New start effort in FY 2023.

**UNCLASSIFIED**

**Exhibit P-25, Production Support and Industrial Facilities Cost Analysis: PB 2023 Army** **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A / 02 / 30 **P-1 Line Item Number / Title:** 3270GC0050 / Production Base Support (WOCV-WTCV)

**Project Title:** M256 Waterjet **Project Number:** WVA0045 **Project Category:**

**End Item Supported Model:** Cannon Production **Annual Capacity Before / After (1-8-5):** /

Cost Elements <i>(\$ in Millions)</i>	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	<b>Facility Name:</b> Watervliet Arsenal (WVA) <b>Facility Location:</b> Watervliet, NY <b>Facility Type (GOGO, GOCO, COCO):</b> GOGO						
A. Construction Cost	-	-	1.000	-	1.000	<b>Principal Milestones</b> <span style="float: right;"><b>Month &amp; Year</b></span> Concept Design Complete: Final Design Complete: Initial/Final Project Award: Construction Complete: Equipment Installation Complete: Prove Out Begins: Prove Out Complete:						
B. Equipment Cost	-	-	2.000	-	2.000							
C. Equipment Installation Cost	-	-	0.100	-	0.100							
D. Contractor Support Cost	-	-	0.100	-	0.100							
E. Corps of Engineers Support Cost	-	-	-	-	-							
F. Other In-House Support Cost	-	-	-	-	-							
G. Total Facility Project Cost	-	-	-	-	-							
H. Other Costs	-	-	-	-	-							
<b>Total Project Cost</b>	-	-	3.200	-	3.200	<b>Related Projects</b>						
						<b>Project Number</b>	<b>Title</b>	<b>FY &amp; Appn</b>	<b>Value (\$ M)</b>	<b>Facing</b>	<b>Start Date</b>	<b>Compl Date</b>

**Narrative Explanation:**  
 FY 2023 Base procurement dollars in the amount of \$3.200 million supports procurement and installation of a second Waterjet System to support cold spray production. The Waterjet is used to clean coatings from cannon bores and as a surface finishing tool. The Tantalum cold spray system uses hypersonic velocity air jets to deposit Tantalum onto the cannon bore. Tantalum has proven to be more erosion resistant than Chrome to protect and extend the life of cannon barrels. Waterjet System attributes: Stripping process of Tantalum (cold spray) in the event there is an issue with coating. Decreases honing and grinding operations and increases production capacity. This machine introduces a new capability to WVA.

**UNCLASSIFIED**

**Exhibit P-25, Production Support and Industrial Facilities Cost Analysis: PB 2023 Army** **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A / 02 / 30 **P-1 Line Item Number / Title:** 3270GC0050 / Production Base Support (WOCV-WTCV)

**Project Title:** M256 Waterjet Foundation **Project Number:** WVA0046 **Project Category:**

**End Item Supported Model:** Cannon Production **Annual Capacity Before / After (1-8-5):** /

Cost Elements <i>(\$ in Millions)</i>	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Facility Name: Watervliet Arsenal (WVA) Facility Location: Watervliet, NY Facility Type (GOGO, GOCO, COCO): GOGO														
A. Construction Cost	-	-	1.000	-	1.000	<b>Principal Milestones</b> <span style="float: right;"><b>Month &amp; Year</b></span> Concept Design Complete: Final Design Complete: Initial/Final Project Award: Construction Complete: Equipment Installation Complete: Prove Out Begins: Prove Out Complete:  <div align="center"><b>Related Projects</b></div> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">Project Number</th> <th style="width: 30%;">Title</th> <th style="width: 10%;">FY &amp; Appn</th> <th style="width: 10%;">Value (\$ M)</th> <th style="width: 10%;">Facing</th> <th style="width: 10%;">Start Date</th> <th style="width: 10%;">Compl Date</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	Project Number	Title	FY & Appn	Value (\$ M)	Facing	Start Date	Compl Date							
Project Number	Title	FY & Appn	Value (\$ M)	Facing	Start Date		Compl Date													
B. Equipment Cost	-	-	-	-	-															
C. Equipment Installation Cost	-	-	-	-	-															
D. Contractor Support Cost	-	-	-	-	-															
E. Corps of Engineers Support Cost	-	-	-	-	-															
F. Other In-House Support Cost	-	-	-	-	-															
G. Total Facility Project Cost	-	-	-	-	-															
H. Other Costs	-	-	-	-	-															
<b>Total Project Cost</b>	-	-	1.000	-	1.000															

**Narrative Explanation:**  
 FY 2023 Base procurement dollars in the amount of \$1.000 million supports procurement and installation of a second Waterjet System foundation to support cold spray production. The Waterjet is used to clean coatings from cannon bores and as a surface finishing tool. The Tantalum cold spray system uses hypersonic velocity air jets to deposit Tantalum onto the cannon bore. Tantalum has proven to be more erosion resistant than Chrome to protect and extend the life of cannon barrels. Waterjet System attributes: Stripping process of Tantalum (cold spray) in the event there is an issue with coating. Decreases honing and grinding operations and increases production capacity. This machine introduces a new capability to WVA.

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**Exhibit P-25, Production Support and Industrial Facilities Cost Analysis: PB 2023 Army** **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A / 02 / 30 **P-1 Line Item Number / Title:** 3270GC0050 / Production Base Support (WOCV-WTCV)

**Project Title:** Gymnasticator **Project Number:** WVA0047 **Project Category:**

**End Item Supported Model:** M12 Breech Block, Breech Mechanism **Annual Capacity Before / After (1-8-5):** /

Cost Elements <i>(\$ in Millions)</i>	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	<b>Facility Name:</b> Watervliet Arsenal (WVA) <b>Facility Location:</b> Watervliet, NY <b>Facility Type (GOGO, GOCO, COCO):</b> GOGO						
A. Construction Cost	-	-	-	-	-	<b>Principal Milestones</b> <span style="float: right;"><b>Month &amp; Year</b></span> Concept Design Complete: Final Design Complete: Initial/Final Project Award: Construction Complete: Equipment Installation Complete: Prove Out Begins: Prove Out Complete:						
B. Equipment Cost	-	-	1.500	-	1.500							
C. Equipment Installation Cost	-	-	0.150	-	0.150							
D. Contractor Support Cost	-	-	0.150	-	0.150							
E. Corps of Engineers Support Cost	-	-	-	-	-							
F. Other In-House Support Cost	-	-	-	-	-							
G. Total Facility Project Cost	-	-	-	-	-							
H. Other Costs	-	-	0.400	-	0.400							
Total Project Cost	-	-	2.200	-	2.200							
						Related Projects						
						Project Number	Title	FY & Appn	Value <i>(\$ M)</i>	Facing	Start Date	Compl Date

**Narrative Explanation:**  
 FY 2023 Base procurement dollars in the amount of \$2.200 million supports the ability to test M12 Breech Block, Breech Mechanism components in-house rather than having to send them to another facility. The system allows WVA to have this portion of the manufacturing process kept in-house to allow for faster and more efficient manufacturing durations.

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**Exhibit P-25, Production Support and Industrial Facilities Cost Analysis: PB 2023 Army** **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A / 02 / 30 **P-1 Line Item Number / Title:** 3270GC0050 / Production Base Support (WOCV-WTCV)

**Project Title:** Horizontal Machining Center **Project Number:** WVA0049 **Project Category:**

**End Item Supported Model:** Cannon Production **Annual Capacity Before / After (1-8-5):** /

Cost Elements <i>(\$ in Millions)</i>	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	<b>Facility Name:</b> Watervliet Arsenal (WVA) <b>Facility Location:</b> Watervliet, NY <b>Facility Type (GOGO, GOCO, COCO):</b> GOGO						
A. Construction Cost	-	-	-	-	-	<b>Principal Milestones</b> <span style="float: right;"><b>Month &amp; Year</b></span> Concept Design Complete: Final Design Complete: Initial/Final Project Award: Construction Complete: Equipment Installation Complete: Prove Out Begins: Prove Out Complete:						
B. Equipment Cost	-	-	0.800	-	0.800							
C. Equipment Installation Cost	-	-	0.200	-	0.200							
D. Contractor Support Cost	-	-	-	-	-							
E. Corps of Engineers Support Cost	-	-	-	-	-							
F. Other In-House Support Cost	-	-	-	-	-							
G. Total Facility Project Cost	-	-	-	-	-							
H. Other Costs	-	-	-	-	-							
<b>Total Project Cost</b>	-	-	1.000	-	1.000	<b>Related Projects</b>						
						<b>Project Number</b>	<b>Title</b>	<b>FY &amp; Appn</b>	<b>Value (\$ M)</b>	<b>Facing</b>	<b>Start Date</b>	<b>Compl Date</b>

**Narrative Explanation:**  
 FY 2023 Base procurement dollars in the amount of \$1.000 million supports the procurement and installation of an automated Horizontal Machining Center, used to produce cannon piece parts. This systems replaces obsolete equipment.

