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**Department of Defense  
Fiscal Year (FY) 2020 Budget Estimates**

March 2019



**Army**

*Justification Book of  
**Missile Procurement, Army***

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Army • Budget Estimates FY 2020 • Procurement

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## Cost Statement

The following Justification Books were prepared at a cost of \$366,803.08: 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 6, and Budget Activity 7.

# MISSILE PROCUREMENT, ARMY

## Appropriation Language

For construction, procurement, production, modification, and modernization of Missiles, equipment, including ordnance, spare parts, and accessories therefore; specialized equipment; expansion of public and private plants, including the land necessary therefore and such lands and interests therein, may be acquired, and construction prosecuted therein 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; \$4,645,755,000 to remain available for obligation until September 30, 2022.

FY 2020 Overseas Contingency Operations funding can be separated into the following categories:

- OCO for Direct War Costs (\$601,161,000): Direct War costs are those combat or direct combat support costs that will not continue to be expended once combat operations end as major contingency locations.
- OCO for Enduring Requirements (\$836,897,000): OCO for Enduring Requirements are enduring in-theater and in-CONUS costs that will likely remain after combat operations cease, and have previously been funded in OCO.
- OCO for Base Requirements (\$3,207,697,000): OCO for Base Requirements is funding to pay for base budget requirements for readiness and other support activities that are financed in the OCO budget in order for the Department to comply with the Budget Control Act of 2011.

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08 Feb 2019

<u>Appropriation</u>	<u>FY 2018 (Base + OCO)</u>	<u>FY 2019 Base Enacted</u>	<u>FY 2019 OCO Enacted</u>	<u>FY 2019 Total Enacted</u>
Missile Procurement, Army	4,796,632	3,145,256	1,729,904	4,875,160
Total Department of the Army	4,796,632	3,145,256	1,729,904	4,875,160

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Appropriation	FY 2020 Base	FY 2020 OCO for Base Requirements	FY 2020 OCO for Direct War and Enduring Costs	FY 2020 Total OCO
Missile Procurement, Army		3,207,697	1,438,058	4,645,755
Total Department of the Army		3,207,697	1,438,058	4,645,755



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<u>Appropriation</u>	<u>FY 2020 Total (Base + OCO)</u>
Missile Procurement, Army	4,645,755
Total Department of the Army	4,645,755

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## Appropriation: Missile Procurement, Army

<u>Budget Activity</u>	<u>FY 2018 (Base + OCO)</u>	<u>FY 2019 Base Enacted</u>	<u>FY 2019 OCO Enacted</u>	<u>FY 2019 Total Enacted</u>
02. Other Missiles	3,600,009	2,118,534	1,382,324	3,500,858
03. Modification of Missiles	1,171,791	991,366	347,580	1,338,946
04. Spares and Repair Parts	17,915	27,737		27,737
05. Support Equipment and Facilities	6,917	7,619		7,619
Total Missile Procurement, Army	4,796,632	3,145,256	1,729,904	4,875,160

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Appropriation: Missile Procurement, Army

Budget Activity	FY 2020 Base	FY 2020 OCO for Base Requirements	FY 2020 OCO for Direct War and Enduring Costs	FY 2020 Total OCO
02. Other Missiles		2,650,089	1,082,558	3,732,647
03. Modification of Missiles		520,571	355,500	876,071
04. Spares and Repair Parts		26,444		26,444
05. Support Equipment and Facilities		10,593		10,593
Total Missile Procurement, Army		3,207,697	1,438,058	4,645,755

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Appropriation: Missile Procurement, Army

<u>Budget Activity</u>	<u>FY 2020 Total (Base + OCO)</u>
02. Other Missiles	3,732,647
03. Modification of Missiles	876,071
04. Spares and Repair Parts	26,444
05. Support Equipment and Facilities	10,593
Total Missile Procurement, Army	4,645,755

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Appropriation: 2032A Missile Procurement, Army

Line No	Item Nomenclature	Ident Code	FY 2018 (Base + OCO)		FY 2019 Base Enacted		FY 2019 OCO Enacted		FY 2019 Total Enacted		S e c
			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	
<u>Budget Activity 02: Other Missiles</u>											
Surface-to-Air Missile System											
1	System Integration and Test Procurement	A		136,579		105,395				105,395	U
2	M-SHORAD - Procurement	A									U
3	MSE Missile		428	1,103,040	220	871,276	60	260,000	280	1,131,276	U
4	INDIRECT FIRE PROTECTION CAPABILITY INC 2-I Less: Advance Procurement (PY)	A		(69,375) (-19,319)		(145,636)				(145,636)	U U
				50,056		145,636				145,636	
5	INDIRECT FIRE PROTECTION CAPABILITY INC 2-I Advance Procurement (CY) C (FY 2019 for FY 2020) (M)					31,286 (31,286)				31,286 (31,286)	U U
Air-To-Surface Missile System											
6	Hellfire Sys Summary	A	5233	432,933			2309	193,674	2309	193,674	U
7	Joint Air-To-Ground MsIs (JAGM) Less: Advance Procurement (PY)		899	(215,532) (-37,100)	721	(256,462)			721	(256,462)	U U
				178,432		256,462				256,462	
Anti-Tank/Assault Missile Sys											
8	Javelin (Aaws-M) System Summary		955	265,535	1158	214,365	179	31,120	1337	245,485	U

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Line No	Item Nomenclature	Ident Code	FY 2020 Base		FY 2020 OCO for Base Requirements		FY 2020 OCO for Direct War and Enduring Costs		FY 2020 Total OCO		S e c
			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	
Budget Activity 02: Other Missiles											
Surface-to-Air Missile System											
1	System Integration and Test Procurement	A			113,857					113,857	U
2	M-SHORAD - Procurement	A			17	103,800	27	158,300	44	262,100	U
3	MSE Missile				138	698,603	9	37,938	147	736,541	U
4	INDIRECT FIRE PROTECTION CAPABILITY INC 2-I Less: Advance Procurement (PY)	A				(40,623) (-31,286)				(40,623) (-31,286)	U U
						9,337				9,337	
5	INDIRECT FIRE PROTECTION CAPABILITY INC 2-I Advance Procurement (CY) C (FY 2019 for FY 2020) (M)										U
Air-To-Surface Missile System											
6	Hellfire Sys Summary	A			1870	193,284	3242	236,265	5112	429,549	U
7	Joint Air-To-Ground MsIs (JAGM) Less: Advance Procurement (PY)				609	(233,353)			609	(233,353)	U U
						233,353				233,353	
Anti-Tank/Assault Missile Sys											
8	Javelin (Aaws-M) System Summary				672	138,405	25	4,389	697	142,794	U

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Line No	Item Nomenclature	Ident Code	FY 2020		S e c
			Quantity	Cost	
<u>Budget Activity 02: Other Missiles</u>					
Surface-to-Air Missile System					
1	System Integration and Test Procurement	A		113,857	U
2	M-SHORAD - Procurement	A	44	262,100	U
3	MSE Missile		147	736,541	U
4	INDIRECT FIRE PROTECTION CAPABILITY INC 2-I	A		(40,623)	U
	Less: Advance Procurement (PY)			(-31,286)	U
				<u>9,337</u>	
5	INDIRECT FIRE PROTECTION CAPABILITY INC 2-I				U
	Advance Procurement (CY)				
	C (FY 2019 for FY 2020) (M)				
Air-To-Surface Missile System					
6	Hellfire Sys Summary	A	5112	429,549	U
7	Joint Air-To-Ground MsIs (JAGM)		609	(233,353)	U
	Less: Advance Procurement (PY)				U
				<u>233,353</u>	
Anti-Tank/Assault Missile Sys					
8	Javelin (Aaws-M) System Summary		697	142,794	U

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Line No	Item Nomenclature	Ident Code	FY 2018 (Base + OCO)		FY 2019 Base Enacted		FY 2019 OCO Enacted		FY 2019 Total Enacted		S e c
			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	
9	Tow 2 System Summary	A	1205	(100,474)	1439	(119,062)			1439	(119,062)	U
	Less: Advance Procurement (PY)			(-10,716)		(-19,949)				(-19,949)	U
				89,758		99,113				99,113	
10	Tow 2 System Summary										
	Advance Procurement (CY)			19,949		19,949				19,949	U
	C (FY 2018 for FY 2019) (M)			(19,949)							
	C (FY 2019 for FY 2020) (M)					(19,949)				(19,949)	
	C (FY 2020 for FY 2021) (M)										
11	Guided MLRS Rocket (GMLRS)		6528	1,027,968	2832	354,088	4986	621,419	7818	975,507	U
12	MLRS Reduced Range Practice Rockets (RRPR)		3420	34,651	2214	20,964			2214	20,964	U
13	High Mobility Artillery Rocket System (HIMARS)		24	238,000			17	171,138	17	171,138	U
14	Army Tactical Msl Sys (ATACMS) - Sys Sum	B									U
15	LETHAL MINIATURE AERIAL MISSILE SYSTEM (LMAMS)	A		23,108				104,973		104,973	U
Total Other Missiles				3,600,009		2,118,534		1,382,324		3,500,858	
Budget Activity 03: Modification of Missiles											
Modifications											
16	Patriot Mods			536,527		323,228				323,228	U
17	ATACMS MODS	A		337,440		171,656		225,580		397,236	U
18	GMLRS MOD	A		531		266				266	U
19	Stinger Mods			83,061		94,756				94,756	U
20	Avenger Mods			62,931		31,093				31,093	U
21	Itas/Tow Mods			3,500		3,173				3,173	U

P-120PB: FY 2020 President's Budget (Published Version), as of February 8, 2019 at 08:57:03



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Line No	Item Nomenclature	Ident Code	FY 2020 Base		FY 2020 OCO for Base Requirements		FY 2020 OCO for Direct War and Enduring Costs		FY 2020 Total OCO		S e c
			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	
9	Tow 2 System Summary	A			1460	(134,289)			1460	(134,289)	U
	Less: Advance Procurement (PY)					(-19,949)				(-19,949)	U
						114,340				114,340	
10	Tow 2 System Summary										
	Advance Procurement (CY)					10,500				10,500	U
	C (FY 2018 for FY 2019) (M)										
	C (FY 2019 for FY 2020) (M)										
	C (FY 2020 for FY 2021) (M)					(10,500)				(10,500)	
11	Guided MLRS Rocket (GMLRS)				6489	797,213	3364	431,596	9853	1,228,809	U
12	MLRS Reduced Range Practice Rockets (RRPR)				2982	27,555			2982	27,555	U
13	High Mobility Artillery Rocket System (HIMARS)										U
14	Army Tactical Msl Sys (ATACMS) - Sys Sum	B			146	209,842	94	130,770	240	340,612	U
15	LETHAL MINIATURE AERIAL MISSILE SYSTEM (LMAMS)	A					1835	83,300	1835	83,300	U
Total Other Missiles						2,650,089		1,082,558		3,732,647	
Budget Activity 03: Modification of Missiles											
Modifications											
16	Patriot Mods					279,464				279,464	U
17	ATACMS MODS	A				85,320				85,320	U
18	GMLRS MOD	A				5,094				5,094	U
19	Stinger Mods					81,615		7,500		89,115	U
20	Avenger Mods					14,107				14,107	U
21	Itas/Tow Mods					3,469				3,469	U

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Line No	Item Nomenclature	Ident Code	FY 2020 Total (Base + OCO)		S e c
			Quantity	Cost	
9	Tow 2 System Summary	A	1460	(134,289)	U
	Less: Advance Procurement (PY)			(-19,949)	U
				114,340	
10	Tow 2 System Summary				
	Advance Procurement (CY)			10,500	U
	C (FY 2018 for FY 2019) (M)				
	C (FY 2019 for FY 2020) (M)				
	C (FY 2020 for FY 2021) (M)			(10,500)	
11	Guided MLRS Rocket (GMLRS)		9853	1,228,809	U
12	MLRS Reduced Range Practice Rockets (RRPR)		2982	27,555	U
13	High Mobility Artillery Rocket System (HIMARS)				U
14	Army Tactical Msl Sys (ATACMS) - Sys Sum	B	240	340,612	U
15	LETHAL MINIATURE AERIAL MISSILE SYSTEM (LMAMS)	A	1835	83,300	U
Total Other Missiles				3,732,647	
Budget Activity 03: Modification of Missiles					
-----					
Modifications					
16	Patriot Mods			279,464	U
17	ATACMS MODS	A		85,320	U
18	GMLRS MOD	A		5,094	U
19	Stinger Mods			89,115	U
20	Avenger Mods			14,107	U
21	Itas/Tow Mods			3,469	U

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Line No	Item Nomenclature	Ident Code	FY 2018 (Base + OCO)		FY 2019 Base Enacted		FY 2019 OCO Enacted		FY 2019 Total Enacted		S e c
			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	
22	MLRS Mods			138,235		356,998		122,000		478,998	U
23	Himars Modifications			9,566		10,196				10,196	U
Total Modification of Missiles				1,171,791		991,366		347,580		1,338,946	
Budget Activity 04: Spares and Repair Parts											
Spares and Repair Parts											
24	Spares and Repair Parts			17,915		27,737				27,737	U
Total Spares and Repair Parts				17,915		27,737				27,737	
Budget Activity 05: Support Equipment and Facilities											
Support Equipment & Facilities											
25	Air Defense Targets			5,728		6,417				6,417	U
26	Production Base Support			1,189		1,202				1,202	U
Total Support Equipment and Facilities				6,917		7,619				7,619	
Total Missile Procurement, Army				4,796,632		3,145,256		1,729,904		4,875,160	

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Line No	Item Nomenclature	Ident Code	FY 2020 Base		FY 2020 OCO for Base Requirements		FY 2020 OCO for Direct War and Enduring Costs		FY 2020 Total OCO		S e c
			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	
22	MLRS Mods				39,019		348,000		387,019		U
23	Himars Modifications				12,483				12,483		U
Total Modification of Missiles					520,571		355,500		876,071		
Budget Activity 04: Spares and Repair Parts											
Spares and Repair Parts											
24	Spares and Repair Parts				26,444				26,444		U
Total Spares and Repair Parts					26,444				26,444		
Budget Activity 05: Support Equipment and Facilities											
Support Equipment & Facilities											
25	Air Defense Targets				10,593				10,593		U
26	Production Base Support										U
Total Support Equipment and Facilities					10,593				10,593		
Total Missile Procurement, Army					3,207,697		1,438,058		4,645,755		

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Appropriation: 2032A Missile Procurement, Army

Line No	Item Nomenclature	Ident Code	FY 2020 Total (Base + OCO)		S e c
			Quantity	Cost	
22	MLRS Mods			387,019	U
23	Himars Modifications			12,483	U
Total Modification of Missiles				876,071	
Budget Activity 04: Spares and Repair Parts					
Spares and Repair Parts					
24	Spares and Repair Parts			26,444	U
Total Spares and Repair Parts				26,444	
Budget Activity 05: Support Equipment and Facilities					
Support Equipment & Facilities					
25	Air Defense Targets			10,593	U
26	Production Base Support				U
Total Support Equipment and Facilities				10,593	
Total Missile Procurement, Army				4,645,755	