**UNCLASSIFIED**

**Exhibit P-25, Production Support and Industrial Facilities Cost Analysis: PB 2023 Army** **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A / 02 / 30 **P-1 Line Item Number / Title:** 3270GC0050 / Production Base Support (WOCV-WTCV)

**Project Title:** Hollow Spindle Lathe **Project Number:** WVA0050 **Project Category:**

**End Item Supported Model:** Rifled Cannons **Annual Capacity Before / After (1-8-5):** /

Cost Elements <i>(\$ in Millions)</i>	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	<b>Facility Name:</b> Watervliet Arsenal (WVA) <b>Facility Location:</b> Watervliet, NY <b>Facility Type (GOGO, GOCO, COCO):</b> GOGO						
A. Construction Cost	-	-	-	-	-	<b>Principal Milestones</b> <span style="float: right;"><b>Month &amp; Year</b></span> Concept Design Complete: Final Design Complete: Initial/Final Project Award: Construction Complete: Equipment Installation Complete: Prove Out Begins: Prove Out Complete:						
B. Equipment Cost	-	-	-	-	-							
C. Equipment Installation Cost	-	-	-	-	-							
D. Contractor Support Cost	-	-	-	-	-							
E. Corps of Engineers Support Cost	-	-	-	-	-							
F. Other In-House Support Cost	-	-	-	-	-							
G. Total Facility Project Cost	-	-	-	-	-							
H. Other Costs	-	-	6.000	-	6.000							
<b>Total Project Cost</b>	-	-	6.000	-	6.000	<b>Related Projects</b>						
						<b>Project Number</b>	<b>Title</b>	<b>FY &amp; Appn</b>	<b>Value (\$ M)</b>	<b>Facing</b>	<b>Start Date</b>	<b>Compl Date</b>

**Narrative Explanation:**  
 FY 2023 Base procurement dollars in the amount of \$6.000 million procures two spindle lathes. The hollow spindle lathe will support up to ERCA-Length cannon, at one existing location and one new location in the factory, specifically for a guided bore system.



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**Exhibit P-25, Production Support and Industrial Facilities Cost Analysis: PB 2023 Army** **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A / 02 / 30 **P-1 Line Item Number / Title:** 3270GC0050 / Production Base Support (WOCV-WTCV)

**Project Title:** JSMC Miscellaneous Small Projects **Project Number:** JSMC001 **Project Category:**

**End Item Supported Model:** Abrams **Annual Capacity Before / After (1-8-5):** /

Cost Elements <i>(\$ in Millions)</i>	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	<b>Facility Name:</b> Joint Systems Manufacturing Center (JSMC) - Lima <b>Facility Location:</b> Lima, OH <b>Facility Type (GOGO, GOCO, COCO):</b> GOCO						
A. Construction Cost	-	-	-	-	-	<b>Principal Milestones</b> <span style="float: right;"><b>Month &amp; Year</b></span> Concept Design Complete: Final Design Complete: Initial/Final Project Award: Construction Complete: Equipment Installation Complete: Prove Out Begins: Prove Out Complete:						
B. Equipment Cost	2.276	7.485	-	-	-							
C. Equipment Installation Cost	-	-	-	-	-							
D. Contractor Support Cost	-	-	-	-	-							
E. Corps of Engineers Support Cost	-	-	-	-	-							
F. Other In-House Support Cost	-	-	-	-	-							
G. Total Facility Project Cost	-	-	-	-	-							
H. Other Costs	-	-	-	-	-							
<b>Total Project Cost</b>	<b>2.276</b>	<b>7.485</b>	-	-	-	<b>Related Projects</b>						
						<b>Project Number</b>	<b>Title</b>	<b>FY &amp; Appn</b>	<b>Value (\$ M)</b>	<b>Facing</b>	<b>Start Date</b>	<b>Compl Date</b>

**Narrative Explanation:**  
 This is no FY 2023 budget request for this project.

FY 2022 Base procurement dollars in the amount of \$7.485 million support the Abrams Tank Production Process and Abrams Industrial Base by focusing on maintaining improving, optimizing, and modernizing the manufacturing facilities located at the Joint Systems Manufacturing Center (JSMC) - Lima, OH. These small projects include, but are not limited to: rehabilitation and modernization of office spaces in various buildings on the property; perimeter fence clearing, zone spraying, and dead tree cutting; refurbishing and modernizing bridgeports and the manufacturing center; replacing, modernizing, and updating equipment (i.e., tractor tows, Harlan warehouse tractors, pallet jack hand lifts, stacker walks, concrete, cranes?etc.) that are past their useful life and/or have been in service for over 20 years.

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**Exhibit P-25, Production Support and Industrial Facilities Cost Analysis: PB 2023 Army** **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A / 02 / 30 **P-1 Line Item Number / Title:** 3270GC0050 / Production Base Support (WOCV-WTCV)

**Project Title:** Advanced Welding System **Project Number:** JSMC002 **Project Category:**

**End Item Supported Model:** Abrams **Annual Capacity Before / After (1-8-5):** /

Cost Elements <i>(\$ in Millions)</i>	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Facility Name: Joint Systems Manufacturing Center (JSMC) - Lima Facility Location: Lima, OH Facility Type (GOGO, GOCO, COCO): GOCO						
A. Construction Cost	-	-	-	-	-	<b>Principal Milestones</b> <span style="float: right;"><b>Month &amp; Year</b></span> Concept Design Complete: Final Design Complete: Initial/Final Project Award: Construction Complete: Equipment Installation Complete: Prove Out Begins: Prove Out Complete:						
B. Equipment Cost	1.165	-	-	-	-							
C. Equipment Installation Cost	-	-	-	-	-							
D. Contractor Support Cost	-	-	-	-	-							
E. Corps of Engineers Support Cost	-	-	-	-	-							
F. Other In-House Support Cost	-	-	-	-	-							
G. Total Facility Project Cost	-	-	-	-	-							
H. Other Costs	-	-	-	-	-							
Total Project Cost	1.165	-	-	-	-							
						<b>Related Projects</b>						
						<b>Project Number</b>	<b>Title</b>	<b>FY &amp; Appn</b>	<b>Value (\$ M)</b>	<b>Facing</b>	<b>Start Date</b>	<b>Compl Date</b>

**Narrative Explanation:**  
 There is no FY 2023 budget request for this project.

FY 2021 Base procurement dollars in the amount of \$1.165 million support procurement and installation of equipment in fabrication areas for the Advanced Welding Systems modernization project at the Joint Systems Manufacturing Center (JSMC) - Lima, OH. This project supports boom mounted weld systems for ergo/safety improvements. These systems include overhead booms that improve work area layout by having cables/leads removed from the floor. The systems reduce non-weld time activities resulted in productivity gains. These weld systems replace old assets that are either out of service or at the end of their service life.

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**Exhibit P-25, Production Support and Industrial Facilities Cost Analysis: PB 2023 Army** **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A / 02 / 30 **P-1 Line Item Number / Title:** 3270GC0050 / Production Base Support (WOCV-WTCV)

**Project Title:** Large Plate Blast **Project Number:** JSMC003 **Project Category:**

**End Item Supported Model:** **Annual Capacity Before / After (1-8-5): /**

Cost Elements <i>(\$ in Millions)</i>	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Facility Name: Joint Systems Manufacturing Center (JSMC) - Lima Facility Location: Lima, OH Facility Type (GOGO, GOCO, COCO): GOCO						
A. Construction Cost	-	-	-	-	-	<b>Principal Milestones</b> <span style="float: right;"><b>Month &amp; Year</b></span> Concept Design Complete: Final Design Complete: Initial/Final Project Award: Construction Complete: Equipment Installation Complete: Prove Out Begins: Prove Out Complete:						
B. Equipment Cost	1.344	-	-	-	-							
C. Equipment Installation Cost	-	-	-	-	-							
D. Contractor Support Cost	-	-	-	-	-							
E. Corps of Engineers Support Cost	-	-	-	-	-							
F. Other In-House Support Cost	-	-	-	-	-							
G. Total Facility Project Cost	-	-	-	-	-							
H. Other Costs	-	-	-	-	-							
Total Project Cost	1.344	-	-	-	-							
						<b>Related Projects</b>						
						<b>Project Number</b>	<b>Title</b>	<b>FY &amp; Appn</b>	<b>Value (\$ M)</b>	<b>Facing</b>	<b>Start Date</b>	<b>Compl Date</b>

**Narrative Explanation:**  
 There is no FY 2023 budget request for this project.

FY 2021 Base procurement dollars in the amount of \$1.344 million support the replacement of existing and aging blast system currently in use for M1 Abrams tank refurbishment, as well as, other tracked and combat vehicles. The life expectancy of shot blasting equipment is typically 15-20 years. Due to the harsh operating environment, the current system frequently experiences electrical and mechanical problems associated with deterioration. Due to the age of the current system, parts obsolescence and excess downtime have resulted in high maintenance costs. This system also lacks modern technological advancements that would improve the overall plate blasting efficiencies. The current equipment has been in service for approximately 40 years and this effort will bring the Large Plate Coating removal stripping and cleaning system to modern standards at the Joint Systems Manufacturing Center (JSMC) - Lima, OH.