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Air Defense Targets	1242C93000	25	05	10.....	199
GMLRS MOD	1824C57701	18	03	10.....	154
Guided MLRS Rocket (GMLRS)	6005C64400	11	02	30.....	75
HIMARS Modifications	6580C67501	23	03	10.....	190
Hellfire Sys Summary	1338C70000	6	02	20.....	33
High Mobility Artillery Rocket System (HIMARS)	6200C02901	13	02	30.....	96
INDIRECT FIRE PROTECTION CAPABILITY INC 2-I	8930C61001	4	02	10.....	20
INDIRECT FIRE PROTECTION CAPABILITY INC 2-I, Advance Procurement	8930C61001	5	02	10.....	29
ITAS/TOW Mods	3972C61700	21	03	10.....	178
Javelin (AAWS-M) System Summary	0648CC0007	8	02	30.....	52
Joint Air-to-Ground MSLS (JAGM)	2605C70302	7	02	20.....	43
LETHAL MINIATURE AERIAL MISSILE SYSTEM (LMAMS)	6870C88001	15	02	30.....	105
M-SHORAD - Procurement	8082C14300	2	02	10.....	5
MLRS Mods	6552C67500	22	03	10.....	180

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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>
MLRS Reduced Range Practice Rockets (RRPR)	6060C65405	12	02	30.....	86
MSE Missile	8260C53101	3	02	10.....	9
Patriot Mods	0962C50700	16	03	10.....	113
Production Base Support	4662CA0100	26	05	10.....	205
Spares And Repair Parts	1242CA0250	24	04	10.....	196
Stinger Mods	2684C20000	19	03	10.....	160
System Integration and Test Procurement	7153C50016	1	02	10.....	1
TOW 2 System Summary	2104C59300	9	02	30.....	62
TOW 2 System Summary, Advance Procurement	2104C59300	10	02	30.....	71

**UNCLASSIFIED**

**Exhibit P-40, Budget Line Item Justification:** PB 2020 Army **Date:** March 2019

**Appropriation / Budget Activity / Budget Sub Activity:** 2032A: Missile Procurement, Army / BA 02: Other Missiles / BSA 10: Surface-to-Air Missile System **P-1 Line Item Number / Title:** 7153C50016 / System Integration and Test Procurement

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

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

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	367.045	136.579	105.395	-	113.857	113.857	105.044	107.288	86.178	87.410	Continuing	Continuing
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	367.045	136.579	105.395	-	113.857	113.857	105.044	107.288	86.178	87.410	Continuing	Continuing
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>367.045</b>	<b>136.579</b>	<b>105.395</b>	-	<b>113.857</b>	<b>113.857</b>	<b>105.044</b>	<b>107.288</b>	<b>86.178</b>	<b>87.410</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:**

FY 2020 funding totals include \$0.0M for Base and \$113.857M for Overseas Contingency Operations (OCO); of which \$113.857M is realigned as part of the OCO for Base Requirements. FY 2020 OCO for Base Requirements is OCO funding for base budget requirements in support of the National Defense Strategy. The Budget requests these funds in OCO to comply with the base budget defense caps included in the Budget Control Act of 2011.

- System Integration and Test Procurement line (formerly Lower Tier Air and Missile Defense (LTAMD)) supports the Field Surveillance Program (FSP), PAC-3 Missile Support Center (P3MSC), International Engineering Services Program (IESP), Integrated Logistics Support (ILS), US Unique Engineering Services (ES), and System Engineering Program Management (SEPM) activities. The mission of the PATRIOT Advanced Capability-3 (PAC-3) Missile Field Surveillance Program (FSP) is required to ensure that the reliability, performance, and safety of fielded PAC-3 missiles remain within the classified system specification for the life of the system. Initial FSP tasks confirm the quality of design, materials, procedures, and processes used in the manufacture of the system. After missile deployment, results from surveillance firings, inspections, functional tests, Storage and Aging Programs, and depot level missile maintenance processing provide the data required for the assessment of reliability, performance, and safety of the missile stockpile. This includes PAC-3 missile tooling and test equipment. The PAC-3 missile is fielded under the Certified Round Concept. Under this approved concept, the PAC-3 missile is capable of being placed in extended storage as part of war reserve stocks or deployed in operational units for variable periods and then fired without intervening tests or checkouts. In accordance with the Certified Round Concept, the reliability/performance of the missile is certified by the Lower Tier Project Office (LTPO) to be at an acceptable level for a stated period of time or corrective action is taken.

- The certification of reliability is made possible through the use of the PAC-3 Missile Support Center (P3MSC) contract to use technical support and knowledge of the testing of discrete lots of component parts, subassemblies and assemblies which the prime contractor Lockheed Martin Missiles and Fire Control (LMMFC) provides as the only source of technical knowledge, expertise, and facilities to perform FSP activities and process PAC-3 missiles.

- The PATRIOT International Engineering Services Program provides continuing engineering support for system software and hardware for the life of the PATRIOT Air Defense System for US and international partners. The Engineering Services Program is designed to standardize and improve the PATRIOT system within the performance envelope described in the system specification. The support provided under this program includes PATRIOT software maintenance, Post Deployment Build 8/8.x(PDB-8/8.x), engineering support for PATRIOT peculiar hardware, government furnished equipment, logistics, technical data package, trainers, US Unique ES, and integrated diagnostics support system. This is accomplished through the investigation, analysis, and development of solutions to identified problems. Modifications to hardware are engineered for manufacturing implementation and retrofit of fielded hardware through the modification process. The Dismounted Patriot Information Coordination Central (D-PICC) effort is an example of rehosting tactical Patriot software maintained via engineering services to a smaller, more mobile hardware configuration that will allow flexible, tailorable deployment options by freeing up Battalion level ICC's.

- Systems Engineering and Project Management support encompasses the overall planning, management, and control of the PATRIOT Weapon System. Includes all Engineering and Program Management disciplines and activities. Program office core employee labor costs moved from Procurement to OMA in FY19 as part of an OSD auditability directive.

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**Exhibit P-40, Budget Line Item Justification:** PB 2020 Army **Date:** March 2019

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A: Missile Procurement, Army / BA 02: Other Missiles / BSA 10: Surface-to-Air Missile System	<b>P-1 Line Item Number / Title:</b> 7153C50016 / System Integration and Test Procurement
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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

- Logistics Recurring includes all aspects of Integrated Logistics Support (ILS) management, e.g., maintenance support, facilities, personnel, training, testing, and fielding.  
 - Supports procuring, fielding, and supporting materiel solutions to counter cybersecurity and electronic warfare shortcomings to all elements of the Lower Tier Battle Space.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	136.579	105.395	0.000	113.857	113.857	105.044	107.288	86.178	87.410
<b>Total: Secondary Distribution</b>	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	<b>136.579</b>	<b>105.395</b>	-	<b>113.857</b>	<b>113.857</b>	<b>105.044</b>	<b>107.288</b>	<b>86.178</b>	<b>87.410</b>

**UNCLASSIFIED**

**Exhibit P-40, Budget Line Item Justification:** PB 2020 Army **Date:** March 2019

**Appropriation / Budget Activity / Budget Sub Activity:** 2032A: Missile Procurement, Army / BA 02: Other Missiles / BSA 10: Surface-to-Air Missile System **P-1 Line Item Number / Title:** 7153C50016 / System Integration and Test Procurement

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

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

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	C50016 / System Integration and Test Procurement				- / 367.045	- / 136.579	- / 105.395	- / -	- / 113.857	- / 113.857
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 367.045</b>	<b>- / 136.579</b>	<b>- / 105.395</b>	<b>- / -</b>	<b>- / 113.857</b>	<b>- / 113.857</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:**  
 FY2020 procurement dollars in the amount of \$113.857 million supports materiel solutions to counter cyber security, the Field Surveillance Program (FSP), PAC-3 Missile Support Center (P3MSC), International Engineering Services Program (IESP), and Integrated Logistics Support (ILS).  
  
 Funds in the program were realigned in FY2015 from C53101 (MSE) to reflect those requirements that are not unique to MSE.

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 02 / 10	<b>P-1 Line Item Number / Title:</b> 7153C50016 / System Integration and Test Procurement	<b>Item Number / Title [DODIC]:</b> C50016 / System Integration and Test Procurement

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	367.045	136.579	105.395	-	113.857	113.857
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	367.045	136.579	105.395	-	113.857	113.857
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>367.045</b>	<b>136.579</b>	<b>105.395</b>	<b>-</b>	<b>113.857</b>	<b>113.857</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)	-	-	-	-	-	-

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Flyaway Cost																		
Recurring Cost																		
Field Surveillance Program	-	-	46.500	-	-	15.000	-	-	12.000	-	-	-	-	-	12.300	-	-	12.300
P3MSC	-	-	22.400	-	-	11.300	-	-	5.311	-	-	-	-	-	6.000	-	-	6.000
International Engr Services Program	-	-	186.700	-	-	57.114	-	-	57.474	-	-	-	-	-	65.557	-	-	65.557
System Engineering/ Project Management	-	-	27.800	-	-	14.300	-	-	-	-	-	-	-	-	-	-	-	-
Logistics Recurring	-	-	83.645	-	-	38.865	-	-	30.610	-	-	-	-	-	30.000	-	-	30.000
<i>Subtotal: Recurring Cost</i>	-	-	<i>367.045</i>	-	-	<i>136.579</i>	-	-	<i>105.395</i>	-	-	<i>0.000</i>	-	-	<i>113.857</i>	-	-	<i>113.857</i>
<i>Subtotal: Flyaway Cost</i>	-	-	<i>367.045</i>	-	-	<i>136.579</i>	-	-	<i>105.395</i>	-	-	<i>0.000</i>	-	-	<i>113.857</i>	-	-	<i>113.857</i>
<b>Gross/Weapon System Cost</b>	-	-	<b>367.045</b>	-	-	<b>136.579</b>	-	-	<b>105.395</b>	-	-	-	-	-	<b>113.857</b>	-	-	<b>113.857</b>

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	-	-	-	-	-
	Total Obligation Authority	136.579	105.395	0.000	113.857	113.857
<b>Total:</b>	<b>Quantity</b>	-	-	-	-	-
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>136.579</b>	<b>105.395</b>	<b>-</b>	<b>113.857</b>	<b>113.857</b>



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**Exhibit P-40, Budget Line Item Justification:** PB 2020 Army **Date:** March 2019

**Appropriation / Budget Activity / Budget Sub Activity:**  
2032A: Missile Procurement, Army / BA 02: Other Missiles / BSA 10: Surface-to-Air Missile System

**P-1 Line Item Number / Title:**  
8082C14300 / M-SHORAD - Procurement

**ID Code** (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0604117A

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

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	-	-	-	-	262.100	262.100	537.400	292.200	80.500	78.600	Continuing	Continuing
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	-	-	-	-	262.100	262.100	537.400	292.200	80.500	78.600	Continuing	Continuing
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	-	-	-	-	<b>262.100</b>	<b>262.100</b>	<b>537.400</b>	<b>292.200</b>	<b>80.500</b>	<b>78.600</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:**

FY 2020 funding totals include \$0.0M for Base and \$262.100 for Overseas Contingency Operations (OCO); of which \$103.800M and 17 quantity is realigned as part of the OCO for Base Requirements. FY 2020 OCO for Base Requirements is OCO funding for base budget requirements in support of the National Defense Strategy. The Budget requests these funds in OCO to comply with the base budget defense caps included in the Budget Control Act of 2011.

M-SHORAD is an Air Defense weapon system consisting of multiple ground-to-air missile launchers, sensors and a gun on a Stryker A1 combat vehicle. M-SHORAD provides the Army improved capabilities for defense of maneuver formations and other tactical echelons from low altitude air attack and surveillance. Adaptive threats have developed a suite of airborne threat capabilities, supported by an integrated mix of surface-to-air and surface-to-surface shooters that threaten the ability of maneuver forces to conduct operations. Specifically, maneuver formations require the improved M-SHORAD air defense identification and defeat capabilities to counter Fixed Wing (FW), Rotary Wing (RW), Unmanned Aircraft Systems (UAS) and Rocket, Artillery and Mortar (RAM) threats.

The M-SHORAD capability will be provided through a multi-phase approach with a rapidly fielded Initial M-SHORAD system (supported by an Army Approved Directed Requirement) and an enduring M-SHORAD (supported by a Joint Requirements Oversight Council approved Capability Development Document (CDD) or Capability Production Document (CPD)) that will field the full capability. First, the Army will field the Initial M-SHORAD solution based on a FY 2018 Directed Requirement, which was informed by the FY 2017 M-SHORAD Demonstration. This system will provide the capability to identify, track, and neutralize or destroy low-altitude air threats to include FW, RW, and Group 3 UAS while keeping pace and surviving with the maneuver Brigades. The Initial M-SHORAD will be fielded to four M-SHORAD battalions. In addition, M-SHORAD will transition the Multi-Mission High Energy Laser (MMHEL) from Science and Technology into the M-SHORAD Program of Record. With the increased capability provided by the MMHEL technology, M-SHORAD will provide the long term capability to counter a broader range of FW, RW, UAS, and indirect fires (RAM) threats.

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**Exhibit P-40, Budget Line Item Justification:** PB 2020 Army **Date:** March 2019

**Appropriation / Budget Activity / Budget Sub Activity:** 2032A: Missile Procurement, Army / BA 02: Other Missiles / BSA 10: Surface-to-Air Missile System **P-1 Line Item Number / Title:** 8082C14300 / M-SHORAD - Procurement

**ID Code** (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0604117A

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

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	C14301 / Maneuver - Short Range Air Defense (M-SHORAD)		A		- / -	- / -	- / -	- / -	- / 262.100	- / 262.100
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				- / -	- / -	- / -	- / -	- / 262.100	- / 262.100

\*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:**  
 All funds for this program were previously included in CE8710 Avenger MODS.  
 Funds in this budget line are a new start program.  
 FY 2020 OCO for Base procurement funding in the amount of \$103.800 million supports the production of 17 Initial M-SHORAD systems and the associated costs of Training Aids, Devices, Simulators and Simulation (TADSS), spares, acceptance testing and fielding.  
 FY 2020 OCO for Enduring funding in the amount of \$158.300 million supports the production of 27 Initial M-SHORAD systems and the associated costs of TADSS, spares, acceptance testing and fielding.  
 The 44 total systems provide Initial M-SHORAD systems for the first of four M-SHORAD equipped Battalions. These quantities are required in order to meet the Full Operational Capability requirement specified in the Directed Requirement.  
 This program supports the Air and Missile Defense Cross Functional Team (CFT), M-SHORAD C14301.

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>													<b>Date:</b> March 2019					
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 02 / 10						<b>P-1 Line Item Number / Title:</b> 8082C14300 / M-SHORAD - Procurement						<b>Item Number / Title [DODIC]:</b> C14301 / Maneuver - Short Range Air Defense (M-SHORAD)						
<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 2018</b>		<b>FY 2019</b>		<b>FY 2020 Base</b>		<b>FY 2020 OCO</b>		<b>FY 2020 Total</b>				
Procurement Quantity (Units in Each)				-		-		-		-		-		-				
Gross/Weapon System Cost (\$ in Millions)				-		-		-		-		262.100		262.100				
Less PY Advance Procurement (\$ in Millions)				-		-		-		-		-		-				
Net Procurement (P-1) (\$ in Millions)				-		-		-		-		262.100		262.100				
Plus CY Advance Procurement (\$ in Millions)				-		-		-		-		-		-				
<b>Total Obligation Authority (\$ in Millions)</b>				-		-		-		-		<b>262.100</b>		<b>262.100</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)				-		-		-		-		-		5,956.818		5,956.818		
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 2018</b>			<b>FY 2019</b>			<b>FY 2020 Base</b>			<b>FY 2020 OCO</b>			<b>FY 2020 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)
Flyaway Cost																		
Recurring Cost																		
Initial M-SHORAD	-	-	-	-	-	-	-	-	-	-	-	-	5,330.477	44	234.541	5,330.477	44	234.541
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	0.000	-	-	234.541	-	-	234.541
Non Recurring Cost																		
Non-Recurring Production	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17.461	-	-	17.461
<i>Subtotal: Non Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	0.000	-	-	17.461	-	-	17.461
<i>Subtotal: Flyaway Cost</i>	-	-	-	-	-	-	-	-	-	-	-	0.000	-	-	252.002	-	-	252.002
Hardware Cost																		
Recurring Cost																		
Training Devices	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.162	-	-	1.162
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	0.000	-	-	1.162	-	-	1.162
<i>Subtotal: Hardware Cost</i>	-	-	-	-	-	-	-	-	-	-	-	0.000	-	-	1.162	-	-	1.162
Package Fielding Cost																		
Recurring Cost																		
Fielding	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.198	-	-	3.198
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	0.000	-	-	3.198	-	-	3.198
<i>Subtotal: Package Fielding Cost</i>	-	-	-	-	-	-	-	-	-	-	-	0.000	-	-	3.198	-	-	3.198
Support - Acceptance Testing Cost																		

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 02 / 10	<b>P-1 Line Item Number / Title:</b> 8082C14300 / M-SHORAD - Procurement	<b>Item Number / Title [DODIC]:</b> C14301 / Maneuver - Short Range Air Defense (M-SHORAD)
<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 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Acceptance Test	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.375	-	-	1.375
<i>Subtotal: Support - Acceptance Testing Cost</i>	-	-	-	-	-	-	-	-	-	-	-	0.000	-	-	1.375	-	-	1.375
<b>Support - Initial Spares and Repair Parts Cost</b>																		
Initial Spares and Repair Parts	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.177	-	-	2.177
<i>Subtotal: Support - Initial Spares and Repair Parts Cost</i>	-	-	-	-	-	-	-	-	-	-	-	0.000	-	-	2.177	-	-	2.177
<b>Support - Program Management Cost</b>																		
Government Management	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.186	-	-	2.186
<i>Subtotal: Support - Program Management Cost</i>	-	-	-	-	-	-	-	-	-	-	-	0.000	-	-	2.186	-	-	2.186
<b>Gross/Weapon System Cost</b>	-	-	-	-	-	-	-	-	-	-	-	-	5,956.818	-	262.100	5,956.818	-	262.100

**UNCLASSIFIED**

**Exhibit P-40, Budget Line Item Justification:** PB 2020 Army **Date:** March 2019

**Appropriation / Budget Activity / Budget Sub Activity:** 2032A: Missile Procurement, Army / BA 02: Other Missiles / BSA 10: Surface-to-Air Missile System  
**P-1 Line Item Number / Title:** 8260C53101 / MSE Missile

**ID Code** (A=Service Ready, B=Not Service Ready): **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0604865A, 0603869A, 0604869A, 0605456A

**Line Item MDAP/MAIS Code:** 492

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	483	368	240	-	147	147	123	167	243	219	1,356	3,346
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	2,628.790	1,103.040	1,131.276	-	736.541	736.541	767.495	749.530	999.731	898.131	793.430	9,807.964
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	2,628.790	1,103.040	1,131.276	-	736.541	736.541	767.495	749.530	999.731	898.131	793.430	9,807.964
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>2,628.790</b>	<b>1,103.040</b>	<b>1,131.276</b>	<b>-</b>	<b>736.541</b>	<b>736.541</b>	<b>767.495</b>	<b>749.530</b>	<b>999.731</b>	<b>898.131</b>	<b>793.430</b>	<b>9,807.964</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> )	5,442.629	2,997.391	4,713.650	-	5,010.483	5,010.483	6,239.797	4,488.204	4,114.119	4,101.055	585.125	2,931.250

**Description:**

FY 2020 funding totals include \$0.0M for Base and \$736.541M for Overseas Contingency Operations (OCO); of which \$698.603M and 138 quantity is realigned as part of the OCO for Base Requirements. FY 2020 OCO for Base Requirements is OCO funding for base budget requirements in support of the National Defense Strategy. The Budget requests these funds in OCO to comply with the base budget defense caps included in the Budget Control Act of 2011.

The PATRIOT Advanced Capability 3 (PAC-3) Missile Segment Enhancement (MSE) evolved from the PAC-3 Cost Reduction Initiative (CRI) missile design and provides higher performance, via dual pulse Solid Rocket Motor (SRM) and upgraded batteries for longer flight times, coupled with increased fixed fin surface area, more responsive control surfaces, and upgraded guidance software. These improvements provide a more agile, lethal interceptor missile combined with critical ground system improvements (Radar Digital Processor (RDP) and Software) provides a substantial missile performance improvement. Additionally, the PAC-3 MSE enhances Insensitive Munitions (IM) through a less sensitive, increased performance lethality enhancer, the addition of armor and a thermally initiated venting system (TIVS). A single canister design provides enhanced warfighter and logistics flexibility, and facilitates improved IM performance for greater warfighter safety. The MSE was developed to integrate with the PATRIOT system for the U.S. and international partners.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army									
Quantity	368	240	0	147	147	123	167	243	219
Total Obligation Authority	1,103.040	1,131.276	0.000	736.541	736.541	767.495	749.530	999.731	898.131
<b>Total:</b>									
<b>Secondary Distribution</b>									
Quantity	<b>368</b>	<b>240</b>	<b>0</b>	<b>147</b>	<b>147</b>	<b>123</b>	<b>167</b>	<b>243</b>	<b>219</b>
Total Obligation Authority	<b>1,103.040</b>	<b>1,131.276</b>	<b>-</b>	<b>736.541</b>	<b>736.541</b>	<b>767.495</b>	<b>749.530</b>	<b>999.731</b>	<b>898.131</b>

**UNCLASSIFIED**

**Exhibit P-40, Budget Line Item Justification:** PB 2020 Army **Date:** March 2019

**Appropriation / Budget Activity / Budget Sub Activity:** 2032A: Missile Procurement, Army / BA 02: Other Missiles / BSA 10: Surface-to-Air Missile System **P-1 Line Item Number / Title:** 8260C53101 / MSE Missile

**ID Code** (A=Service Ready, B=Not Service Ready): **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0604865A, 0603869A, 0604869A, 0605456A

**Line Item MDAP/MAIS Code:** 492

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	C53101 / MSE Missile	P-5a, P-21			483 / 2,628.790	368 / 1,103.040	240 / 1,131.276	- / -	147 / 736.541	147 / 736.541
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>483 / 2,628.790</b>	<b>368 / 1,103.040</b>	<b>240 / 1,131.276</b>	<b>- / -</b>	<b>147 / 736.541</b>	<b>147 / 736.541</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 2020 procurement dollars in the amount of \$736.541 million support the production of 147 Missile Segment Enhancement (MSE) missiles, 41 Launcher Mod Kits (LMK), Field Surveillance Program (FSP), supporting equipment, ancillary missile items, PAC-3 Missile Support Center (P3MSC), Obsolescence, System Engineering/Program Management (SE/PM), and Government/Software Engineering. FY 2020 OCO for Base procurement dollars in the amount of \$698.603million supports the production of 138 MSE missiles. FY 2020 Enduring OCO procurement dollars in the amount of \$37.938million supports the production of 9 MSE missiles.

The P-1 reflects a total quantity in FY19 of 280. This includes 240 missiles and 40 Launcher Modification Kits (LMK)s. The P-40 quantities should only reflect missile quantities.

Army Acquisition Objective (AAO) is 3376.

Program Office core employee labor costs moved from Procurement to Operations and Maintenance, Army (OMA) as part of an OSD auditability directive starting in FY19. Government/Software Engineering (USG support) includes office lease and government administration costs.

\*Unit prices reflect an assessed yearly Foreign Military Sales (FMS) procurement of PAC-3 missile variants. In the event FMS procurements do not occur at this level, the budgeted missile unit price may not be achievable.

\*\*Quantities will be procured at an optimized rate utilizing price advantage created through contract negotiation, Firm Fixed Price Incentive Fee (FFPIF) contract ceiling liability reduction through price determination, other service procurement, and/or foreign military sales (FMS) to increase the Army procurement of MSE Missiles.

\*\*\*Anticipate transitioning from FFPIF to Firm Fixed Price (FFP) in FY19, assuming analysis of FY13-18 cost data demonstrates stable program costs.

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>											<b>Date:</b> March 2019						
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 02 / 10						<b>P-1 Line Item Number / Title:</b> 8260C53101 / MSE Missile					<b>Item Number / Title [DODIC]:</b> C53101 / MSE Missile						
<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 2018</b>		<b>FY 2019</b>		<b>FY 2020 Base</b>		<b>FY 2020 OCO</b>		<b>FY 2020 Total</b>			
Procurement Quantity (Units in Each)				483		368		240		-		147		147			
Gross/Weapon System Cost (\$ in Millions)				2,628.790		1,103.040		1,131.276		-		736.541		736.541			
Less PY Advance Procurement (\$ in Millions)				-		-		-		-		-		-			
Net Procurement (P-1) (\$ in Millions)				2,628.790		1,103.040		1,131.276		-		736.541		736.541			
Plus CY Advance Procurement (\$ in Millions)				-		-		-		-		-		-			
<b>Total Obligation Authority (\$ in Millions)</b>				<b>2,628.790</b>		<b>1,103.040</b>		<b>1,131.276</b>		<b>-</b>		<b>736.541</b>		<b>736.541</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)				5,442.629		2,997.391		4,713.650		-		5,010.483		5,010.483			

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 2018</b>			<b>FY 2019</b>			<b>FY 2020 Base</b>			<b>FY 2020 OCO</b>			<b>FY 2020 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																		
Missile Hardware <sup>(†)</sup>	4,294.979	483	2,074.475	2,806.394	368	1,032.753	4,262.296	240	1,022.951	-	-	-	4,178.490	147	614.238	4,178.490	147	614.238
Field Surveillance	-	-	36.827	-	-	5.036	-	-	6.096	-	-	-	-	-	5.949	-	-	5.949
PAC-3 Missile Support Center (P3MSC)	-	-	18.800	-	-	3.564	-	-	3.900	-	-	-	-	-	3.899	-	-	3.899
Obsolescence	-	-	66.038	-	-	18.687	-	-	22.049	-	-	-	-	-	28.597	-	-	28.597
Launcher Mod Kit (LMK)	-	-	48.500	-	-	14.588	247.500	40	9.900	-	-	-	247.585	41	10.151	247.585	41	10.151
Heater Kits	-	-	2.500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Msl Round Trainer / Empty Round Trainer	-	-	117.226	-	-	5.212	-	-	43.700	-	-	-	-	-	50.799	-	-	50.799
Initial Production Facilitation	-	-	88.313	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Government/Software Engineering	-	-	21.980	-	-	9.560	-	-	9.600	-	-	-	-	-	9.701	-	-	9.701
Sys Engrg/Proj Mgmt (SE/PM) Contractor	-	-	154.131	-	-	13.640	-	-	13.080	-	-	-	-	-	13.207	-	-	13.207
<i>Subtotal: Recurring Cost</i>	<i>-</i>	<i>-</i>	<i>2,628.790</i>	<i>-</i>	<i>-</i>	<i>1,103.040</i>	<i>-</i>	<i>-</i>	<i>1,131.276</i>	<i>-</i>	<i>-</i>	<i>0.000</i>	<i>-</i>	<i>-</i>	<i>736.541</i>	<i>-</i>	<i>-</i>	<i>736.541</i>
<i>Subtotal: Flyaway Cost</i>	<i>-</i>	<i>-</i>	<i>2,628.790</i>	<i>-</i>	<i>-</i>	<i>1,103.040</i>	<i>-</i>	<i>-</i>	<i>1,131.276</i>	<i>-</i>	<i>-</i>	<i>0.000</i>	<i>-</i>	<i>-</i>	<i>736.541</i>	<i>-</i>	<i>-</i>	<i>736.541</i>
<b>Gross/Weapon System Cost</b>	<b>5,442.629</b>	<b>483</b>	<b>2,628.790</b>	<b>2,997.391</b>	<b>368</b>	<b>1,103.040</b>	<b>4,713.650</b>	<b>240</b>	<b>1,131.276</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>5,010.483</b>	<b>147</b>	<b>736.541</b>	<b>5,010.483</b>	<b>147</b>	<b>736.541</b>

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**Exhibit P-5, Cost Analysis: PB 2020 Army** **Date:** March 2019

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 02 / 10	<b>P-1 Line Item Number / Title:</b> 8260C53101 / MSE Missile	<b>Item Number / Title [DODIC]:</b> C53101 / MSE Missile
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**ID Code** (A=Service Ready, B=Not Service Ready) : **MDAP/MAIS Code:**

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	368	240	0	147	147
	Total Obligation Authority	1,103.040	1,131.276	0.000	736.541	736.541
<b>Total:</b>	<b>Quantity</b>	<b>368</b>	<b>240</b>	<b>-</b>	<b>147</b>	<b>147</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>1,103.040</b>	<b>1,131.276</b>	<b>-</b>	<b>736.541</b>	<b>736.541</b>

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



**UNCLASSIFIED**

**Exhibit P-5a, Procurement History and Planning: PB 2020 Army** **Date:** March 2019

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 02 / 10	<b>P-1 Line Item Number / Title:</b> 8260C53101 / MSE Missile	<b>Item Number / Title [DODIC]:</b> C53101 / MSE Missile
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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
Missile Hardware <sup>(†)</sup>		2015	LMMFC / Dallas, TX	SS / FPIF	AMCOM, RSA, AL	Jul 2015	Jan 2017	108	4,425.000	Y		May 2014
Missile Hardware <sup>(†)</sup>		2016	LMMFC / Dallas, TX	SS / FPIF	AMCOM, RSA, AL	Dec 2015	Aug 2018	112	3,940.180	Y		May 2014
Missile Hardware <sup>(†)</sup>		2017	LMMFC / Dallas, TX	SS / FPIF	AMCOM, RSA, AL	Dec 2016	Oct 2019	170	4,291.530	Y		Dec 2015
Missile Hardware <sup>(†)</sup>		2018	LMMFC / Dallas, TX	SS / FPIF	AMCOM, RSA, AL	Dec 2017	Jun 2019	368	2,806.394	Y		Dec 2015
Missile Hardware <sup>(†)</sup>		2019	LMMFC / Dallas, TX	SS / FFP	AMCOM, RSA, AL	Dec 2018	Jun 2021	240	4,262.296	Y		Dec 2015
Missile Hardware <sup>(†)</sup>	✓	2020	LMMFC / Dallas, TX	SS / FFP	AMCOM, RSA, AL	Dec 2019	Jun 2022	147	4,178.490	Y		Jun 2017

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

**Remarks:**  
 Anticipate transitioning from FPIF to FFP in FY19, assuming analysis of FY13-18 cost data demonstrates stable program costs.  
 Delivery dates in excess of Production Lead Time (PLT) of 17 months from Award is due to a mandated change in contract type from FFP to FPIF on an undefinitized contract action.  
 Exhibit P-21, Production Schedule is subject to change.