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**Exhibit P-25, Production Support and Industrial Facilities Cost Analysis: PB 2023 Army** **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A / 02 / 30 **P-1 Line Item Number / Title:** 3270GC0050 / Production Base Support (WOCV-WTCV)

**Project Title:** VMC 5-Axis (Component Machine) **Project Number:** JSMC004 **Project Category:**

**End Item Supported Model:** Abrams **Annual Capacity Before / After (1-8-5):** /

Cost Elements <i>(\$ in Millions)</i>	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Facility Name: Joint Systems Manufacturing Center (JSMC) - Lima Facility Location: Lima, OH Facility Type (GOGO, GOCO, COCO): GOCO						
A. Construction Cost	-	-	-	-	-	<b>Principal Milestones</b> <span style="float: right;"><b>Month &amp; Year</b></span> Concept Design Complete: Final Design Complete: Initial/Final Project Award: Construction Complete: Equipment Installation Complete: Prove Out Begins: Prove Out Complete:						
B. Equipment Cost	2.351	-	-	-	-							
C. Equipment Installation Cost	-	-	-	-	-							
D. Contractor Support Cost	-	-	-	-	-							
E. Corps of Engineers Support Cost	-	-	-	-	-							
F. Other In-House Support Cost	-	-	-	-	-							
G. Total Facility Project Cost	-	-	-	-	-							
H. Other Costs	-	-	-	-	-							
<b>Total Project Cost</b>	<b>2.351</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>Related Projects</b>						
						<b>Project Number</b>	<b>Title</b>	<b>FY &amp; Appn</b>	<b>Value (\$ M)</b>	<b>Facing</b>	<b>Start Date</b>	<b>Compl Date</b>

**Narrative Explanation:**

There is no FY 2023 budget request for this project.

FY 2021 Base procurement dollars in the amount of \$2.351 million support the procurement of Virtual Machining Center(s) (VMC) equipment to support 5-axis computer controlled machining of bent or broken parts which can be milled into complex shapes and designs. CE79 and CE90 currently are at the end of their service life. CE79 was installed in 1985 and CE90 was installed in 1999. They frequently experience electrical and mechanical problems associated with deterioration. The age of these machines results in part obsolescence which then causes excess downtime and high maintenance cost. These machines also lack modern technological advancements that could improve cycle times and reduce product cost. Funding also supports the removal and disposal of two (2) existing aged out equipment and replaces it with one (1) new machining center at the Joint Systems Manufacturing Center (JSMC) - Lima, OH.

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**Exhibit P-25, Production Support and Industrial Facilities Cost Analysis: PB 2023 Army** **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A / 02 / 30 **P-1 Line Item Number / Title:** 3270GC0050 / Production Base Support (WOCV-WTCV)

**Project Title:** Replacement - Fume Extraction in Turret Processing Stations **Project Number:** JSMC005 **Project Category:**

**End Item Supported Model:** Abrams **Annual Capacity Before / After (1-8-5):** /

Cost Elements <i>(\$ in Millions)</i>	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Facility Name: Joint Systems Manufacturing Center (JSMC) - Lima Facility Location: Lima, OH Facility Type (GOGO, GOCO, COCO): GOCO						
A. Construction Cost	-	-	-	-	-	<b>Principal Milestones</b> <span style="float: right;"><b>Month &amp; Year</b></span> Concept Design Complete: Final Design Complete: Initial/Final Project Award: Construction Complete: Equipment Installation Complete: Prove Out Begins: Prove Out Complete:						
B. Equipment Cost	4.901	-	-	-	-							
C. Equipment Installation Cost	-	-	-	-	-							
D. Contractor Support Cost	-	-	-	-	-							
E. Corps of Engineers Support Cost	-	-	-	-	-							
F. Other In-House Support Cost	-	-	-	-	-							
G. Total Facility Project Cost	-	-	-	-	-							
H. Other Costs	-	-	-	-	-							
Total Project Cost	4.901	-	-	-	-							
						<b>Related Projects</b>						
						<b>Project Number</b>	<b>Title</b>	<b>FY &amp; Appn</b>	<b>Value (\$ M)</b>	<b>Facing</b>	<b>Start Date</b>	<b>Compl Date</b>

**Narrative Explanation:**  
There is no FY 2023 budget request for this project.

FY 2021 Base procurement dollars in the amount of \$4.901 million support the removal and disposal of an approximately 40-year old fume extraction system and the procurement and installation of modern and OSHA compliant equipment in Turret Processing Stations at the Joint Systems Manufacturing Center (JSMC) - Lima, OH and is a total replacement of the fume extraction in Building 351. Work will be completed by bay and will include all new ductwork, new fume collectors, arms, fume collectors, etc.

**UNCLASSIFIED**

**Exhibit P-25, Production Support and Industrial Facilities Cost Analysis: PB 2023 Army** **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A / 02 / 30 **P-1 Line Item Number / Title:** 3270GC0050 / Production Base Support (WOCV-WTCV)

**Project Title:** Refurb Straightening Press **Project Number:** JSMC006 **Project Category:**

**End Item Supported Model:** Abrams **Annual Capacity Before / After (1-8-5):** /

Cost Elements <i>(\$ in Millions)</i>	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Facility Name: Joint Systems Manufacturing Center (JSMC) - Lima Facility Location: Lima, OH Facility Type (GOGO, GOCO, COCO): GOCO						
A. Construction Cost	-	-	-	-	-	<b>Principal Milestones</b> <span style="float: right;"><b>Month &amp; Year</b></span> Concept Design Complete: Final Design Complete: Initial/Final Project Award: Construction Complete: Equipment Installation Complete: Prove Out Begins: Prove Out Complete:						
B. Equipment Cost	2.280	-	-	-	-							
C. Equipment Installation Cost	-	-	-	-	-							
D. Contractor Support Cost	-	-	-	-	-							
E. Corps of Engineers Support Cost	-	-	-	-	-							
F. Other In-House Support Cost	-	-	-	-	-							
G. Total Facility Project Cost	-	-	-	-	-							
H. Other Costs	-	-	-	-	-							
Total Project Cost	2.280	-	-	-	-							
						<b>Related Projects</b>						
						<b>Project Number</b>	<b>Title</b>	<b>FY &amp; Appn</b>	<b>Value (\$ M)</b>	<b>Facing</b>	<b>Start Date</b>	<b>Compl Date</b>

**Narrative Explanation:**  
 There is no FY 2023 budget request for this project.

FY 2021 Base procurement dollars in the amount of \$2.280 million support procurement of equipment to replace large hydraulic straightening and machinery installed in the 1980's with modern equipment for straightening and bending process at the Joint Systems Manufacturing Center (JSMC) - Lima, OH. CE-10 straightening press was placed into service in 1985 and needs to be refurbished due to parts that are becoming obsolete and the controls systems need to be updated to incorporate newer technologies. The age of the machine and parts obsolescence causes excess downtime and high maintenance costs, as well as, currently lacks modern technological advancements that could improve accuracy and productivity.

**UNCLASSIFIED**

**Exhibit P-25, Production Support and Industrial Facilities Cost Analysis: PB 2023 Army** **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A / 02 / 30 **P-1 Line Item Number / Title:** 3270GC0050 / Production Base Support (WOCV-WTCV)

**Project Title:** Electrical Busbar Replacement in Manufacturing Bldgs **Project Number:** JSMC007 **Project Category:**

**End Item Supported Model:** **Annual Capacity Before / After (1-8-5): /**

Cost Elements <i>(\$ in Millions)</i>	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Facility Name: Joint Systems Manufacturing Center (JSMC) - Lima Facility Location: Lima, OH Facility Type (GOGO, GOCO, COCO): GOCO						
A. Construction Cost	-	-	-	-	-	<b>Principal Milestones</b> <span style="float: right;"><b>Month &amp; Year</b></span> Concept Design Complete: Final Design Complete: Initial/Final Project Award: Construction Complete: Equipment Installation Complete: Prove Out Begins: Prove Out Complete:						
B. Equipment Cost	6.554	-	-	-	-							
C. Equipment Installation Cost	-	-	-	-	-							
D. Contractor Support Cost	-	-	-	-	-							
E. Corps of Engineers Support Cost	-	-	-	-	-							
F. Other In-House Support Cost	-	-	-	-	-							
G. Total Facility Project Cost	-	-	-	-	-							
H. Other Costs	-	-	-	-	-							
Total Project Cost	6.554	-	-	-	-							
						<b>Related Projects</b>						
						<b>Project Number</b>	<b>Title</b>	<b>FY &amp; Appn</b>	<b>Value (\$ M)</b>	<b>Facing</b>	<b>Start Date</b>	<b>Compl Date</b>

**Narrative Explanation:**  
There is no FY 2023 budget request for this project.

FY 2021 Base procurement dollars in the amount of \$6.554 million support replacement and modernization of electrical busbar in two (2) manufacturing buildings. The manufacturing facilities electrical systems are high demand and have not been refurbished in approximately 30 years. The modernized systems will restore lost capability and increased electrical demand, as well as, bring electrical compliance with current electrical code at the Joint Systems Manufacturing Center (JSMC) - Lima, OH.