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**Exhibit P-21, Production Schedule:** PB 2020 Army **Date:** March 2019

**Appropriation / Budget Activity / Budget Sub Activity:** 2032A / 02 / 10 **P-1 Line Item Number / Title:** 8260C53101 / MSE Missile **Item Number / Title [DODIC]:** C53101 / MSE Missile

Cost Elements <i>(Units in Each)</i>						Fiscal Year 2015												Fiscal Year 2016												BALANCE	
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2014	BAL DUE AS OF 1 OCT	Calendar Year 2015												Calendar Year 2016												
							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
Missile Hardware																															
Prior Years Deliveries: 93																															
	1	2015	ARMY	108	0	108																							108		
	1	2016	ARMY	112	0	112																							112		
	1	2017	ARMY	170	0	170																							170		
	1	2018	ARMY	368	0	368																							368		
	1	2019	ARMY	240	0	240																							240		
✓	1	2020	ARMY	147	0	147																							147		
							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 2020 Army **Date:** March 2019

**Appropriation / Budget Activity / Budget Sub Activity:** 2032A / 02 / 10 **P-1 Line Item Number / Title:** 8260C53101 / MSE Missile **Item Number / Title [DODIC]:** C53101 / MSE Missile

Cost Elements <i>(Units in Each)</i>					Fiscal Year 2017													Fiscal Year 2018													BALANCE		
O C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2016	BAL DUE AS OF 1 OCT	Calendar Year 2017													Calendar Year 2018													
							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			
Missile Hardware																																	
Prior Years Deliveries: 93																																	
	1	2015	ARMY	108	0	108	-	-	-	10	2	3	3	17	12	12	14	12	12	11									0				
	1	2016	ARMY	112	0	112	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	10	94			
	1	2017	ARMY	170	0	170			A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	170				
	1	2018	ARMY	368	0	368															A -	-	-	-	-	-	-	-	368				
	1	2019	ARMY	240	0	240																							240				
✓	1	2020	ARMY	147	0	147																							147				
							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 2020 Army** **Date:** March 2019

**Appropriation / Budget Activity / Budget Sub Activity:** 2032A / 02 / 10 **P-1 Line Item Number / Title:** 8260C53101 / MSE Missile **Item Number / Title [DODIC]:** C53101 / MSE Missile

Cost Elements <i>(Units in Each)</i>						Fiscal Year 2019														Fiscal Year 2020														BALANCE	
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2018	BAL DUE AS OF 1 OCT	Calendar Year 2019														Calendar Year 2020														
							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					
Missile Hardware																																			
Prior Years Deliveries: 93																																			
	1	2015	ARMY	108	108	0																							0						
	1	2016	ARMY	112	18	94	10	10	10	10	10	12	8	10	14														0						
	1	2017	ARMY	170	0	170	-	-	-	-	-	-	-	-	-	-	-	10	20	20	20	20	20	20	20	20	20	0							
	1	2018	ARMY	368	0	368	-	-	-	-	-	-	-	-	31	31	31	31	31	31	31	30	30	30	30	0									
	1	2019	ARMY	240	0	240				A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	240							
✓	1	2020	ARMY	147	0	147															A	-	-	-	-	-	-	147							

**UNCLASSIFIED**

**Exhibit P-21, Production Schedule:** PB 2020 Army **Date:** March 2019

**Appropriation / Budget Activity / Budget Sub Activity:** 2032A / 02 / 10 **P-1 Line Item Number / Title:** 8260C53101 / MSE Missile **Item Number / Title [DODIC]:** C53101 / MSE Missile

Cost Elements <i>(Units in Each)</i>						Fiscal Year 2021												Fiscal Year 2022												BALANCE	
O C C #	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
Missile Hardware																															
Prior Years Deliveries: 93																															
	1	2015	ARMY	108	108	0																							0		
	1	2016	ARMY	112	112	0																							0		
	1	2017	ARMY	170	170	0																							0		
	1	2018	ARMY	368	368	0																							0		
	1	2019	ARMY	240	0	240	-	-	-	-	-	-	-	-	24	24	24	24	24	24	24	24	20	8	10	10			0		
✓	1	2020	ARMY	147	0	147	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	12	15	12	93	
							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 2020 Army **Date:** March 2019

**Appropriation / Budget Activity / Budget Sub Activity:** 2032A / 02 / 10 **P-1 Line Item Number / Title:** 8260C53101 / MSE Missile **Item Number / Title [DODIC]:** C53101 / MSE Missile

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
Missile Hardware																															
Prior Years Deliveries: 93																															
	1	2015	ARMY	108	108	0																							0		
	1	2016	ARMY	112	112	0																							0		
	1	2017	ARMY	170	170	0																							0		
	1	2018	ARMY	368	368	0																							0		
	1	2019	ARMY	240	240	0																							0		
✓	1	2020	ARMY	147	54	93																							0		

**UNCLASSIFIED**

<b>Exhibit P-21, Production Schedule:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 02 / 10		<b>P-1 Line Item Number / Title:</b> 8260C53101 / MSE Missile
		<b>Item Number / Title [DODIC]:</b> C53101 / MSE Missile

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2020	1-8-5 For 2020	MAX For 2020	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	LMMFC - Dallas, TX	72	300	350	0	6	18	24	0	6	18	24

**Remarks:**  
 The PAC-3 MSE production line includes deliveries for both US and Foreign Military Sales (FMS). Gaps between scheduled US missile deliveries are attributed to FMS. FMS and US combine to provide significant production line continuity and buying power efficiencies. Production Rates reflect annual production capacity.

The FY18 Delivery Schedule includes an FY18 ATR received in October 2018. Due to capacity constraints, FY18 ATR funds will go on contract in 2019 with deliveries beginning at the end of production lead time with planned completion within twelve months of first delivery.

"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 2020 Army **Date:** March 2019

**Appropriation / Budget Activity / Budget Sub Activity:**  
2032A: Missile Procurement, Army / BA 02: Other Missiles / BSA 10: Surface-to-Air Missile System

**P-1 Line Item Number / Title:**  
8930C61001 / INDIRECT FIRE PROTECTION CAPABILITY INC 2-I

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

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

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	12	-	-	-	18	24	30	30	Continuing	Continuing
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	0.000	69.375	145.636	-	40.623	40.623	241.387	446.464	424.568	446.541	Continuing	Continuing
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	19.319	-	-	31.286	31.286	-	-	-	-	Continuing	Continuing
Net Procurement (P-1) ( <i>\$ in Millions</i> )	0.000	50.056	145.636	-	9.337	9.337	241.387	446.464	424.568	446.541	Continuing	Continuing
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	19.319	-	31.286	-	-	-	-	-	-	-	Continuing	Continuing
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>19.319</b>	<b>50.056</b>	<b>176.922</b>	-	<b>9.337</b>	<b>9.337</b>	<b>241.387</b>	<b>446.464</b>	<b>424.568</b>	<b>446.541</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> )	-	-	12,136.333	-	-	-	13,410.389	18,602.667	14,152.267	14,884.700	Continuing	Continuing

**Description:**

FY 2020 funding totals include \$0.0M for Base and \$9.337M for Overseas Contingency Operations (OCO); of which \$9.337M and 12 quantity is realigned as part of the OCO for Base Requirements. FY 2020 OCO for Base Requirements is OCO funding for base budget requirements in support of the National Defense Strategy. The Budget requests these funds in OCO to comply with the base budget defense caps included in the Budget Control Act of 2011.

The Indirect Fire Protection Capability Increment 2 (IFPC Inc 2) will provide a ground-based weapon system designed to acquire, track, engage, and defeat Cruise Missiles (CM), Unmanned Aircraft Systems (UAS), and Rocket, Artillery, and Mortar (RAM) threats. The IFPC Inc 2 system consists of a launcher, integrated fire control, sensor, and an interceptor to support the Threshold CM and UAS defeat mission. The Objective counter-RAM mission employs both alternative kinetic and non-kinetic defeat solutions.

In FY 2018, the Army evaluated alternative strategies to address an Army interim CM defense (CMD) capability at critical strategic fixed site locations while continuing the development of an enduring capability. As reported on 31 Oct 2018 the Army intends to field two interim IFPC batteries of Iron Dome in FY 2020, while concurrently componentizing a launcher and interceptor solutions that are interoperable and integrated with the Army Integrated Air and Missile Defense (AIAMD) open systems architecture, IAMD Battle Command System (IBCS), and the Sentinel sensor by FY 2023. For each of the interim capability's Iron Dome Batteries, the Army intends to employ a configuration that matches the Israeli Firing Unit. Prior to making a final decision on the enduring solution, the Army plans to conduct experimentation and analysis with Army sensors and IBCS to determine the complexity of integration of the componentized launcher and interceptor solution. The final decision point, planned for 2QFY2020, will decide between a componentized Iron Dome launcher or a CMD launcher from industry for the enduring IFPC Inc 2 capability.

This budget request assumes approval of the 2019 Above Threshold Reprogramming request which aligns FY 2018 and FY 2019 funding to the plan provided in the IFPC Acquisition Strategy Report submitted to Congress.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army									
Quantity	-	12	-	-	-	18	24	30	30
Total Obligation Authority	50.056	176.922	0.000	9.337	9.337	241.387	446.464	424.568	446.541
<b>Total:</b>									
Quantity	-	12	-	-	-	18	24	30	30



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**Exhibit P-40, Budget Line Item Justification:** PB 2020 Army **Date:** March 2019

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A: Missile Procurement, Army / BA 02: Other Missiles / BSA 10: Surface-to-Air Missile System	<b>P-1 Line Item Number / Title:</b> 8930C61001 / INDIRECT FIRE PROTECTION CAPABILITY INC 2-I
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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

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Secondary Distribution	Total Obligation Authority	50.056	176.922	-	9.337	9.337	241.387	446.464	424.568	446.541

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**UNCLASSIFIED**

**Exhibit P-40, Budget Line Item Justification:** PB 2020 Army **Date:** March 2019

**Appropriation / Budget Activity / Budget Sub Activity:** 2032A: Missile Procurement, Army / BA 02: Other Missiles / BSA 10: Surface-to-Air Missile System **P-1 Line Item Number / Title:** 8930C61001 / INDIRECT FIRE PROTECTION CAPABILITY INC 2-I

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

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

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	C62001 / IFPC Inc 2-I Block 1 Missile 1				- / -	- / 50.056	- / 145.636	- / -	- / -	- / -
P-5	C62002 / IFPC INC 2-I BLOCK 1 SYSTEM			473	- / 0.000	- / 19.319	12 / 0.000	- / -	- / 40.623	- / 40.623
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 0.000</b>	<b>- / 69.375</b>	<b>12 / 145.636</b>	<b>- / -</b>	<b>- / 40.623</b>	<b>- / 40.623</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:**  
 As reported on 31 Oct 2018 the Army intends to rapidly field an interim capability with the Israeli Iron Dome and an enduring capability of a launcher leveraging the Army Integrated Air and Missile Defense (AIAMD) open systems architecture and IAMD Battle Command System (IBCS) as the Fire Control component, US sensor (Sentinel), and the employment of a variety of missiles.

In support of the Army's intent, a Directed Requirement to initiate procurement of the Israeli Iron Dome Missile System for an Interim IFPC CMD capability is being staffed for approval and IFPC has requested Above Threshold Reprogramming (ATR) actions to align funding in accordance with the Report to Congress. The ATR requested to repurpose \$27.500 million FY18 funds and \$91.963 million in FY19 funds from PE 0605052A/EY7 for Iron Dome experimentation and \$36.000 million in FY18 procurement funds from PE 0604319A MIPA to procure 240 Tamir (Iron Dome) missiles. The ATR requested \$31.286 million of FY19 PE 0604319A MIPA Advanced Procurement (originally for launcher long-lead items) and \$20.900 million from PE 0605052A/EY7 to be realigned to IFPC's PE 0604319A MIPA funding line, along with the current \$145.636 million from PE 0604319A MIPA to procure two interim Iron Dome batteries for assessment of operational utility under 10 U.S. code, paragraph 2373 (Procurement for Experimental Purposes). This budget request and Acquisition Strategy assumes approval of the 2019 ATR request which aligns FY 2018 and FY 2019 funding to the plan provided in the IFPC Acquisition Strategy Report submitted to Congress.

FY 2020 OCO procurement dollars in the amount of \$9.337 million provides for the support and deployment of 12 Iron Dome missile systems as interim CMD, as detailed in the 31 Oct 2018 Report to Congress.

In accordance with Section 1815 of the FY 2008 National Defense Authorization Act (P.L. 110-81), 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.

This program supports the Air and Missile Defense Cross Functional Team (CFT).

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 02 / 10	<b>P-1 Line Item Number / Title:</b> 8930C61001 / INDIRECT FIRE PROTECTION CAPABILITY INC 2-I	<b>Item Number / Title [DODIC]:</b> C62001 / IFPC Inc 2-I Block 1 Missile 1

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	-	50.056	145.636	-	-	-
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	-	50.056	145.636	-	-	-
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	-	<b>50.056</b>	<b>145.636</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)	-	-	606.817	-	-	-

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
<b>Flyaway Cost</b>																		
Non Recurring Cost																		
Tamir Missiles	-	-	-	150.000	240	36.000	160.750	240	38.580	-	-	-	-	-	-	-	-	-
<i>Subtotal: Non Recurring Cost</i>	-	-	-	-	-	36.000	-	-	38.580	-	-	-	-	-	-	-	-	-
<i>Subtotal: Flyaway Cost</i>	-	-	-	-	-	<b>36.000</b>	-	-	<b>38.580</b>	-	-	-	-	-	-	-	-	-
<b>Hardware Cost</b>																		
Non Recurring Cost																		
Iron Dome Battle Management Center	-	-	-	-	-	-	4,819.500	2	9.639	-	-	-	-	-	-	-	-	-
Iron Dome ELM-2084 Multi-Mission Radar	-	-	-	-	-	-	37,240.500	2	74.481	-	-	-	-	-	-	-	-	-
<i>Subtotal: Non Recurring Cost</i>	-	-	-	-	-	-	-	-	84.120	-	-	-	-	-	-	-	-	-
<i>Subtotal: Hardware Cost</i>	-	-	-	-	-	-	-	-	<b>84.120</b>	-	-	-	-	-	-	-	-	-
<b>Package Fielding Cost</b>																		
Non Recurring Cost																		
Initial Spares / Support Equipment	-	-	-	-	-	-	-	-	18.659	-	-	-	-	-	-	-	-	-
<i>Subtotal: Non Recurring Cost</i>	-	-	-	-	-	-	-	-	18.659	-	-	-	-	-	-	-	-	-
<i>Subtotal: Package Fielding Cost</i>	-	-	-	-	-	-	-	-	<b>18.659</b>	-	-	-	-	-	-	-	-	-

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 02 / 10	<b>P-1 Line Item Number / Title:</b> 8930C61001 / INDIRECT FIRE PROTECTION CAPABILITY INC 2-I	<b>Item Number / Title [DODIC]:</b> C62001 / IFPC Inc 2-I Block 1 Missile 1

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<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 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Support - Contractor Logistics Support (CLS) Cost																		
Oversight	-	-	-	-	-	-	-	-	4.277	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - Contractor Logistics Support (CLS) Cost</i>	-	-	-	-	-	-	-	-	4.277	-	-	-	-	-	-	-	-	-
Support - Training Cost																		
Services	-	-	-	-	-	14.056	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - Training Cost</i>	-	-	-	-	-	14.056	-	-	-	-	-	-	-	-	-	-	-	-
<b>Gross/Weapon System Cost</b>	-	-	-	-	-	<b>50.056</b>	<b>606.817</b>	-	<b>145.636</b>	-	-	-	-	-	-	-	-	-

**Remarks:**

The P-5 submission does not enable an accurate portrayal of the IFPC program's FY 2019 and FY 2020 planned costs.

As reported on 31 Oct 2018 the Army intends to rapidly field an interim capability with the Israeli Iron Dome and an enduring capability of a launcher leveraging the Army Integrated Air and Missile Defense (AIAMD) open systems architecture and IAMD Battle Command System (IBCS) as the Fire Control component, US sensor (Sentinel), and the employment of a variety of missiles.

In support of the Army's intent, a Directed Requirement to initiate procurement of two Israeli Iron Dome Missile Systems for an Interim IFPC CMD capability is being staffed for approval and IFPC has requested Above Threshold Reprogramming (ATR) actions to align funding in accordance with the Report to Congress. The ATR requests aligned with the IFPC Inc 2-I Procurement funding line are:

An FY 2018 reauthorization of \$36.000 million of the currently funded \$50.056 million to procure 240 Tamir missiles as reload for the 2 Interim Iron Dome Batteries.