**UNCLASSIFIED**

**Exhibit P-25, Production Support and Industrial Facilities Cost Analysis: PB 2023 Army** **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A / 02 / 30 **P-1 Line Item Number / Title:** 3270GC0050 / Production Base Support (WOCV-WTCV)

**Project Title:** Remove TM004 and Install New Machine at TM005 Location **Project Number:** JSMC008 **Project Category:**

**End Item Supported Model:** **Annual Capacity Before / After (1-8-5): /**

Cost Elements <i>(\$ in Millions)</i>	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	<b>Facility Name:</b> Joint Systems Manufacturing Center (JSMC) - Lima <b>Facility Location:</b> Lima, OH <b>Facility Type (GOGO, GOCO, COCO):</b> GOCO						
A. Construction Cost	-	-	-	-	-	<b>Principal Milestones</b> <span style="float: right;"><b>Month &amp; Year</b></span> Concept Design Complete: Final Design Complete: Initial/Final Project Award: Construction Complete: Equipment Installation Complete: Prove Out Begins: Prove Out Complete:						
B. Equipment Cost	-	-	-	-	-							
C. Equipment Installation Cost	-	-	-	-	-							
D. Contractor Support Cost	-	-	-	-	-							
E. Corps of Engineers Support Cost	-	-	-	-	-							
F. Other In-House Support Cost	-	-	-	-	-							
G. Total Facility Project Cost	-	-	-	-	-							
H. Other Costs	-	6.500	-	-	-							
<b>Total Project Cost</b>	-	6.500	-	-	-	<b>Related Projects</b>						
						<b>Project Number</b>	<b>Title</b>	<b>FY &amp; Appn</b>	<b>Value (\$ M)</b>	<b>Facing</b>	<b>Start Date</b>	<b>Compl Date</b>

**Narrative Explanation:**  
 There is no FY 2023 budget request for this project.

FY 2022 Base procurement dollars in the amount of \$6.500 million support the purchase of a modernized medium sized Horizontal Boring Mill (HBM) with rotary table at the Joint Systems Manufacturing Center (JSMC) - Lima, OH. The TM004, which was installed in 1982, is currently at the end of its useful life and parts/components are becoming obsolete. This modernized equipment will replace the existing system and provide increased capability and automation.



**UNCLASSIFIED**

**Exhibit P-25, Production Support and Industrial Facilities Cost Analysis: PB 2023 Army** **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A / 02 / 30 **P-1 Line Item Number / Title:** 3270GC0050 / Production Base Support (WOCV-WTCV)

**Project Title:** Replace CE92 & CE96 Vertical Machining Centers (VMCs) **Project Number:** JSMC009 **Project Category:**

**End Item Supported Model:** **Annual Capacity Before / After (1-8-5): /**

Cost Elements <i>(\$ in Millions)</i>	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Facility Name: Joint Systems Manufacturing Center (JSMC) - Lima Facility Location: Lima, OH Facility Type (GOGO, GOCO, COCO): GOCO						
A. Construction Cost	-	-	-	-	-	<b>Principal Milestones</b> <span style="float: right;"><b>Month &amp; Year</b></span> Concept Design Complete: Final Design Complete: Initial/Final Project Award: Construction Complete: Equipment Installation Complete: Prove Out Begins: Prove Out Complete:						
B. Equipment Cost	-	-	-	-	-							
C. Equipment Installation Cost	-	-	-	-	-							
D. Contractor Support Cost	-	-	-	-	-							
E. Corps of Engineers Support Cost	-	-	-	-	-							
F. Other In-House Support Cost	-	-	-	-	-							
G. Total Facility Project Cost	-	-	-	-	-							
H. Other Costs	-	2.500	-	-	-							
<b>Total Project Cost</b>	-	2.500	-	-	-	<b>Related Projects</b>						
						<b>Project Number</b>	<b>Title</b>	<b>FY &amp; Appn</b>	<b>Value (\$ M)</b>	<b>Facing</b>	<b>Start Date</b>	<b>Compl Date</b>

**Narrative Explanation:**  
 There is no FY 2023 budget request for this project.

FY 2022 Base procurement funds in the amount of \$2.500 million support the replacement of the existing Vertical Machining Centers (VMCs) with modernized systems which are more reliable, automated and have more capabilities at the Joint Systems Manufacturing Center (JSMC) - Lima, OH. The current VMCs are 15 - 20 years old and are experiencing high repair and maintenance costs.

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**Exhibit P-25, Production Support and Industrial Facilities Cost Analysis: PB 2023 Army** **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A / 02 / 30 **P-1 Line Item Number / Title:** 3270GC0050 / Production Base Support (WOCV-WTCV)

**Project Title:** Remove TR76 and TR77 and Replace with (1) Vertical Machining Center (VMC) **Project Number:** JSMC010 **Project Category:**

**End Item Supported Model:** Abrams **Annual Capacity Before / After (1-8-5):** /

Cost Elements <i>(\$ in Millions)</i>	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Facility Name: Joint Systems Manufacturing Center (JSMC) - Lima Facility Location: Lima, OH Facility Type (GOGO, GOCO, COCO): GOCO					
A. Construction Cost	-	-	-	-	-	<b>Principal Milestones</b> <span style="float: right;"><b>Month &amp; Year</b></span> Concept Design Complete: Final Design Complete: Initial/Final Project Award: Construction Complete: Equipment Installation Complete: Prove Out Begins: Prove Out Complete:					
B. Equipment Cost	-	-	-	-	-						
C. Equipment Installation Cost	-	-	-	-	-						
D. Contractor Support Cost	-	-	-	-	-						
E. Corps of Engineers Support Cost	-	-	-	-	-						
F. Other In-House Support Cost	-	-	-	-	-						
G. Total Facility Project Cost	-	-	-	-	-						
H. Other Costs	-	1.750	-	-	-						
Total Project Cost	-	1.750	-	-	-						
<b>Related Projects</b>											
	<b>Project Number</b>	<b>Title</b>	<b>FY &amp; Appn</b>	<b>Value (\$ M)</b>	<b>Facing</b>	<b>Start Date</b>	<b>Compl Date</b>				

**Narrative Explanation:**  
 There is no FY 2023 budget request for this project.

FY 2022 Base procurement dollars in the amount of \$1.750 million support the removal and replacement of two Virtual Machining Centers that are 22 and 25 years old and at the end of their useful life. The old VMCs experience excessive downtime, require continual repair, and have incurred high maintenance costs. The new modernized Vertical Machining Center (VMC) will be more efficient and will provide improved capabilities.

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**Exhibit P-25, Production Support and Industrial Facilities Cost Analysis: PB 2023 Army** **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A / 02 / 30 **P-1 Line Item Number / Title:** 3270GC0050 / Production Base Support (WOCV-WTCV)

**Project Title:** Replace SB13 with Robotic Blast Booth **Project Number:** JSMC011 **Project Category:**

**End Item Supported Model:** Abrams **Annual Capacity Before / After (1-8-5):** /

Cost Elements <i>(\$ in Millions)</i>	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Facility Name: Joint Systems Manufacturing Center (JSMC) - Lima Facility Location: Lima, OH Facility Type (GOGO, GOCO, COCO): GOCO						
A. Construction Cost	-	-	-	-	-	<b>Principal Milestones</b> <span style="float: right;"><b>Month &amp; Year</b></span> Concept Design Complete: Final Design Complete: Initial/Final Project Award: Construction Complete: Equipment Installation Complete: Prove Out Begins: Prove Out Complete:						
B. Equipment Cost	-	-	-	-	-							
C. Equipment Installation Cost	-	-	-	-	-							
D. Contractor Support Cost	-	-	-	-	-							
E. Corps of Engineers Support Cost	-	-	-	-	-							
F. Other In-House Support Cost	-	-	-	-	-							
G. Total Facility Project Cost	-	-	-	-	-							
H. Other Costs	-	5.500	-	-	-							
<b>Total Project Cost</b>	-	5.500	-	-	-	<b>Related Projects</b>						
						<b>Project Number</b>	<b>Title</b>	<b>FY &amp; Appn</b>	<b>Value (\$ M)</b>	<b>Facing</b>	<b>Start Date</b>	<b>Compl Date</b>

**Narrative Explanation:**  
 There is no FY 2023 budget request for this project.

FY 2022 Base procurement dollars in the amount of \$5.500 million support the purchase and installation of an automated robotic blast system to replace the existing manual blast system. The current equipment, installed in 2007, is near the end of its useful life and has become severely worn due to the nature of the blasting environment.