An FY 2019 increase of \$52.186 million from  
 - \$31.286 million from PE 0604319A MIPA Advanced Procurement (originally for launcher long-lead items)  
 - \$20.900 million from PE 0605052A/EY7

Providing a FY 2019 total of \$197.822 million on the Indirect Fire Protection Capability Inc 2-I Procurement Parent funding line to procure 2 Iron Dome Batteries.

All FY19 funding should be realigned to the IFPC Inc 2-I Block 1 System sub-element for execution, resulting in no planned costs against the IFPC Inc 2-I Block 1 Missile 1 sub-element. While Tamir missiles are being procured in FY 2019, the rationale is that the procurement of the missiles is part of the total system package of 2 Iron Dome Batteries.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	-	-	-	-	-
	Total Obligation Authority	50.056	145.636	-	-	-
<b>Total:</b>	<b>Quantity</b>	-	-	-	-	-

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 02 / 10	<b>P-1 Line Item Number / Title:</b> 8930C61001 / INDIRECT FIRE PROTECTION CAPABILITY INC 2-I	<b>Item Number / Title [DODIC]:</b> C62001 / IFPC Inc 2-I Block 1 Missile 1

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Secondary Distribution	Total Obligation Authority	50.056	145.636	-	-	-

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 02 / 10	<b>P-1 Line Item Number / Title:</b> 8930C61001 / INDIRECT FIRE PROTECTION CAPABILITY INC 2-I	<b>Item Number / Title [DODIC]:</b> C62002 / IFPC INC 2-I BLOCK 1 SYSTEM

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b> 473
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Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity (Units in Each)	-	-	12	-	-	-
Gross/Weapon System Cost (\$ in Millions)	0.000	19.319	0.000	-	40.623	40.623
Less PY Advance Procurement (\$ in Millions)	-	19.319	-	-	31.286	31.286
Net Procurement (P-1) (\$ in Millions)	0.000	0.000	0.000	-	9.337	9.337
Plus CY Advance Procurement (\$ in Millions)	19.319	-	31.286	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>19.319</b>	<b>0.000</b>	<b>31.286</b>	<b>-</b>	<b>9.337</b>	<b>9.337</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)	-	-	-	-	-	-

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
<b>Launch Cost</b>																		
Recurring Cost																		
Adv Proc - Multi-Mission Launcher Materials (Unexecuted - Rescinded by NDAA of 2018)	-	-	-	-	-	19.319	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	19.319	-	-	-	-	-	-	-	-	-	-	-	-
Non Recurring Cost																		
Iron Dome Launcher	-	-	-	-	-	-	-	-	-	-	-	-	2,607.167	12	31.286	2,607.167	12	31.286
<i>Subtotal: Non Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	0.000	-	-	31.286	-	-	31.286
<i>Subtotal: Launch Cost</i>	-	-	-	-	-	19.319	-	-	-	-	-	0.000	-	-	31.286	-	-	31.286
<b>Support - Fielding Cost</b>																		
Fielding	-	-	-	-	-	-	-	-	-	-	-	-	396.500	12	4.758	396.500	12	4.758
<i>Subtotal: Support - Fielding Cost</i>	-	-	-	-	-	-	-	-	-	-	-	0.000	-	-	4.758	-	-	4.758
<b>Support - Program Management Cost</b>																		
Government Management	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.579	-	-	4.579
<i>Subtotal: Support - Program Management Cost</i>	-	-	-	-	-	-	-	-	-	-	-	0.000	-	-	4.579	-	-	4.579
<b>Gross/Weapon System Cost</b>	-	-	0.000	-	-	19.319	-	12	0.000	-	-	-	-	-	40.623	-	-	40.623

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019																																																																											
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 02 / 10	<b>P-1 Line Item Number / Title:</b> 8930C61001 / INDIRECT FIRE PROTECTION CAPABILITY INC 2-I	<b>Item Number / Title [DODIC]:</b> C62002 / IFPC INC 2-I BLOCK 1 SYSTEM																																																																											
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :		<b>MDAP/MAIS Code:</b> 473																																																																											
<p><b>Remarks:</b> The P-5 submission does not enable an accurate portrayal of the IFPC program's FY 2019 and FY 2020 planned costs, so further detail is included below:</p> <p>As reported on 31 Oct 2018 the Army intends to rapidly field an interim capability with the Israeli Iron Dome and an enduring capability of a launcher leveraging the Army Integrated Air and Missile Defense (AIAMD) open systems architecture and IAMD Battle Command System (IBCS) as the Fire Control component, US sensor (Sentinel), and the employment of a variety of missiles.</p> <p>In support of the Army's intent, a Directed Requirement to initiate procurement of two Israeli Iron Dome Missile Systems for an Interim IFPC CMD capability is being staffed for approval and IFPC has requested Above Threshold Reprogramming (ATR) actions to align funding in accordance with the Report to Congress. The ATR requests aligned with the IFPC Inc 2-I funding line are:</p> <p>An FY 2018 reauthorization of \$36.000 million of the currently funded \$50.056 million to procure 240 Tamir missiles as reload for the 2 Interim Iron Dome Batteries to be executed on the IFPC Inc 2-I Block 1 Missile 1 sub-element.</p> <p>An FY 2019 increase of \$52.186 million from:          - \$31.286 million from PE 0604319A MIPA Advanced Procurement (originally for launcher long-lead items)          - \$20.900 million from PE 0605052A/EY7          Providing a FY 2019 total of \$197.822 million on the Indirect Fire Protection Capability Inc 2-I Parent funding line to procure 2 Iron Dome Batteries. All FY19 funding should be realigned to the IFPC Inc 2-I Block 1 System sub-element for execution.</p> <table border="0"> <tr> <td>FY 2019</td> <td>Qty:</td> <td>Total Cost (\$M):</td> <td></td> </tr> <tr> <td>Iron Dome Missile Firing Unit (MFU)</td> <td>( 12)</td> <td>\$31.295</td> <td></td> </tr> <tr> <td>ELM-2084 Multi-Mission Radar</td> <td>( 2)</td> <td>\$74.481</td> <td></td> </tr> <tr> <td>Iron Dome Battle Management Center</td> <td>( 2)</td> <td>\$ 9.639</td> <td></td> </tr> <tr> <td>Quality Control</td> <td></td> <td>\$ 1.208</td> <td></td> </tr> <tr> <td>System Integrator SEPM</td> <td></td> <td>\$ 2.299</td> <td></td> </tr> <tr> <td>Program Management</td> <td></td> <td>\$ 1.610</td> <td></td> </tr> <tr> <td>System Engineering</td> <td></td> <td>\$ 2.612</td> <td></td> </tr> <tr> <td>Data</td> <td></td> <td>\$ 0.311</td> <td></td> </tr> <tr> <td>Initial Spares/Repair Parts</td> <td></td> <td>\$12.828</td> <td></td> </tr> <tr> <td>Initial Support Equipment</td> <td></td> <td>\$ 9.831</td> <td>(14 Prime Mover vehicles per Btry, Material Handling Equipment, Special Tooling, etc)</td> </tr> <tr> <td>Tamir Interceptor</td> <td>(240)</td> <td>\$38.580</td> <td></td> </tr> <tr> <td>Interceptor Recurring Engineering</td> <td></td> <td>\$ 2.247</td> <td></td> </tr> <tr> <td>Engineering Changes</td> <td></td> <td>\$ 4.008</td> <td></td> </tr> <tr> <td>CLS</td> <td></td> <td>\$ 6.873</td> <td></td> </tr> </table> <table border="0"> <tr> <td>FY 2020</td> <td>Total Cost (\$M):</td> <td></td> </tr> <tr> <td>Program Management</td> <td>\$ 1.644</td> <td></td> </tr> <tr> <td>System Engineering</td> <td>\$ 2.379</td> <td></td> </tr> <tr> <td>Data</td> <td>\$ 0.556</td> <td></td> </tr> <tr> <td>NET</td> <td>\$ 4.758</td> <td></td> </tr> </table> <p>This budget request and Acquisition Strategy assumes approval of the 2019 ATR request which aligns FY 2018 and FY 2019 funding to the plan provided in the IFPC Acquisition Strategy Report submitted to Congress.</p>			FY 2019	Qty:	Total Cost (\$M):		Iron Dome Missile Firing Unit (MFU)	( 12)	\$31.295		ELM-2084 Multi-Mission Radar	( 2)	\$74.481		Iron Dome Battle Management Center	( 2)	\$ 9.639		Quality Control		\$ 1.208		System Integrator SEPM		\$ 2.299		Program Management		\$ 1.610		System Engineering		\$ 2.612		Data		\$ 0.311		Initial Spares/Repair Parts		\$12.828		Initial Support Equipment		\$ 9.831	(14 Prime Mover vehicles per Btry, Material Handling Equipment, Special Tooling, etc)	Tamir Interceptor	(240)	\$38.580		Interceptor Recurring Engineering		\$ 2.247		Engineering Changes		\$ 4.008		CLS		\$ 6.873		FY 2020	Total Cost (\$M):		Program Management	\$ 1.644		System Engineering	\$ 2.379		Data	\$ 0.556		NET	\$ 4.758	
FY 2019	Qty:	Total Cost (\$M):																																																																											
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<b>Exhibit P-5, Cost Analysis:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 02 / 10	<b>P-1 Line Item Number / Title:</b> 8930C61001 / INDIRECT FIRE PROTECTION CAPABILITY INC 2-I	<b>Item Number / Title [DODIC]:</b> C62002 / IFPC INC 2-I BLOCK 1 SYSTEM
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :		<b>MDAP/MAIS Code:</b> 473

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	-	12	-	-	-
	Total Obligation Authority	-	31.286	0.000	9.337	9.337
<b>Total:</b>	<b>Quantity</b>	-	12	-	-	-
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>0.000</b>	<b>31.286</b>	-	<b>40.623</b>	<b>9.337</b>



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**Exhibit P-40, Advance Procurement Budget Line Item Justification:** PB 2020 Army **Date:** March 2019

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A: Missile Procurement, Army / BA 02: Other Missiles / BSA 10: Surface-to-Air Missile System	<b>P-1 Line Item Number / Title:</b> 8930C61001 / INDIRECT FIRE PROTECTION CAPABILITY INC 2-I
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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 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	19.319	-	31.286	-	-	-	-	-	-	-	Continuing	Continuing
Net Procurement (P-1) ( <i>\$ in Millions</i> )	19.319	-	31.286	-	-	-	-	-	-	-	Continuing	Continuing
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>19.319</b>	<b>-</b>	<b>31.286</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>Continuing</b>	<b>Continuing</b>

**Description:**

The Indirect Fire Protection Capability Increment 2 (IFPC Inc 2) will provide a ground-based weapon system designed to acquire, track, engage, and defeat Cruise Missiles (CM), Unmanned Aircraft Systems (UAS), and Rocket, Artillery, and Mortar (RAM) threats. The IFPC Inc 2 system consists of a launcher, integrated fire control, sensor, and an interceptor to support the Threshold CM and UAS defeat mission. The Objective counter-RAM mission employs both alternative kinetic and non-kinetic defeat solutions.

In FY 2018, the Army evaluated alternative strategies to address an Army interim CM defense (CMD) capability at critical strategic fixed site locations while continuing the development of an enduring capability. As reported on 31 Oct 2018 the Army intends to field two interim IFPC batteries of Iron Dome in FY 2020, while concurrently componentizing a launcher and interceptor solutions that are interoperable and integrated with the Army Integrated Air and Missile Defense (AIAMD) open systems architecture, IAMD Battle Command System (IBCS), and the Sentinel sensor by FY 2023. For each of the interim capability's Iron Dome Batteries, the Army intends to employ a configuration that matches the Israeli Firing Unit. Prior to making a final decision on the enduring solution, the Army plans to conduct experimentation and analysis with Army sensors and IBCS to determine the complexity of integration of the componentized launcher and interceptor solution. The final decision point, planned for 2QFY2020, will decide between a componentized Iron Dome launcher or a CMD launcher from industry for the enduring IFPC Inc 2 capability.

This budget request assumes approval of the 2019 Above Threshold Reprogramming request which aligns FY 2018 and FY 2019 funding to the plan provided in the IFPC Acquisition Strategy Report submitted to Congress.

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**Exhibit P-40, Advance Procurement Budget Line Item Justification:** PB 2020 Army **Date:** March 2019

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A: Missile Procurement, Army / BA 02: Other Missiles / BSA 10: Surface-to-Air Missile System	<b>P-1 Line Item Number / Title:</b> 8930C61001 / INDIRECT FIRE PROTECTION CAPABILITY INC 2-I
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<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

Exhibits Schedule				Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	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-10	C62002 / IFPC INC 2-I BLOCK 1 SYSTEM			- / 19.319	- / -	12 / 31.286	- / -	- / -	- / -
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>			<b>- / 19.319</b>	<b>- / -</b>	<b>12 / 31.286</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>

\*Title represents the P-10 Title for Advance Procurement.

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

**Justification:**  
 No acquisition of advance procurement items is planned for FY20 funds. IFPC has requested an Above-Threshold Reprogramming (ATR) action to repurpose the FY19 funds approved for advanced procurement of IFPC Multi-Mission Launcher (MML) long lead items to instead procure two interim batteries of Iron Dome for assessment of operational utility under 10 U.S. code, paragraph 2373 (Procurement for Experimental Purposes) as indicated in the 31 Oct 2018 Report to Congress.

This budget request assumes approval of the 2019 Above Threshold Reprogramming request which aligns FY 2018 and FY 2019 funding to the plan provided in the IFPC Acquisition Strategy Report submitted to Congress.

In accordance with Section 1815 of the FY 2008 National Defense Authorization Act (P.L. 110-81), 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-10, Advance Procurement Requirements Analysis (page 1 - Budget Funding Justification):</b> PB 2020 Army					<b>Date:</b> March 2019	
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 02 / 10		<b>P-1 Line Item Number / Title:</b> 8930C61001 / INDIRECT FIRE PROTECTION CAPABILITY INC 2-I			<b>P-5 Number / Title:</b> C62002 / IFPC INC 2-I BLOCK 1 SYSTEM	
<b>MDAP/MAIS Code:</b> 473						
<b>First System (2020) Award Date:</b> April 2019		<b>First System (2020) Completion Date:</b> December 2020		<b>Interval Between Systems:</b> 12 Months		
<b>IFPC INC 2-I BLOCK 1 SYSTEM</b>		<b>Production Leadtime</b> <i>(Months)</i>	<b>Prior Years</b> <i>(Each)</i>	<b>FY 2018</b> <i>(Each)</i>	<b>FY 2019</b> <i>(Each)</i>	<b>FY 2020</b> <i>(Each)</i>
Quantity			-	-	12	-
<b>Cost Elements</b>		<b>When Required</b> <i>(Months)</i>	<b>Prior Years</b> <i>(\$ M)</i>	<b>FY 2018</b> <i>(\$ M)</i>	<b>FY 2019</b> <i>(\$ M)</i>	<b>FY 2020</b> <i>(\$ M)</i>
<b>Other</b>						
MML Adv Proc Materials (Rescinded by NDAA FY2018)		-	19.319	-	-	-
ATR - Realign to Base for Iron Dome Procurement		-	-	-	31.286	-
<i>Total: Other</i>			<i>19.319</i>	-	<i>31.286</i>	-
<b>Total Advance Procurement/Obligation Authority</b>			<b>19.319</b>	-	<b>31.286</b>	-

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<b>Exhibit P-10, Advance Procurement Requirements Analysis (page 2 - Budget Funding Justification):</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 02 / 10	<b>P-1 Line Item Number / Title:</b> 8930C61001 / INDIRECT FIRE PROTECTION CAPABILITY INC 2-I	<b>P-5 Number / Title:</b> C62002 / IFPC INC 2-I BLOCK 1 SYSTEM

Cost Elements	QPA (Each)	FY 2020					Total Cost Request (\$ M)
		Production Leadtime (Months)	Unit Cost (\$ K)	Contract Forecast Date	2020 Qty (Each)	For FY	
<b>Other</b>							
MML Adv Proc Materials (Rescinded by NDAA FY2018)	-						-
ATR - Realign to Base for Iron Dome Procurement	-						-
<i>Total: Other</i>							-
<b>Total Advance Procurement/Obligation Authority</b>							-

**Description:**

The Indirect Fire Protection Capability Increment 2 (IFPC Inc 2) will provide a ground-based weapon system designed to acquire, track, engage, and defeat Cruise Missiles (CM), Unmanned Aircraft Systems (UAS), and Rocket, Artillery, and Mortar (RAM) threats. The IFPC Inc 2 system consists of a launcher, integrated fire control, sensor, and an interceptor to support the Threshold CM and UAS defeat mission. The Objective counter-RAM mission employs both alternative kinetic and non-kinetic defeat solutions.