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**Exhibit P-25, Production Support and Industrial Facilities Cost Analysis:** PB 2023 Army **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A / 02 / 30 **P-1 Line Item Number / Title:** 3270GC0050 / Production Base Support (WOCV-WTCV)

**Project Title:** RFID Asset Tracking **Project Number:** JSMC012 **Project Category:**

**End Item Supported Model:** Multiple Systems **Annual Capacity Before / After (1-8-5):** /

Cost Elements <i>(\$ in Millions)</i>	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Facility Name: Joint Systems Manufacturing Center (JSMC) - Lima Facility Location: Lima, OH Facility Type (GOGO, GOCO, COCO): GOCO						
A. Construction Cost	-	-	-	-	-	<b>Principal Milestones</b> <span style="float: right;"><b>Month &amp; Year</b></span> Concept Design Complete: Final Design Complete: Initial/Final Project Award: Construction Complete: Equipment Installation Complete: Prove Out Begins: Prove Out Complete:						
B. Equipment Cost	-	-	-	-	-							
C. Equipment Installation Cost	-	-	-	-	-							
D. Contractor Support Cost	-	-	-	-	-							
E. Corps of Engineers Support Cost	-	-	-	-	-							
F. Other In-House Support Cost	-	-	-	-	-							
G. Total Facility Project Cost	-	-	-	-	-							
H. Other Costs	-	1.653	-	-	-							
<b>Total Project Cost</b>	-	1.653	-	-	-	<b>Related Projects</b>						
						<b>Project Number</b>	<b>Title</b>	<b>FY &amp; Appn</b>	<b>Value (\$ M)</b>	<b>Facing</b>	<b>Start Date</b>	<b>Compl Date</b>

**Narrative Explanation:**  
 There is no FY 2023 budget request for this project.

FY 2022 Base procurement dollars in the amount of \$1.653 million supports the design and procurement of a Radio Frequency Identification (RFID) Asset Tracking system to needed to modernize the tool room infrastructure. This automated RFID tracking system is required to ensure accountability of United States Government (USG) assets throughout the Joint Systems Manufacturing Center (JSMC) - Lima, OH.

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**Exhibit P-25, Production Support and Industrial Facilities Cost Analysis: PB 2023 Army** **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A / 02 / 30 **P-1 Line Item Number / Title:** 3270GC0050 / Production Base Support (WOCV-WTCV)

**Project Title:** Robotic Machine Tending Systems **Project Number:** JSMC013 **Project Category:**

**End Item Supported Model:** **Annual Capacity Before / After (1-8-5): /**

Cost Elements <i>(\$ in Millions)</i>	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Facility Name: Joint Systems Manufacturing Center (JSMC) - Lima Facility Location: Lima, OH Facility Type (GOGO, GOCO, COCO): GOCO						
A. Construction Cost	-	-	-	-	-	<b>Principal Milestones</b> <span style="float: right;"><b>Month &amp; Year</b></span> Concept Design Complete: Final Design Complete: Initial/Final Project Award: Construction Complete: Equipment Installation Complete: Prove Out Begins: Prove Out Complete:						
B. Equipment Cost	-	-	-	-	-							
C. Equipment Installation Cost	-	-	-	-	-							
D. Contractor Support Cost	-	-	-	-	-							
E. Corps of Engineers Support Cost	-	-	-	-	-							
F. Other In-House Support Cost	-	-	-	-	-							
G. Total Facility Project Cost	-	-	-	-	-							
H. Other Costs	-	1.000	-	-	-							
<b>Total Project Cost</b>	-	1.000	-	-	-	<b>Related Projects</b>						
						<b>Project Number</b>	<b>Title</b>	<b>FY &amp; Appn</b>	<b>Value (\$ M)</b>	<b>Facing</b>	<b>Start Date</b>	<b>Compl Date</b>

**Narrative Explanation:**  
 There is no FY 2023 budget request for this project.

FY 2022 Base procurement dollars in the amount \$1.000 million support the purchase of an automated Robotic Machine Tending System for load/unload of component machining centers. The use of Collaborative Robots (Cobots) increase safety and reduce injury; increase output and accuracy; and are able to operate in harsh environments.

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**Exhibit P-25, Production Support and Industrial Facilities Cost Analysis: PB 2023 Army** **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A / 02 / 30 **P-1 Line Item Number / Title:** 3270GC0050 / Production Base Support (WOCV-WTCV)

**Project Title:** Repair/Refurbish/Replace Locomotive(s) **Project Number:** JSMC014 **Project Category:**

**End Item Supported Model:** Abrams **Annual Capacity Before / After (1-8-5):** /

Cost Elements <i>(\$ in Millions)</i>	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Facility Name: Joint Systems Manufacturing Center (JSMC) - Lima Facility Location: Lima, OH Facility Type (GOGO, GOCO, COCO): GOCO						
A. Construction Cost	-	-	-	-	-	<b>Principal Milestones</b> <span style="float: right;"><b>Month &amp; Year</b></span> Concept Design Complete: Final Design Complete: Initial/Final Project Award: Construction Complete: Equipment Installation Complete: Prove Out Begins: Prove Out Complete:						
B. Equipment Cost	-	-	-	-	-							
C. Equipment Installation Cost	-	-	-	-	-							
D. Contractor Support Cost	-	-	-	-	-							
E. Corps of Engineers Support Cost	-	-	-	-	-							
F. Other In-House Support Cost	-	-	-	-	-							
G. Total Facility Project Cost	-	-	-	-	-							
H. Other Costs	-	2.381	-	-	-							
Total Project Cost	-	2.381	-	-	-							
							Related Projects					
						Project Number	Title	FY & Appn	Value <i>(\$ M)</i>	Facing	Start Date	Compl Date

**Narrative Explanation:**  
There is no FY 2023 budget request for this project.

FY 2022 Base procurement dollars in the amount of \$2.381 million support the repair, refurbishment or replacement of aging locomotives at Joint Systems Manufacturing Center (JSMC) - Lima, OH. Locomotives are used extensively to push and rearrange transport cars within the JSMC rail yard to facilitate the unloading/loading of tanks. The typical lifespan of a locomotive is 25 to 30 years and the average age of locomotives in service at JSMC is 32 years.

**UNCLASSIFIED**

**Exhibit P-25, Production Support and Industrial Facilities Cost Analysis: PB 2023 Army** **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A / 02 / 30 **P-1 Line Item Number / Title:** 3270GC0050 / Production Base Support (WOCV-WTCV)

**Project Title:** Autonomous Material Handling **Project Number:** JSMC015 **Project Category:**

**End Item Supported Model:** **Annual Capacity Before / After (1-8-5):** /

Cost Elements <i>(\$ in Millions)</i>	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Facility Name: Joint Systems Manufacturing Center (JSMC) - Lima Facility Location: Lima, OH Facility Type (GOGO, GOCO, COCO): GOCO						
A. Construction Cost	-	-	-	-	-	<b>Principal Milestones</b> <span style="float: right;"><b>Month &amp; Year</b></span> Concept Design Complete: Final Design Complete: Initial/Final Project Award: Construction Complete: Equipment Installation Complete: Prove Out Begins: Prove Out Complete:						
B. Equipment Cost	-	-	-	-	-							
C. Equipment Installation Cost	-	-	-	-	-							
D. Contractor Support Cost	-	-	-	-	-							
E. Corps of Engineers Support Cost	-	-	-	-	-							
F. Other In-House Support Cost	-	-	-	-	-							
G. Total Facility Project Cost	-	-	-	-	-							
H. Other Costs	-	2.000	-	-	-							
<b>Total Project Cost</b>	-	2.000	-	-	-	<b>Related Projects</b>						
						<b>Project Number</b>	<b>Title</b>	<b>FY &amp; Appn</b>	<b>Value (\$ M)</b>	<b>Facing</b>	<b>Start Date</b>	<b>Compl Date</b>

**Narrative Explanation:**  
 There is no FY 2023 budget request for this project.

FY 2022 Base procurement dollars in the amount of \$2.000 million support the design of space, facilities and installation of required infrastructure to support autonomous material handling and remote monitoring of automated equipment at the Joint Systems Manufacturing Center (JSMC) - Lima, OH. Autonomous material handling systems are not only more efficient, they provide increased safety, as well as, assist in providing for a cleaner environment by reducing the amount of fossil fuels used for repetitive material moves throughout the facility.

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<b>Exhibit P-25, Production Support and Industrial Facilities Cost Analysis:</b> PB 2023 Army	<b>Date:</b> April 2022
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<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2033A / 02 / 30	<b>P-1 Line Item Number / Title:</b> 3270GC0050 / Production Base Support (WOCV-WTCV)
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<b>Project Title:</b> Build 351 - Rehab South End Office Complex	<b>Project Number:</b> JSMC016	<b>Project Category:</b>
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<b>End Item Supported Model:</b>	<b>Annual Capacity Before / After (1-8-5):</b> /
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Cost Elements <i>(\$ in Millions)</i>	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Facility Name: Joint Systems Manufacturing Center (JSMC) - Lima Facility Location: Lima, OH Facility Type (GOGO, GOCO, COCO): GOCO						
A. Construction Cost	-	-	-	-	-	<b>Principal Milestones</b> <span style="float:right"><b>Month &amp; Year</b></span> Concept Design Complete: Final Design Complete: Initial/Final Project Award: Construction Complete: Equipment Installation Complete: Prove Out Begins: Prove Out Complete:						
B. Equipment Cost	-	-	-	-	-							
C. Equipment Installation Cost	-	-	-	-	-							
D. Contractor Support Cost	-	-	-	-	-							
E. Corps of Engineers Support Cost	-	-	-	-	-							
F. Other In-House Support Cost	-	-	-	-	-							
G. Total Facility Project Cost	-	-	-	-	-							
H. Other Costs	-	2.000	-	-	-							
Total Project Cost	-	2.000	-	-	-							
<b>Related Projects</b>												
	<b>Project Number</b>	<b>Title</b>	<b>FY &amp; Appn</b>	<b>Value (\$ M)</b>	<b>Facing</b>	<b>Start Date</b>	<b>Compl Date</b>					

**Narrative Explanation:**  
 There is no FY 2023 budget request for this project.

FY 2022 Base procurement dollars in the amount of \$2.000 million support modernization of the breakroom and the upstairs locker room area at the Joint Systems Manufacturing Center (JSMC) - Lima, OH and will provide design space and facilities for remote monitoring of automated equipment.