In FY 2018, the Army evaluated alternative strategies to address an Army interim CM defense (CMD) capability at critical strategic fixed site locations while continuing the development of an enduring capability. As reported on 31 Oct 2018 the Army intends to field two interim IFPC batteries of Iron Dome in FY 2020, while concurrently componentizing a launcher and interceptor solutions that are interoperable and integrated with the Army Integrated Air and Missile Defense (AIAMD) open systems architecture, IAMD Battle Command System (IBCS), and the Sentinel sensor by FY 2023. For each of the interim capability's Iron Dome Batteries, the Army intends to employ a configuration that matches the Israeli Firing Unit. Prior to making a final decision on the enduring solution, the Army plans to conduct experimentation and analysis with Army sensors and IBCS to determine the complexity of integration of the componentized launcher and interceptor solution. The final decision point, planned for 2QFY2020, will decide between a componentized Iron Dome launcher or a CMD launcher from industry for the enduring IFPC Inc 2 capability.

This budget request assumes approval of the 2019 Above Threshold Reprogramming request which aligns FY 2018 and FY 2019 funding to the plan provided in the IFPC Acquisition Strategy Report submitted to Congress.

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**Exhibit P-40, Budget Line Item Justification:** PB 2020 Army **Date:** March 2019

**Appropriation / Budget Activity / Budget Sub Activity:**  
2032A: Missile Procurement, Army / BA 02: Other Missiles / BSA 20: Air-To-Surface Missile System

**P-1 Line Item Number / Title:**  
1338C70000 / Hellfire Sys Summary

**ID Code** (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0203802A, 0210109A

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

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	68,777	5,233	2,309	-	5,112	5,112	5,056	1,154	1,462	129	Continuing	Continuing
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	4,017.780	432.933	193.674	-	429.549	429.549	480.428	147.491	182.905	36.256	Continuing	Continuing
Less PY Advance Procurement ( <i>\$ in Millions</i> )	44.275	-	-	-	-	-	-	-	-	-	-	44.275
Net Procurement (P-1) ( <i>\$ in Millions</i> )	3,973.505	432.933	193.674	-	429.549	429.549	480.428	147.491	182.905	36.256	Continuing	Continuing
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	44.275	-	-	-	-	-	-	-	-	-	-	44.275
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>4,017.780</b>	<b>432.933</b>	<b>193.674</b>	<b>-</b>	<b>429.549</b>	<b>429.549</b>	<b>480.428</b>	<b>147.491</b>	<b>182.905</b>	<b>36.256</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> )	58.417	82.731	83.878	-	84.028	84.028	95.021	127.808	125.106	281.054	Continuing	Continuing

**Description:**

FY 2020 funding totals include \$0.0M for Base and \$429.549M for Overseas Contingency Operations (OCO); of which \$193.284M and 1,870 quantity is realigned as part of the OCO for Base Requirements. FY 2020 OCO for Base Requirements is OCO funding for base budget requirements in support of the National Defense Strategy. The Budget requests these funds in OCO to comply with the base budget defense caps included in the Budget Control Act of 2011.

The HELLFIRE II and Longbow family of air-to-ground missiles (all variants) provide attack helicopters and unmanned aircraft systems (UAS) with point-target precision strike capability to defeat heavy, advanced armor, individual hard point and non-traditional targets. HELLFIRE II Missiles use a semi-active laser terminal guidance and are the primary armaments of the AH-64 Apache, Army UAS and Special Operations aircraft. The HELLFIRE II includes Electro-Optical Countermeasure capability, warhead improvements and an updated electronic fuze. The AGM-114R HELLFIRE II family of missiles replaces all other HELLFIRE II missile configurations (K/N/M/P) except HELLFIRE Longbow. HELLFIRE II procurement funding supports the entire HELLFIRE II and HELLFIRE Longbow systems to include resolution of obsolescence, end-of-life buys, safety, insensitive munitions, reliability, weapon integration activities, test sets, engineering changes, facilitization, production ramp-up activities and production issues. This missile is compatible on all current force UAS and rotary wing platforms.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	5,233	2,309	0	5,112	5,112	5,056	1,154	1,462	129
	Total Obligation Authority	432.933	193.674	0.000	429.549	429.549	480.428	147.491	182.905	36.256
<b>Total:</b> <b>Secondary Distribution</b>	<b>Quantity</b>	<b>5,233</b>	<b>2,309</b>	<b>0</b>	<b>5,112</b>	<b>5,112</b>	<b>5,056</b>	<b>1,154</b>	<b>1,462</b>	<b>129</b>
	<b>Total Obligation Authority</b>	<b>432.933</b>	<b>193.674</b>	<b>-</b>	<b>429.549</b>	<b>429.549</b>	<b>480.428</b>	<b>147.491</b>	<b>182.905</b>	<b>36.256</b>

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<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2020 Army	<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A: Missile Procurement, Army / BA 02: Other Missiles / BSA 20: Air-To-Surface Missile System	<b>P-1 Line Item Number / Title:</b> 1338C70000 / Hellfire Sys Summary

<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> 0203802A, 0210109A
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**Line Item MDAP/MAIS Code:** N/A

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	C70100 / LASER HELLFIRE MSL (BASIC/IHW/HFII)	P-5a, P-21			68,777 / 4,017.780	5,233 / 432.933	2,309 / 193.674	- / -	5,112 / 429.549	5,112 / 429.549
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>68,777 / 4,017.780</b>	<b>5,233 / 432.933</b>	<b>2,309 / 193.674</b>	<b>- / -</b>	<b>5,112 / 429.549</b>	<b>5,112 / 429.549</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 2020 OCO for Base procurement dollars in the amount of \$193.284M support the production of 1,870 quantity.  
 FY2020 Direct OCO procurement dollars in the amount of \$236.265M supports production of 3,242 quantity.

FY19 All-up Round Unit Cost is based on a total qty of 11,000 missiles across all Customers.  
 FY20 All-up Round Unit Cost is based on a total qty of 11,000 missiles across all Customers.

The Army intends to convert any price advantage created through contract negotiations, other service procurement and/or Foreign Military sales (FMS) to increase the Army procurement of HELLFIRE II missiles.

The historical Army Acquisition Objective was 34,292.

HELLFIRE Product Office is the Procuring Agency for all Services.

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 2020 Army</b>													<b>Date:</b> March 2019								
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 02 / 20						<b>P-1 Line Item Number / Title:</b> 1338C70000 / Hellfire Sys Summary						<b>Item Number / Title [DODIC]:</b> C70100 / LASER HELLFIRE MSL (BASIC/IHW/HFII)									
<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 2018</b>			<b>FY 2019</b>			<b>FY 2020 Base</b>			<b>FY 2020 OCO</b>			<b>FY 2020 Total</b>		
Procurement Quantity (Units in Each)				68,777			5,233			2,309			-			5,112			5,112		
Gross/Weapon System Cost (\$ in Millions)				4,017.780			432.933			193.674			-			429.549			429.549		
Less PY Advance Procurement (\$ in Millions)				-			-			-			-			-			-		
Net Procurement (P-1) (\$ in Millions)				4,017.780			432.933			193.674			-			429.549			429.549		
Plus CY Advance Procurement (\$ in Millions)				-			-			-			-			-			-		
<b>Total Obligation Authority (\$ in Millions)</b>				<b>4,017.780</b>			<b>432.933</b>			<b>193.674</b>			<b>-</b>			<b>429.549</b>			<b>429.549</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)				58.417			82.731			83.878			-			84.028			84.028		
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 2018</b>			<b>FY 2019</b>			<b>FY 2020 Base</b>			<b>FY 2020 OCO</b>			<b>FY 2020 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																					
All-up Rounds <sup>(†)</sup>	44.018	68,777	3,027.450	69.764	5,233	365.077	70.833	2,309	163.553	-	-	-	72.876	5,112	372.544	72.876	5,112	372.544			
Engineering Services	-	-	454.811	-	-	41.968	-	-	9.688	-	-	-	-	-	31.591	-	-	31.591			
Acceptance Testing	-	-	85.541	-	-	1.413	-	-	2.045	-	-	-	-	-	2.086	-	-	2.086			
<i>Subtotal: Recurring Cost</i>	-	-	<i>3,567.778</i>	-	-	<i>408.456</i>	-	-	<i>175.286</i>	-	-	<i>0.000</i>	-	-	<i>406.219</i>	-	-	<i>406.219</i>			
<i>Subtotal: Flyaway Cost</i>	-	-	<i>3,567.778</i>	-	-	<i>408.456</i>	-	-	<i>175.286</i>	-	-	<i>0.000</i>	-	-	<i>406.219</i>	-	-	<i>406.219</i>			
Support - Fielding Cost																					
Fielding	-	-	37.734	-	-	1.633	-	-	6.423	-	-	-	-	-	4.982	-	-	4.982			
<i>Subtotal: Support - Fielding Cost</i>	-	-	<i>37.734</i>	-	-	<i>1.633</i>	-	-	<i>6.423</i>	-	-	<i>0.000</i>	-	-	<i>4.982</i>	-	-	<i>4.982</i>			
Support - Production Engineering Cost																					
Production Engineering	-	-	182.942	-	-	12.317	-	-	5.398	-	-	-	-	-	9.984	-	-	9.984			
<i>Subtotal: Support - Production Engineering Cost</i>	-	-	<i>182.942</i>	-	-	<i>12.317</i>	-	-	<i>5.398</i>	-	-	<i>0.000</i>	-	-	<i>9.984</i>	-	-	<i>9.984</i>			
Support - Program Management Cost																					
Government Management	-	-	229.314	-	-	10.525	-	-	6.567	-	-	-	-	-	8.364	-	-	8.364			
<i>Subtotal: Support - Program Management Cost</i>	-	-	<i>229.314</i>	-	-	<i>10.525</i>	-	-	<i>6.567</i>	-	-	<i>0.000</i>	-	-	<i>8.364</i>	-	-	<i>8.364</i>			
<b>Gross/Weapon System Cost</b>	<b>58.417</b>	<b>68,777</b>	<b>4,017.780</b>	<b>82.731</b>	<b>5,233</b>	<b>432.933</b>	<b>83.878</b>	<b>2,309</b>	<b>193.674</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>84.028</b>	<b>5,112</b>	<b>429.549</b>	<b>84.028</b>	<b>5,112</b>	<b>429.549</b>			

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<b>Exhibit P-5, Cost Analysis:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 02 / 20	<b>P-1 Line Item Number / Title:</b> 1338C70000 / Hellfire Sys Summary	<b>Item Number / Title [DODIC]:</b> C70100 / LASER HELLFIRE MSL (BASIC/IHW/HFII)

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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**Remarks:**  
Fixed Price Incentive Fee (FPIF)

The production unit cost is based on all Services' base and Overseas Contingency Operations (OCO) quantity requirements known at this time. Above quantities are Army only. Total quantities include procurement by US Air Force, US Navy, US Army and FMS cases. Excess capacity will determine future FMS quantity availability. All procurement of Hellfire II AGM-114R missiles are reflected on the P21.

Exhibit P-5: Program Management and Production Engineering costs may vary based on a pro-rata share of quantities procured by all customers.

Based on contract structure, all customers pay the same Unit Cost for the same configuration.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	5,233	2,309	0	5,112	5,112
	Total Obligation Authority	432.933	193.674	0.000	429.549	429.549
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	<b>5,233</b>	<b>2,309</b>	<b>-</b>	<b>5,112</b>	<b>5,112</b>
	<b>Total Obligation Authority</b>	<b>432.933</b>	<b>193.674</b>	<b>-</b>	<b>429.549</b>	<b>429.549</b>

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



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<b>Exhibit P-5a, Procurement History and Planning:</b> PB 2020 Army							<b>Date:</b> March 2019					
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 02 / 20			<b>P-1 Line Item Number / Title:</b> 1338C70000 / Hellfire Sys Summary				<b>Item Number / Title [DODIC]:</b> C70100 / LASER HELLFIRE MSL (BASIC/IHW/HFII)					

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
All-up Rounds <sup>(†)</sup>		2016	HELLFIRE Sys Limited Liability / Orlando	SS / FPIF	Redstone Arsenal, AL	Feb 2017	Mar 2019	113	175.000	Y		Dec 2013
All-up Rounds <sup>(†)</sup>		2016	HF Sys Limited Liability / Orlando	SS / FPIF	Redstone Arsenal, AL	Feb 2017	Mar 2019	270	121.000	Y		Dec 2013
All-up Rounds <sup>(†)</sup>		2017	Lockheed Missile and Fire Ctrl / Orlando	SS / FPIF	Redstone Arsenal, AL	Sep 2017	Oct 2019	4,362	74.160	Y		Dec 2013
All-up Rounds <sup>(†)</sup>		2018	Lockheed Missile and Fire Ctrl / Orlando	SS / FPIF	Redstone Arsenal, AL	Sep 2018	Oct 2020	5,233	69.764	Y		Dec 2016
All-up Rounds <sup>(†)</sup>		2019	Lockheed Missile and Fire Ctrl / Orlando	SS / FPIF	Redstone Arsenal, AL	Sep 2019	Oct 2021	2,309	70.833	Y		Dec 2016
All-up Rounds <sup>(†)</sup>	✓	2020	Lockheed Missile and Fire Ctrl / Orlando	SS / FPIF	Redstone Arsenal, AL	Sep 2020	Oct 2022	5,112	72.876	Y		Dec 2016

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

**Remarks:**  
Fixed Price Incentive Fee (FPIF)

The production unit cost is based on all Services' base and Overseas Contingency Operations (OCO) quantity requirements known at this time. Above quantities are Army only. Total quantities include procurement by US Air Force, US Navy, US Army and FMS cases. Excess capacity will determine future FMS quantity availability. All procurement of Hellfire II AGM-114R missiles are reflected on the P21.

See Exhibit P-5 for Unit Cost. Program Management, Production Engineering and unit cost may change based on quantities procured by all Services and Foreign Military Sales (FMS) customers.

Based on contract structure all customers pay the same Unit Cost for the same configuration.

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**Exhibit P-21, Production Schedule:** PB 2020 Army **Date:** March 2019

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 02 / 20	<b>P-1 Line Item Number / Title:</b> 1338C70000 / Hellfire Sys Summary	<b>Item Number / Title [DODIC]:</b> C70100 / LASER HELLFIRE MSL (BASIC/IHW/HFII)
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Cost Elements <i>(Units in Each)</i>					Fiscal Year 2017												Fiscal Year 2018												BALANCE		
OCO #	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2016	BAL DUE AS OF 1 OCT	Calendar Year 2017												Calendar Year 2018												
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL		AUG	SEP

All-up Rounds																															
Prior Years Deliveries: 64032																															
OCO #	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2016	BAL DUE AS OF 1 OCT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	BALANCE
		1	2016	ARMY	113	0																								113	
		2	2016	ARMY	270	0																								270	
		3	2017	ARMY	4,362	0																								4,362	
		3	2018	ARMY	5,233	0																								5,233	
		3	2019	ARMY	2,309	0																								2,309	
		✓ 3	2020	AF (†)	3,859	0																								3,859	
		✓ 3	2020	ARMY	5,112	0																								5,112	
		✓ 3	2020	<b>Total OCO</b>	<b>8,971</b>	<b>0</b>																								<b>8,971</b>	

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<b>Exhibit P-21, Production Schedule:</b> PB 2020 Army															<b>Date:</b> March 2019														
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 02 / 20										<b>P-1 Line Item Number / Title:</b> 1338C70000 / Hellfire Sys Summary										<b>Item Number / Title [DODIC]:</b> C70100 / LASER HELLFIRE MSL (BASIC/IHW/HFII)									

Cost Elements <i>(Units in Each)</i>					Fiscal Year 2019													Fiscal Year 2020													BALANCE	
OCO #	MFR FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2018	BAL DUE AS OF 1 OCT	Calendar Year 2019													Calendar Year 2020													
						OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP			
All-up Rounds																																
Prior Years Deliveries: 64032																																
1	2016	ARMY	113	0	113	-	-	-	-	-	-	10	10	10	10	10	9	9	9	9	9	9	9	9	9	9	9	0				
2	2016	ARMY	270	0	270	-	-	-	-	-	-	23	23	23	23	23	23	22	22	22	22	22	22	22	22	22	22	0				
3	2017	ARMY	4,362	0	4,362	-	-	-	-	-	-	-	-	-	-	-	-	-	364	364	364	364	364	364	364	364	358	0				
3	2018	ARMY	5,233	0	5,233	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5,233				
3	2019	ARMY	2,309	0	2,309													A -	-	-	-	-	-	-	-	-	-	2,309				
✓ 3	2020	AF (†)	3,859	0	3,859																						A -	3,859				
✓ 3	2020	ARMY	5,112	0	5,112																						A -	5,112				
✓ 3	2020	<b>Total OCO</b>	<b>8,971</b>	<b>0</b>	<b>8,971</b>																						-	<b>8,971</b>				
						OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP			

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<b>Exhibit P-21, Production Schedule:</b> PB 2020 Army															<b>Date:</b> March 2019														
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 02 / 20										<b>P-1 Line Item Number / Title:</b> 1338C70000 / Hellfire Sys Summary										<b>Item Number / Title [DODIC]:</b> C70100 / LASER HELLFIRE MSL (BASIC/IHW/HFII)									

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			
All-up Rounds																																	
Prior Years Deliveries: 64032																																	
	1	2016	ARMY	113	113	0																							0				
	2	2016	ARMY	270	270	0																							0				
	3	2017	ARMY	4,362	4,362	0																							0				
	3	2018	ARMY	5,233	0	5,233	437	436	436	436	436	436	436	436	436	436													0				
	3	2019	ARMY	2,309	0	2,309	-	-	-	-	-	-	-	-	-	-	193	193	193	193	193	193	192	192	192	192	192	192	0				
✓	3	2020	AF (†)	3,859	0	3,859	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3,859				
✓	3	2020	ARMY	5,112	0	5,112	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5,112				
✓	3	2020	<b>Total OCO</b>	<b>8,971</b>	<b>0</b>	<b>8,971</b>																							<b>8,971</b>				
							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 2020 Army															<b>Date:</b> March 2019														
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 02 / 20										<b>P-1 Line Item Number / Title:</b> 1338C70000 / Hellfire Sys Summary										<b>Item Number / Title [DODIC]:</b> C70100 / LASER HELLFIRE MSL (BASIC/IHW/HFII)									

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			
All-up Rounds																																	
Prior Years Deliveries: 64032																																	
	1	2016	ARMY	113	113	0																							0				
	2	2016	ARMY	270	270	0																							0				
	3	2017	ARMY	4,362	4,362	0																							0				
	3	2018	ARMY	5,233	5,233	0																							0				
	3	2019	ARMY	2,309	2,309	0																							0				
✓	3	2020	AF (†)	3,859	0	3,859	322	322	322	322	322	322	322	321	321	321	321												0				
✓	3	2020	ARMY	5,112	0	5,112	427	427	426	426	426	426	426	426	426	426	425	425											0				
✓	3	2020	<b>Total OCO</b>	<b>8,971</b>	<b>0</b>	<b>8,971</b>	<b>749</b>	<b>749</b>	<b>748</b>	<b>748</b>	<b>748</b>	<b>748</b>	<b>747</b>	<b>747</b>	<b>747</b>	<b>746</b>	<b>746</b>	-	-	-	-	-	-	-	-	-	-	-	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 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 02 / 20		<b>P-1 Line Item Number / Title:</b> 1338C70000 / Hellfire Sys Summary
<b>Item Number / Title [DODIC]:</b> C70100 / LASER HELLFIRE MSL (BASIC/IHW/HFII)		

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2020	1-8-5 For 2020	MAX For 2020	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	HELLFIRE Sys Limited Liability - Orlando	3,600	6,000	11,000	5	12	24	36	5	12	24	36
2	HF Sys Limited Liability - Orlando	3,600	6,000	11,000	5	12	24	36	5	12	24	36
3	Lockheed Missile and Fire Ctrl - Orlando	3,600	6,000	11,000	5	12	24	36	5	12	24	36

**Remarks:**  
 Yearly Minimum Sustainment Rate (MSR) = 3,600 missiles.  
 Yearly Economical Production Rate (1-8-5) = 6,000 missiles.  
 Yearly Maximum Production Rate (MPR) = 11,000 missiles.

(‡) Delivery rows marked with this symbol indicate that they are funded through a separate Line Item. See the respective components' exhibits for details, including the full delivery schedule.  
 "A" in the Delivery Schedule indicates the Contract Award Date.

**Note:** Due to space limitations, quantities in the Exhibit P-21 delivery calendar are truncated and rounded based on the maximum quantity in the calendar as follows. If the maximum quantity is less than or equal to than 9,999, all quantities are shown as each. If the maximum quantity is between 10,000 and 999,999 all quantities are shown in thousands. If the maximum quantity is between 1,000,000 and 999,999,999 all quantities are shown in millions (rounded to the nearest thousand). If the maximum quantity is equal or greater than 1,000,000,000 all quantities are shown in billions (rounded to the nearest million).

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**Exhibit P-40, Budget Line Item Justification:** PB 2020 Army **Date:** March 2019

**Appropriation / Budget Activity / Budget Sub Activity:**  
2032A: Missile Procurement, Army / BA 02: Other Missiles / BSA 20: Air-To-Surface Missile System

**P-1 Line Item Number / Title:**  
2605C70302 / Joint Air-to-Ground MSLS (JAGM)

**ID Code** (A=Service Ready, B=Not Service Ready): **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0605450A

**Line Item MDAP/MAIS Code:** 355

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	373	899	721	-	609	609	592	460	571	540	-	4,765
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	89.649	215.532	256.462	-	233.353	233.353	213.608	220.900	213.611	208.833	-	1,651.948
Less PY Advance Procurement ( <i>\$ in Millions</i> )	27.738	37.100	-	-	-	-	-	-	-	-	-	64.838
Net Procurement (P-1) ( <i>\$ in Millions</i> )	61.911	178.432	256.462	-	233.353	233.353	213.608	220.900	213.611	208.833	-	1,587.110
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	64.838	-	-	-	-	-	-	-	-	-	-	64.838
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>126.749</b>	<b>178.432</b>	<b>256.462</b>	<b>-</b>	<b>233.353</b>	<b>233.353</b>	<b>213.608</b>	<b>220.900</b>	<b>213.611</b>	<b>208.833</b>	<b>-</b>	<b>1,651.948</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> )	240.346	239.746	355.703	-	383.174	383.174	360.824	480.217	374.100	386.728	-	346.684

**Description:**

FY 2020 funding totals include \$0.0M for Base and \$233.353M for Overseas Contingency Operations (OCO); of which \$233.353M and 609 quantity is realigned as part of the OCO for Base Requirements. FY 2020 OCO for Base Requirements is OCO funding for base budget requirements in support of the National Defense Strategy. The Budget requests these funds in OCO to comply with the base budget defense caps included in the Budget Control Act of 2011.

The Joint Air-to-Ground Missile (JAGM) program is an Army-led, Acquisition Category (ACAT) IC Major Defense Acquisition Program (MDAP) with joint interest with the U.S. Marine Corps (USMC), U.S. Navy, and U.S. Air Force. The JAGM is the next generation of aviation-launched, fire and forget missiles to replace all variants of HELLFIRE. The JAGM multi-mode Guidance Section is integrated with the combat proven HELLFIRE II (AGM-114R) propulsion, warhead, and control section. JAGM will be used by joint service aircraft for destruction of high value stationary, moving, and relocatable land and maritime targets from standoff range in day, night, adverse weather, and obscured battlefield conditions. The program's threshold platforms are the U.S. Army AH-64E Apache and USMC AH-1Z. JAGM procurement funding supports the entire JAGM system to include resolution of obsolescence, safety, reliability, weapon integration activities, test sets, engineering services, facilitization, production ramp-up activities and production issues.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	899	721	0	609	609	592	460	571	540
	Total Obligation Authority	178.432	256.462	0.000	233.353	233.353	213.608	220.900	213.611	208.833
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	<b>899</b>	<b>721</b>	<b>0</b>	<b>609</b>	<b>609</b>	<b>592</b>	<b>460</b>	<b>571</b>	<b>540</b>
	<b>Total Obligation Authority</b>	<b>178.432</b>	<b>256.462</b>	<b>-</b>	<b>233.353</b>	<b>233.353</b>	<b>213.608</b>	<b>220.900</b>	<b>213.611</b>	<b>208.833</b>

**UNCLASSIFIED**

**Exhibit P-40, Budget Line Item Justification:** PB 2020 Army **Date:** March 2019

**Appropriation / Budget Activity / Budget Sub Activity:** 2032A: Missile Procurement, Army / BA 02: Other Missiles / BSA 20: Air-To-Surface Missile System **P-1 Line Item Number / Title:** 2605C70302 / Joint Air-to-Ground MSLS (JAGM)

**ID Code** (A=Service Ready, B=Not Service Ready): **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0605450A

**Line Item MDAP/MAIS Code:** 355

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	C70302 / Joint Air-to-Ground MSLS (JAGM)	P-5a, P-21			373 / 89.649	899 / 215.532	721 / 256.462	- / -	609 / 233.353	609 / 233.353
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>373 / 89.649</b>	<b>899 / 215.532</b>	<b>721 / 256.462</b>	<b>- / -</b>	<b>609 / 233.353</b>	<b>609 / 233.353</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 2020 procurement dollars in the amount of \$233.353 million supports the procurement of 609 missiles and Project Management Cost and Engineering Services funding.

The Army intends to convert any price advantage created through contract negotiations and/or other service procurement to increase the Army procurement of JAGM missiles.

The JAGM Product Office is the procurement agent for all services.

The Army Acquisition Objective is 20,303.

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 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 02 / 20	<b>P-1 Line Item Number / Title:</b> 2605C70302 / Joint Air-to-Ground MSLS (JAGM)	<b>Item Number / Title [DODIC]:</b> C70302 / Joint Air-to-Ground MSLS (JAGM)

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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<b>Resource Summary</b>	<b>Prior Years</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Procurement Quantity ( <i>Units in Each</i> )	373	899	721	-	609	609
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	89.649	215.532	256.462	-	233.353	233.353
Less PY Advance Procurement ( <i>\$ in Millions</i> )	27.738	37.100	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	61.911	178.432	256.462	-	233.353	233.353
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	64.838	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>126.749</b>	<b>178.432</b>	<b>256.462</b>	<b>-</b>	<b>233.353</b>	<b>233.353</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> )	240.346	239.746	355.703	-	383.174	383.174

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 2018</b>			<b>FY 2019</b>			<b>FY 2020 Base</b>			<b>FY 2020 OCO</b>			<b>FY 2020 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)
<b>Flyaway Cost</b>																		
<b>Recurring Cost</b>																		
All Up Rounds (AUR) <sup>(†)</sup>	165.981	373	61.911	170.284	899	153.085	223.569	721	161.193	-	-	-	213.972	609	130.309	213.972	609	130.309
Engineering Services	-	-	-	-	-	17.631	-	-	19.016	-	-	-	-	-	19.100	-	-	19.100
Guidance Section Long Lead Items	-	-	24.800	-	-	13.800	-	-	-	-	-	-	-	-	-	-	-	-
Acceptance Testing	-	-	-	-	-	-	-	-	1.224	-	-	-	-	-	1.915	-	-	1.915
<b>Subtotal: Recurring Cost</b>	<b>-</b>	<b>-</b>	<b>86.711</b>	<b>-</b>	<b>-</b>	<b>184.516</b>	<b>-</b>	<b>-</b>	<b>181.433</b>	<b>-</b>	<b>-</b>	<b>0.000</b>	<b>-</b>	<b>-</b>	<b>151.324</b>	<b>-</b>	<b>-</b>	<b>151.324</b>
<b>Non Recurring Cost</b>																		
HELLFIRE Backend Long Lead Items	-	-	2.938	-	-	22.918	-	-	-	-	-	-	-	-	-	-	-	-
Tooling and Test Equipment	-	-	-	-	-	-	-	-	6.785	-	-	-	-	-	9.049	-	-	9.049
<b>Subtotal: Non Recurring Cost</b>	<b>-</b>	<b>-</b>	<b>2.938</b>	<b>-</b>	<b>-</b>	<b>22.918</b>	<b>-</b>	<b>-</b>	<b>6.785</b>	<b>-</b>	<b>-</b>	<b>0.000</b>	<b>-</b>	<b>-</b>	<b>9.049</b>	<b>-</b>	<b>-</b>	<b>9.049</b>
<b>Subtotal: Flyaway Cost</b>	<b>-</b>	<b>-</b>	<b>89.649</b>	<b>-</b>	<b>-</b>	<b>207.434</b>	<b>-</b>	<b>-</b>	<b>188.218</b>	<b>-</b>	<b>-</b>	<b>0.000</b>	<b>-</b>	<b>-</b>	<b>160.373</b>	<b>-</b>	<b>-</b>	<b>160.373</b>
<b>Support - Fielding Cost</b>																		
Fielding	-	-	-	-	-	-	-	-	0.890	-	-	-	-	-	0.875	-	-	0.875
<b>Subtotal: Support - Fielding Cost</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>0.890</b>	<b>-</b>	<b>-</b>	<b>0.000</b>	<b>-</b>	<b>-</b>	<b>0.875</b>	<b>-</b>	<b>-</b>	<b>0.875</b>
<b>Support - Initial Spares and Repair Parts Cost</b>																		

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 02 / 20	<b>P-1 Line Item Number / Title:</b> 2605C70302 / Joint Air-to-Ground MSLS (JAGM)	<b>Item Number / Title [DODIC]:</b> C70302 / Joint Air-to-Ground MSLS (JAGM)