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**Exhibit P-25, Production Support and Industrial Facilities Cost Analysis: PB 2023 Army** **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A / 02 / 30 **P-1 Line Item Number / Title:** 3270GC0050 / Production Base Support (WOCV-WTCV)

**Project Title:** Water Tower Piping Renovation **Project Number:** JSMC017 **Project Category:**

**End Item Supported Model:** JSMC Installation **Annual Capacity Before / After (1-8-5):** /

Cost Elements <i>(\$ in Millions)</i>	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	<b>Facility Name:</b> Joint Systems Manufacturing Center (JSMC) - Lima <b>Facility Location:</b> Lima, OH <b>Facility Type (GOGO, GOCO, COCO):</b> GOCO						
A. Construction Cost	-	-	-	-	-	<b>Principal Milestones</b> <span style="float: right;"><b>Month &amp; Year</b></span> Concept Design Complete: Final Design Complete: Initial/Final Project Award: Construction Complete: Equipment Installation Complete: Prove Out Begins: Prove Out Complete:						
B. Equipment Cost	-	-	-	-	-							
C. Equipment Installation Cost	-	-	-	-	-							
D. Contractor Support Cost	-	-	-	-	-							
E. Corps of Engineers Support Cost	-	-	-	-	-							
F. Other In-House Support Cost	-	-	-	-	-							
G. Total Facility Project Cost	-	-	-	-	-							
H. Other Costs	-	7.540	-	-	-							
<b>Total Project Cost</b>	-	7.540	-	-	-	<b>Related Projects</b>						
						<b>Project Number</b>	<b>Title</b>	<b>FY &amp; Appn</b>	<b>Value (\$ M)</b>	<b>Facing</b>	<b>Start Date</b>	<b>Compl Date</b>

**Narrative Explanation:**  
 There is no FY 2023 budget request for this project.

FY 2022 Base procurement dollars in the amount of \$7.540 million support the required renovation and upgrade of the Water Tower Piping at the Joint Systems Manufacturing Center (JSMC) - Lima, OH. The piping around the water tower is part of the underground utilities infrastructure designed and installed decades ago. Failure repairs have increased over the past several years and the piping has reached its expected service life.

Following an inspection completed at the end of 2020, multiple items were identified to be in need of repair or replacement. This project includes but is not limited to the underground piping around the water tower plant and northeast side of Building 147; the renovation of the water piping from the water tower to the new fire pumps and fire protection system in Building 66; new fire protection piping to Building 73 (Administration/Government Offices) and approximately 30% of Building 147 (Main Production) to include areas on the west side on Building 147 where sanitary sewer and storm drains connected, which is an Environmental Protection Agency (EPA) violation.

**UNCLASSIFIED**

**Exhibit P-25, Production Support and Industrial Facilities Cost Analysis: PB 2023 Army** **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A / 02 / 30 **P-1 Line Item Number / Title:** 3270GC0050 / Production Base Support (WOCV-WTCV)

**Project Title:** Replace Arch Beam Cranes - Safety Recall **Project Number:** JSMC018 **Project Category:**

**End Item Supported Model:** **Annual Capacity Before / After (1-8-5):** /

Cost Elements <i>(\$ in Millions)</i>	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Facility Name: Joint Systems Manufacturing Center (JSMC) - Lima Facility Location: Lima, OH Facility Type (GOGO, GOCO, COCO): GOCO																										
						Principal Milestones						Month & Year																				
A. Construction Cost	-	-	-	-	-	Concept Design Complete:																										
B. Equipment Cost	-	-	-	-	-	Final Design Complete:																										
C. Equipment Installation Cost	-	-	-	-	-	Initial/Final Project Award:																										
D. Contractor Support Cost	-	-	-	-	-	Construction Complete:																										
E. Corps of Engineers Support Cost	-	-	-	-	-	Equipment Installation Complete:																										
F. Other In-House Support Cost	-	-	-	-	-	Prove Out Begins:																										
G. Total Facility Project Cost	-	-	-	-	-	Prove Out Complete:																										
H. Other Costs	-	4.121	-	-	-	<table border="1"> <thead> <tr> <th align="center" colspan="7">Related Projects</th> </tr> <tr> <th align="center">Project Number</th> <th align="center">Title</th> <th align="center">FY &amp; Appn</th> <th align="center">Value (\$ M)</th> <th align="center">Facing</th> <th align="center">Start Date</th> <th align="center">Compl Date</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>						Related Projects							Project Number	Title	FY & Appn	Value (\$ M)	Facing	Start Date	Compl Date							
Related Projects																																
Project Number	Title	FY & Appn	Value (\$ M)	Facing	Start Date	Compl Date																										
Total Project Cost	-	4.121	-	-	-																											

**Narrative Explanation:**  
There is no FY 2023 budget request for this project.

FY 2022 Base procurement dollars in the amount of \$4.121 million supports replacement of arch beam cranes at Joint Systems Manufacturing Center (JSMC) - Lima, OH. This type of crane has not been manufactured since 1962. A safety recall has been issued for these cranes, replacement parts are no longer available and the design is no longer recommended for use in "any type" of application. The welds weaken with time and could result in Martensitic Failure resulting in the bottom rail peeling away from the web plate and the potential for catastrophic load drop failure and the potential for fatal consequences.

**UNCLASSIFIED**

**Exhibit P-25, Production Support and Industrial Facilities Cost Analysis: PB 2023 Army** **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A / 02 / 30 **P-1 Line Item Number / Title:** 3270GC0050 / Production Base Support (WOCV-WTCV)

**Project Title:** Building 281 Replace Drag Line **Project Number:** JSMC020 **Project Category:**

**End Item Supported Model:** **Annual Capacity Before / After (1-8-5):** /

Cost Elements <i>(\$ in Millions)</i>	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Facility Name: Joint Systems Manufacturing Center (JSMC) - Lima Facility Location: Lima, OH Facility Type (GOGO, GOCO, COCO): GOCO						
A. Construction Cost	-	-	-	-	-	<b>Principal Milestones</b> <span style="float: right;"><b>Month &amp; Year</b></span> Concept Design Complete: Final Design Complete: Initial/Final Project Award: Construction Complete: Equipment Installation Complete: Prove Out Begins: Prove Out Complete:						
B. Equipment Cost	-	-	-	-	-							
C. Equipment Installation Cost	-	-	-	-	-							
D. Contractor Support Cost	-	-	-	-	-							
E. Corps of Engineers Support Cost	-	-	-	-	-							
F. Other In-House Support Cost	-	-	-	-	-							
G. Total Facility Project Cost	-	-	-	-	-							
H. Other Costs	-	1.102	-	-	-							
<b>Total Project Cost</b>	-	1.102	-	-	-	<b>Related Projects</b>						
						<b>Project Number</b>	<b>Title</b>	<b>FY &amp; Appn</b>	<b>Value (\$ M)</b>	<b>Facing</b>	<b>Start Date</b>	<b>Compl Date</b>

**Narrative Explanation:**

There is no FY 2023 budget request for this project.

FY 2022 Base procurement dollars in the amount of \$1.102 million support the replacement of the Drag Line in Building 281 at Joint Systems Manufacturing Center (JSMC) - Lima, OH. The Drag Line in Building 281 has had numerous repairs through the years. The inner-workings (chains, gears, etc.) are worn out, at the end of life, and need to be replaced.

**UNCLASSIFIED**

**Exhibit P-25, Production Support and Industrial Facilities Cost Analysis: PB 2023 Army** **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A / 02 / 30 **P-1 Line Item Number / Title:** 3270GC0050 / Production Base Support (WOCV-WTCV)

**Project Title:** Replace Cooling Tower in Power House **Project Number:** JSMC021 **Project Category:**

**End Item Supported Model:** Abrams **Annual Capacity Before / After (1-8-5):** /

Cost Elements <i>(\$ in Millions)</i>	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Facility Name: Joint Systems Manufacturing Center (JSMC) - Lima Facility Location: Lima, OH Facility Type (GOGO, GOCO, COCO): GOCO						
A. Construction Cost	-	-	-	-	-	<b>Principal Milestones</b> <span style="float: right;"><b>Month &amp; Year</b></span> Concept Design Complete: Final Design Complete: Initial/Final Project Award: Construction Complete: Equipment Installation Complete: Prove Out Begins: Prove Out Complete:						
B. Equipment Cost	-	-	-	-	-							
C. Equipment Installation Cost	-	-	-	-	-							
D. Contractor Support Cost	-	-	-	-	-							
E. Corps of Engineers Support Cost	-	-	-	-	-							
F. Other In-House Support Cost	-	-	-	-	-							
G. Total Facility Project Cost	-	-	-	-	-							
H. Other Costs	-	1.160	-	-	-							
<b>Total Project Cost</b>	-	1.160	-	-	-	<b>Related Projects</b>						
						<b>Project Number</b>	<b>Title</b>	<b>FY &amp; Appn</b>	<b>Value (\$ M)</b>	<b>Facing</b>	<b>Start Date</b>	<b>Compl Date</b>

**Narrative Explanation:**  
There is no FY 2023 budget request for this project.

FY 2022 Base funding in the amount of \$1.160 million supports the replacement of the cooling tower in the power house located at Joint Systems Manufacturing Center (JSMC) - Lima, OH. The galvanized steel in the cooling tower is deteriorating beyond repair and the parts required to keep the equipment sustainable are obsolete and difficult to procure.

**UNCLASSIFIED**

**Exhibit P-25, Production Support and Industrial Facilities Cost Analysis: PB 2023 Army** **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A / 02 / 30 **P-1 Line Item Number / Title:** 3270GC0050 / Production Base Support (WOCV-WTCV)

**Project Title:** Thick Aluminum Processing Line **Project Number:** JMTC001 **Project Category:**

**End Item Supported Model:** Multiple end items **Annual Capacity Before / After (1-8-5):** /

Cost Elements <i>(\$ in Millions)</i>	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Facility Name: Rock Island Arsenal - Joint Manufacturing and Technology Center (RIA-JTMC) Facility Location: Rock Island, IL Facility Type (GOGO, GOCO, COCO): GOGO														
A. Construction Cost	-	-	-	-	-	<b>Principal Milestones</b> <span style="float: right;"><b>Month &amp; Year</b></span> Concept Design Complete: Final Design Complete: Initial/Final Project Award: Construction Complete: Equipment Installation Complete: Prove Out Begins: Prove Out Complete:														
B. Equipment Cost	18.239	-	-	-	-															
C. Equipment Installation Cost	1.895	-	-	-	-															
D. Contractor Support Cost	-	-	-	-	-															
E. Corps of Engineers Support Cost	-	-	-	-	-															
F. Other In-House Support Cost	-	-	-	-	-															
G. Total Facility Project Cost	-	-	-	-	-															
H. Other Costs	0.737	-	-	-	-															
Total Project Cost	20.871	-	-	-	-															
						<b>Related Projects</b>														
						<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">Project Number</th> <th style="width: 30%;">Title</th> <th style="width: 15%;">FY &amp; Appn</th> <th style="width: 10%;">Value (\$ M)</th> <th style="width: 10%;">Facing</th> <th style="width: 10%;">Start Date</th> <th style="width: 15%;">Compl Date</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	Project Number	Title	FY & Appn	Value (\$ M)	Facing	Start Date	Compl Date							
Project Number	Title	FY & Appn	Value (\$ M)	Facing	Start Date	Compl Date														

**Narrative Explanation:**  
 There is no FY 2023 budget request for this project.

FY 2021 Base procurement dollars in the amount of \$20.871 million support the procurement of equipment and installation costs to support automated fabrication of large metal components to include: rough milling, finish milling, automated inspection and coating processes to support production of large part components to be assembled into combat and tactical vehicle hulls at the Rock Island Arsenal Joint Manufacturing and Technology Center. Equipment to be procured includes but is not limited to: Saw Machine(s); Part Tilting Station(s); Overhead Crane(s); Part Transfer Line(s); Roughing Cell(s); Finishing Cell(s); Dipping Station(s); Paint booth(s); Cell Enclosure(s); Probing System(s); Real Time Maintenance Screen(s); High Definition Process Monitoring System and other ancillary equipment.

**UNCLASSIFIED**

**Exhibit P-25, Production Support and Industrial Facilities Cost Analysis: PB 2023 Army** **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A / 02 / 30 **P-1 Line Item Number / Title:** 3270GC0050 / Production Base Support (WOCV-WTCV)

**Project Title:** Thick Plate Machining Line Equipment **Project Number:** JMTC002 **Project Category:**

**End Item Supported Model:** AMPV, SPHS, MPF, Abrams **Annual Capacity Before / After (1-8-5):** /

Cost Elements <i>(\$ in Millions)</i>	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Facility Name: Rock Island Arsenal - Joint Manufacturing and Technology Center (RIA-JTMC) Facility Location: Rock Island, IL Facility Type (GOGO, GOCO, COCO): GOGO						
A. Construction Cost	-	-	-	-	-	<b>Principal Milestones</b> <span style="float: right;"><b>Month &amp; Year</b></span> Concept Design Complete: Final Design Complete: Initial/Final Project Award: Construction Complete: Equipment Installation Complete: Prove Out Begins: Prove Out Complete:						
B. Equipment Cost	-	8.215	-	-	-							
C. Equipment Installation Cost	-	0.295	-	-	-							
D. Contractor Support Cost	-	-	-	-	-							
E. Corps of Engineers Support Cost	-	-	-	-	-							
F. Other In-House Support Cost	-	-	-	-	-							
G. Total Facility Project Cost	-	-	-	-	-							
H. Other Costs	-	1.659	-	-	-							
<b>Total Project Cost</b>	-	10.169	-	-	-	<b>Related Projects</b>						
						<b>Project Number</b>	<b>Title</b>	<b>FY &amp; Appn</b>	<b>Value (\$ M)</b>	<b>Facing</b>	<b>Start Date</b>	<b>Compl Date</b>

**Narrative Explanation:**  
There is no FY 2023 budget request for this project.

FY 2022 Base procurement dollars in the amount of \$10.169 million support the procurement of equipment required for increasing the capacity and capability of the thick aluminum armor plate machining line at Rock Island Arsenal Joint Manufacturing and Technology Center, as well as, conduct Industrial Base studies on Organic and Commercial support to the Defense Industrial base. Machined thick plate aluminum vehicle components minimizes the dependence on welding and forgings, improving quality and decreasing lead times. This processing technology will reduce the number of welds to minimize issues associated with weld quality and reduce the propensity for shock induced weld rupture, which addresses the Armored Multi-Purpose Vehicle (AMPV) Capability Development Document (CDD) requirements for System Survivability and Force Protection. In addition, unitized structure will address "idler cracking" observed during AMPV mobility testing. Decreases in weld defects and distortions in hull structure will minimize rework and production delays. 14 AMPV components have been prototyped and are ready to be manufactured using this new production capability. Equipment includes, but is not limited to, a second roughing station, a second shuttle carriage and finishing station, and will support the automated fabrication of large machined components for the production of Army vehicles.

- Equipment cost details:
- 1) Second Roughing Station: This would increase the capacity of the line and remove a single point issue with the robotic machining.
  - 2) Second Shuttle Carriage with additional wait stations: This would allow more flexibility in the movement of parts on the line as well as allow longer periods of un-manned operation by allowing more stations to be prepared ahead.
  - 3) Second Finishing Station: This would increase the throughput of the line and further extend unmanned operation time.
  - 4) Thick Plate Machining Ancillary Equipment: Fixture manufacturing capability and refined fixtures to support the milling operations.

**UNCLASSIFIED**

**Exhibit P-25, Production Support and Industrial Facilities Cost Analysis: PB 2023 Army** **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A / 02 / 30 **P-1 Line Item Number / Title:** 3270GC0050 / Production Base Support (WOCV-WTCV)

**Project Title:** Tool Room Modernization **Project Number:** JMTC003 **Project Category:**

**End Item Supported Model:** AMPV, SPHS, MPF, Abrams **Annual Capacity Before / After (1-8-5):** /

Cost Elements <i>(\$ in Millions)</i>	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Facility Name: Rock Island Arsenal - Joint Manufacturing and Technology Center (RIA-JTMC) Facility Location: Rock Island, IL Facility Type (GOGO, GOCO, COCO): GOGO														
A. Construction Cost	-	-	-	-	-	<b>Principal Milestones</b> <span style="float: right;"><b>Month &amp; Year</b></span> Concept Design Complete: Final Design Complete: Initial/Final Project Award: Construction Complete: Equipment Installation Complete: Prove Out Begins: Prove Out Complete:														
B. Equipment Cost	-	0.838	-	-	-															
C. Equipment Installation Cost	-	0.040	-	-	-															
D. Contractor Support Cost	-	-	-	-	-															
E. Corps of Engineers Support Cost	-	-	-	-	-															
F. Other In-House Support Cost	-	0.060	-	-	-															
G. Total Facility Project Cost	-	-	-	-	-															
H. Other Costs	-	-	-	-	-															
Total Project Cost	-	0.938	-	-	-															
							<b>Related Projects</b>													
						<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">Project Number</th> <th style="width: 30%;">Title</th> <th style="width: 10%;">FY &amp; Appn</th> <th style="width: 10%;">Value (\$ M)</th> <th style="width: 10%;">Facing</th> <th style="width: 10%;">Start Date</th> <th style="width: 10%;">Compl Date</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	Project Number	Title	FY & Appn	Value (\$ M)	Facing	Start Date	Compl Date							
Project Number	Title	FY & Appn	Value (\$ M)	Facing	Start Date	Compl Date														

**Narrative Explanation:**  
 There is no FY 2023 budget request for this project.

FY 2022 Base procurement dollars in the amount of \$.938 million support the procurement of equipment required for increasing the capacity and precision of the tool room at Rock Island Arsenal Joint Manufacturing and Technology Center (JMTC). Equipment includes, but is not limited to, several new small machines (grinders, measuring equipment, lathes, mills) to enable fabrication of tools and fixtures for use on all JMTC programs to include the thick plate milling line. Project enables fabrication of tools and fixtures more quickly and with higher precision.

**UNCLASSIFIED**

**Exhibit P-25, Production Support and Industrial Facilities Cost Analysis: PB 2023 Army** **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A / 02 / 30 **P-1 Line Item Number / Title:** 3270GC0050 / Production Base Support (WOCV-WTCV)

**Project Title:** CNC Cutting Table and Spreader **Project Number:** JMTC004 **Project Category:**

**End Item Supported Model:** AMPV, SPHS, MPF, Abrams **Annual Capacity Before / After (1-8-5):** /

Cost Elements <i>(\$ in Millions)</i>	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Facility Name: Rock Island Arsenal - Joint Manufacturing and Technology Center (RIA-JTMC) Facility Location: Rock Island, IL Facility Type (GOGO, GOCO, COCO): GOGO						
A. Construction Cost	-	-	-	-	-	<b>Principal Milestones</b> <span style="float: right;"><b>Month &amp; Year</b></span> Concept Design Complete: Final Design Complete: Initial/Final Project Award: Construction Complete: Equipment Installation Complete: Prove Out Begins: Prove Out Complete:						
B. Equipment Cost	-	0.375	-	-	-							
C. Equipment Installation Cost	-	-	-	-	-							
D. Contractor Support Cost	-	-	-	-	-							
E. Corps of Engineers Support Cost	-	-	-	-	-							
F. Other In-House Support Cost	-	-	-	-	-							
G. Total Facility Project Cost	-	-	-	-	-							
H. Other Costs	-	-	-	-	-							
<b>Total Project Cost</b>	-	0.375	-	-	-	<b>Related Projects</b>						
						<b>Project Number</b>	<b>Title</b>	<b>FY &amp; Appn</b>	<b>Value (\$ M)</b>	<b>Facing</b>	<b>Start Date</b>	<b>Compl Date</b>

**Narrative Explanation:**  
There is no FY 2023 budget request for this project.

FY 2022 Base procurement dollars in the the amount of \$0.375 million support the procurement of equipment required for increasing the capacity and precision of pliable material and composite cutting at Rock Island Arsenal Joint Manufacturing and Technology Center. Equipment is includes Computer Numerical Control (CNC) cutting table (also known as a burner table) and spreader. Pliable material and composites are cut manually and are labor intensive with low precision. This investment provides automated cutting with speed, precision, and increased capacity.



**UNCLASSIFIED**

**Exhibit P-25, Production Support and Industrial Facilities Cost Analysis: PB 2023 Army** **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A / 02 / 30 **P-1 Line Item Number / Title:** 3270GC0050 / Production Base Support (WOCV-WTCV)

**Project Title:** Bridge Mill (Thick plate machining line) **Project Number:** JMTC004 **Project Category:**

**End Item Supported Model:** AMPV, SPHS, MPF, Abrams **Annual Capacity Before / After (1-8-5):** /

Cost Elements <i>(\$ in Millions)</i>	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Facility Name: Rock Island Arsenal - Joint Manufacturing and Technology Center (RIA-JTMC) Facility Location: Rock Island, IL Facility Type (GOGO, GOCO, COCO): GOGO				
A. Construction Cost	-	-	-	-	-	<b>Principal Milestones</b> <span style="float: right;"><b>Month &amp; Year</b></span> Concept Design Complete: Final Design Complete: Initial/Final Project Award: Construction Complete: Equipment Installation Complete: Prove Out Begins: Prove Out Complete:				
B. Equipment Cost	-	3.300	-	-	-					
C. Equipment Installation Cost	-	0.200	-	-	-					
D. Contractor Support Cost	-	-	-	-	-					
E. Corps of Engineers Support Cost	-	-	-	-	-					
F. Other In-House Support Cost	-	-	-	-	-					
G. Total Facility Project Cost	-	-	-	-	-					
H. Other Costs	-	-	-	-	-					
Total Project Cost	-	3.500	-	-	-					
<b>Related Projects</b>										
	<b>Project Number</b>	<b>Title</b>	<b>FY &amp; Appn</b>	<b>Value (\$ M)</b>	<b>Facing</b>	<b>Start Date</b>	<b>Compl Date</b>			

**Narrative Explanation:**  
There is no FY 2023 budget request for this project.

FY 2022 Base procurement dollars in the amount of \$3.500 million support the procurement of equipment required for increasing the capacity and capability of the thick aluminum armor plate machining line at Rock Island Arsenal Joint Manufacturing and Technology Center. Equipment includes, but is not limited to, a bridge mill to allow machining of larger parts and steel components to support the automated fabrication of large machined components for the production of Army vehicles. This investment will increase the capability by allowing machining of larger parts and allow machining of steel components and the fixtures from the line would increase capacity since it would be able to be used as a second finishing station if workload required.

**UNCLASSIFIED**

**Exhibit P-25, Production Support and Industrial Facilities Cost Analysis: PB 2023 Army** **Date:** April 2022

**Appropriation / Budget Activity / Budget Sub Activity:** 2033A / 02 / 30 **P-1 Line Item Number / Title:** 3270GC0050 / Production Base Support (WOCV-WTCV)

**Project Title:** ATEC Facilities **Project Number:** ATEC **Project Category:**

**End Item Supported Model:** **Annual Capacity Before / After (1-8-5):** /

Cost Elements <i>(\$ in Millions)</i>	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Facility Name: Army Test and Evaluation Command (ATEC) Facilities Facility Location: Various Facility Type (GOGO, GOCO, COCO):						
A. Construction Cost	-	-	-	-	-	<b>Principal Milestones</b> <span style="float: right;"><b>Month &amp; Year</b></span> Concept Design Complete: Final Design Complete: Initial/Final Project Award: Construction Complete: Equipment Installation Complete: Prove Out Begins: Prove Out Complete:						
B. Equipment Cost	-	-	-	-	-							
C. Equipment Installation Cost	-	-	-	-	-							
D. Contractor Support Cost	-	-	-	-	-							
E. Corps of Engineers Support Cost	-	-	-	-	-							
F. Other In-House Support Cost	-	-	-	-	-							
G. Total Facility Project Cost	-	-	-	-	-							
H. Other Costs	3.045	3.483	3.681	-	3.681							
<b>Total Project Cost</b>	<b>3.045</b>	<b>3.483</b>	<b>3.681</b>	<b>-</b>	<b>3.681</b>	<b>Related Projects</b>						
						<b>Project Number</b>	<b>Title</b>	<b>FY &amp; Appn</b>	<b>Value (\$ M)</b>	<b>Facing</b>	<b>Start Date</b>	<b>Compl Date</b>

**Narrative Explanation:**  
 FY 2023 Base procurement dollars in the amount of \$3.681 million support the Army Test and Evaluation Command priorities at the following locations:

- Aberdeen Test Center (ATC) will continue to modernize fire control instrumentation required to assess weapon system fire control performance on a wide range of test items. Aberdeen Test Center will continue replacing and upgrading weapon, sight, and target scoring high definition video cameras, recorders, digital video processing systems, fiber optic converters, and telemetry systems. Replacement equipment is scheduled to address obsolescence issues, software compatibility gaps, and deterioration of existing hardware while ensuring test equipment maintains pace with technological advances of test items to preclude lack of test support. Aberdeen Test Center will also procure new instrumentation that will allow Electromagnetic Interference (EMI) testing of current and future military platforms, including autonomous vehicles.
- White Sands Test Center (WSTC) will continue to maintain and upgrade existing equipment and instrumentation for the developing and evolving White Sands Missile Range (WSMR) directed energy - High-Power Microwave (HPM), Electromagnetic Pulse (EMP) and lightning effects test simulators. These items include sensors, oscilloscopes, fiber optic links, vacuum systems, cryogenic superconducting magnets, waveguides, antennas, cathodes, insulators, and various cabling and subassemblies. These effort will help White Sands Test Center meet regulatory, customer, and/or evolving mission requirements.
- Yuma Test Center (YTC) will acquire upgraded sensors, sensor positioning equipment, control hardware, signal conditioners, and other data acquisition equipment and software to modernize and improve accuracy and efficiency of ballistics data acquisition.

Increase due to inflation and routine program adjustments.