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<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 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Initial Spares and Repair Parts	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.926	-	-	1.926
<i>Subtotal: Support - Initial Spares and Repair Parts Cost</i>	-	-	-	-	-	-	-	-	-	-	-	0.000	-	-	1.926	-	-	1.926
<b>Support - Non-Recurring Support Cost</b>																		
Facilitization	-	-	-	-	-	-	-	-	20.438	-	-	-	-	-	19.985	-	-	19.985
<i>Subtotal: Support - Non-Recurring Support Cost</i>	-	-	-	-	-	-	-	-	20.438	-	-	0.000	-	-	19.985	-	-	19.985
<b>Support - Production Engineering Cost</b>																		
Production Engineering	-	-	-	-	-	4.621	-	-	28.063	-	-	-	-	-	21.825	-	-	21.825
<i>Subtotal: Support - Production Engineering Cost</i>	-	-	-	-	-	4.621	-	-	28.063	-	-	0.000	-	-	21.825	-	-	21.825
<b>Support - Program Management Cost</b>																		
Government Management	-	-	-	-	-	3.477	-	-	14.938	-	-	-	-	-	11.788	-	-	11.788
<i>Subtotal: Support - Program Management Cost</i>	-	-	-	-	-	3.477	-	-	14.938	-	-	0.000	-	-	11.788	-	-	11.788
<b>Support - System Test and Evaluation Cost</b>																		
Test and Evaluation Support	-	-	-	-	-	-	-	-	3.915	-	-	-	-	-	16.581	-	-	16.581
<i>Subtotal: Support - System Test and Evaluation Cost</i>	-	-	-	-	-	-	-	-	3.915	-	-	0.000	-	-	16.581	-	-	16.581
<b>Gross/Weapon System Cost</b>	<b>240.346</b>	<b>373</b>	<b>89.649</b>	<b>239.746</b>	<b>899</b>	<b>215.532</b>	<b>355.703</b>	<b>721</b>	<b>256.462</b>	-	-	-	<b>383.174</b>	<b>609</b>	<b>233.353</b>	<b>383.174</b>	<b>609</b>	<b>233.353</b>

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	899	721	0	609	609
	Total Obligation Authority	178.432	256.462	0.000	233.353	233.353
<b>Total:</b>	<b>Quantity</b>	<b>899</b>	<b>721</b>	-	<b>609</b>	<b>609</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>178.432</b>	<b>256.462</b>	-	<b>233.353</b>	<b>233.353</b>

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

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<b>Exhibit P-5a, Procurement History and Planning:</b> PB 2020 Army							<b>Date:</b> March 2019				
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 02 / 20			<b>P-1 Line Item Number / Title:</b> 2605C70302 / Joint Air-to-Ground MSLS (JAGM)				<b>Item Number / Title [DODIC]:</b> C70302 / Joint Air-to-Ground MSLS (JAGM)				

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
All Up Rounds (AUR) <sup>(†)</sup>		2017	Lockheed Martin / Orlando	C / FPIF	Redstone Arsenal, AL	Aug 2018	Dec 2018	373	165.980	Y		Feb 2015
All Up Rounds (AUR) <sup>(†)</sup>		2018	Lockheed Martin / Orlando	C / FPIF	Redstone Arsenal, AL	Sep 2018	Dec 2019	899	170.284	Y		Feb 2015
All Up Rounds (AUR) <sup>(†)</sup>		2019	Lockheed Martin / Orlando	C / FPIF	Redstone Arsenal, AL	Jun 2019	Dec 2021	721	223.569	Y		Aug 2018
All Up Rounds (AUR) <sup>(†)</sup>	✓	2020	Lockheed Martin / Orlando	C / FPIF	Redstone Arsenal, AL	Sep 2020	Oct 2022	609	213.972	Y		Apr 2019

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

**Remarks:**

FY 2020 will be the first full rate production award for JAGM.

- Tooling and Test equipment is for the stand up of a depot.
- Facilitization costs are for prime contractor production line ramp up to 2,400 missiles.

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<b>Exhibit P-21, Production Schedule:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 02 / 20		<b>P-1 Line Item Number / Title:</b> 2605C70302 / Joint Air-to-Ground MSLS (JAGM)
		<b>Item Number / Title [DODIC]:</b> C70302 / Joint Air-to-Ground MSLS (JAGM)

Cost Elements (Units in Each)						Fiscal Year 2018														Fiscal Year 2019										B A L A N C E	
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2017	BAL DUE AS OF 1 OCT	Calendar Year 2018														Calendar Year 2019										
							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	P	A	U	U		U
All Up Rounds (AUR)																															
	1	2017	ARMY	373	0	373																								62	
	1	2017	NAVY (‡)	104	0	104																								104	
	<b>1</b>	<b>2017</b>	<b>Total</b>	<b>477</b>	<b>0</b>	<b>477</b>																								<b>166</b>	
	1	2018	ARMY	899	0	899																								899	
	1	2019	ARMY	721	0	721																								721	
	1	2019	NAVY (‡)	75	0	75																								75	
	<b>1</b>	<b>2019</b>	<b>Total</b>	<b>796</b>	<b>0</b>	<b>796</b>																								<b>796</b>	
✓	1	2020	AF (‡)	60	0	60																								60	
✓	1	2020	ARMY	609	0	609																								609	
✓	1	2020	NAVY (‡)	382	0	382																								382	
✓	<b>1</b>	<b>2020</b>	<b>Total OCO</b>	<b>1,051</b>	<b>0</b>	<b>1,051</b>																								<b>1,051</b>	
							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	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	G	P	

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<b>Exhibit P-21, Production Schedule:</b> PB 2020 Army															<b>Date:</b> March 2019														
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 02 / 20										<b>P-1 Line Item Number / Title:</b> 2605C70302 / Joint Air-to-Ground MSLS (JAGM)										<b>Item Number / Title [DODIC]:</b> C70302 / Joint Air-to-Ground MSLS (JAGM)									

Cost Elements <i>(Units in Each)</i>						Fiscal Year 2020														Fiscal Year 2021														BALANCE	
O 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					
All Up Rounds (AUR)																																			
1		2017	ARMY	373	311	62	31	31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0			
1		2017	NAVY (‡)	104	0	104	-	-	-	50	48	-	-	-	-	-	-	-	-	-	2	2	2	-	-	-	-	-	-	-	-	0			
<b>1</b>		<b>2017</b>	<b>Total</b>	<b>477</b>	<b>311</b>	<b>166</b>	<b>31</b>	<b>31</b>	-	<b>50</b>	<b>48</b>	-	-	-	-	-	-	-	-	<b>2</b>	<b>2</b>	<b>2</b>	-	-	-	-	-	-	-	-	<b>0</b>				
1		2018	ARMY	899	0	899	-	-	50	-	2	50	50	50	50	50	50	50	50	33	33	33	33	33	33	33	33	33	33	33	67				
1		2019	ARMY	721	0	721	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	721				
1		2019	NAVY (‡)	75	0	75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	75				
<b>1</b>		<b>2019</b>	<b>Total</b>	<b>796</b>	<b>0</b>	<b>796</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<b>796</b>				
✓ 1		2020	AF (‡)	60	0	60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	60				
✓ 1		2020	ARMY	609	0	609	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	609				
✓ 1		2020	NAVY (‡)	382	0	382	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	382				
✓ 1		<b>2020</b>	<b>Total OCO</b>	<b>1,051</b>	<b>0</b>	<b>1,051</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<b>1,051</b>				
							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 2020 Army														<b>Date:</b> March 2019																											
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 02 / 20														<b>P-1 Line Item Number / Title:</b> 2605C70302 / Joint Air-to-Ground MSLS (JAGM)														<b>Item Number / Title [DODIC]:</b> C70302 / Joint Air-to-Ground MSLS (JAGM)													

Cost Elements <i>(Units in Each)</i>						Fiscal Year 2022														Fiscal Year 2023														BALANCE	
OCO #	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2021	BAL DUE AS OF 1 OCT	Calendar Year 2022														Calendar Year 2023														
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP					
All Up Rounds (AUR)																																			
1		2017	ARMY	373	373	0																													0
1		2017	NAVY (‡)	104	104	0																													0
<b>1</b>		<b>2017</b>	<b>Total</b>	<b>477</b>	<b>477</b>	<b>0</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<b>0</b>	
1		2018	ARMY	899	832	67	33	34																											0
1		2019	ARMY	721	0	721	-	-	60	60	60	60	60	60	60	60	60	60	61																0
1		2019	NAVY (‡)	75	0	75	-	-	8	7	8	7	8	7	8	7	8	7	-	-															0
<b>1</b>		<b>2019</b>	<b>Total</b>	<b>796</b>	<b>0</b>	<b>796</b>	-	-	<b>68</b>	<b>67</b>	<b>68</b>	<b>67</b>	<b>68</b>	<b>67</b>	<b>68</b>	<b>67</b>	<b>68</b>	<b>67</b>	<b>60</b>	<b>61</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	<b>0</b>	
✓ 1		2020	AF (‡)	60	0	60	-	-	-	-	-	-	-	-	-	-	-	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	0	
✓ 1		2020	ARMY	609	0	609	-	-	-	-	-	-	-	-	-	-	-	6	3	60	60	60	60	60	60	60	60	60	60	60	60	60	60	0	
✓ 1		2020	NAVY (‡)	382	0	382	-	-	-	-	-	-	-	-	-	-	-	32	32	32	32	32	32	32	32	32	32	32	32	32	31	31	0		
✓ 1		<b>2020</b>	<b>Total OCO</b>	<b>1,051</b>	<b>0</b>	<b>1,051</b>	-	-	-	-	-	-	-	-	-	-	<b>43</b>	<b>40</b>	<b>97</b>	<b>97</b>	<b>97</b>	<b>97</b>	<b>97</b>	<b>97</b>	<b>97</b>	<b>97</b>	<b>97</b>	<b>97</b>	<b>97</b>	<b>96</b>	<b>96</b>	<b>0</b>			
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP					

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<b>Exhibit P-21, Production Schedule:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 02 / 20		<b>P-1 Line Item Number / Title:</b> 2605C70302 / Joint Air-to-Ground MSLS (JAGM)
		<b>Item Number / Title [DODIC]:</b> C70302 / Joint Air-to-Ground MSLS (JAGM)

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2020	1-8-5 For 2020	MAX For 2020	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	Lockheed Martin - Orlando	600	1,200	2,400	5	12	24	36	5	12	24	36

**Remarks:**  
FY 2019 total quantities includes Navy purchases. FY 2020 total quantities includes Navy and Air Force purchases.

(†) Delivery rows marked with this symbol indicate that they are funded through a separate Line Item. See the respective components' exhibits for details, including the full delivery schedule.  
"A" in the Delivery Schedule indicates the Contract Award Date.

**Note:** Due to space limitations, quantities in the Exhibit P-21 delivery calendar are truncated and rounded based on the maximum quantity in the calendar as follows. If the maximum quantity is less than or equal to than 9,999, all quantities are shown as each. If the maximum quantity is between 10,000 and 999,999 all quantities are shown in thousands. If the maximum quantity is between 1,000,000 and 999,999,999 all quantities are shown in millions (rounded to the nearest thousand). If the maximum quantity is equal or greater than 1,000,000,000 all quantities are shown in billions (rounded to the nearest million).

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**Exhibit P-40, Budget Line Item Justification:** PB 2020 Army **Date:** March 2019

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A: Missile Procurement, Army / BA 02: Other Missiles / BSA 30: Anti-Tank/ Assault Missile Sys	<b>P-1 Line Item Number / Title:</b> 0648CC0007 / Javelin (AAWS-M) System Summary
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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> 0604611A
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**Line Item MDAP/MAIS Code:** 280

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	30,026	955	1,337	-	697	697	563	577	1,061	982	-	36,198
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	4,845.788	265.535	245.485	-	142.794	142.794	147.643	141.924	209.591	199.926	-	6,198.686
Less PY Advance Procurement ( <i>\$ in Millions</i> )	100.622	-	-	-	-	-	-	-	-	-	-	100.622
Net Procurement (P-1) ( <i>\$ in Millions</i> )	4,745.166	265.535	245.485	-	142.794	142.794	147.643	141.924	209.591	199.926	-	6,098.064
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	100.622	-	-	-	-	-	-	-	-	-	-	100.622
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>4,845.788</b>	<b>265.535</b>	<b>245.485</b>	<b>-</b>	<b>142.794</b>	<b>142.794</b>	<b>147.643</b>	<b>141.924</b>	<b>209.591</b>	<b>199.926</b>	<b>-</b>	<b>6,198.686</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> )	161.386	278.047	183.609	-	204.869	204.869	262.243	245.969	197.541	203.591	-	171.244

**Description:**

FY 2020 funding totals include \$0.0M for Base and \$142.794M for Overseas Contingency Operations (OCO); of which \$138.405M and 672 quantity is realigned as part of the OCO for Base Requirements. FY 2020 OCO for Base Requirements is OCO funding for base budget requirements in support of the National Defense Strategy. The Budget requests these funds in OCO to comply with the base budget defense caps included in the Budget Control Act of 2011.

Javelin provides the United States Army and United States Marine Corps (USMC) a man-portable, fire-and-forget, medium-range missile with enhanced situational awareness and precision direct-fire effects to defeat armored vehicles, fortifications, and soft targets in a range of military operations. Javelin has a high kill rate against a variety of targets at extended ranges under day/night, battlefield obscurants, adverse weather and multiple counter-measure conditions. The system's soft launch feature permits firing from a fighting position or an enclosure. Javelin uses a modular design to allow the system to evolve to meet changing threats and requirements via both software and hardware upgrades. The system consists of a reusable Command Launch Unit (CLU) with a built-in-test (BIT), and a modular missile encased in a disposable launch tube assembly. The system also includes training devices for tactical training and classroom training. Javelin's fire-and-forget technology allows the gunner to fire and immediately take cover, to move to another fighting position, or to reload. The Javelin provides enhanced lethality through the use of a tandem multi-purpose warhead which will defeat all known armor threats. It is effective against both stationary and moving targets. This system also provides defensive capability against attacking/hovering helicopters. In current conflicts the CLU is being used as a stand-alone surveillance and target acquisition asset. The Army is the lead for this joint program with the USMC.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	955	1,337	0	697	697	563	577	1,061	982
	Total Obligation Authority	265.535	245.485	0.000	142.794	142.794	147.643	141.924	209.591	199.926
<b>Total:</b> Secondary Distribution	<b>Quantity</b>	<b>955</b>	<b>1,337</b>	<b>0</b>	<b>697</b>	<b>697</b>	<b>563</b>	<b>577</b>	<b>1,061</b>	<b>982</b>
	<b>Total Obligation Authority</b>	<b>265.535</b>	<b>245.485</b>	<b>-</b>	<b>142.794</b>	<b>142.794</b>	<b>147.643</b>	<b>141.924</b>	<b>209.591</b>	<b>199.926</b>



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**Exhibit P-40, Budget Line Item Justification:** PB 2020 Army **Date:** March 2019

**Appropriation / Budget Activity / Budget Sub Activity:**  
2032A: Missile Procurement, Army / BA 02: Other Missiles / BSA 30: Anti-Tank/  
Assault Missile Sys **P-1 Line Item Number / Title:**  
0648CC0007 / Javelin (AAWS-M) System Summary

**ID Code** (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0604611A

**Line Item MDAP/MAIS Code:** 280

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	H06102 / JAVELIN (AAWS-M)	P-5a, P-21			30,026 / 4,845.788	955 / 265.535	1,202 / 222.985	- / -	697 / 142.794	697 / 142.794
P-5	H06103 / Javelin Lightweight Command Launch Unit (CLU)				- / -	- / -	135 / 22.500	- / -	- / -	- / -
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>30,026 / 4,845.788</b>	<b>955 / 265.535</b>	<b>1,337 / 245.485</b>	<b>- / -</b>	<b>697 / 142.794</b>	<b>697 / 142.794</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 2020 OCO for Base procurement dollars of which \$138.405M supports the production of 672 missiles.  
FY 2020 Enduring OCO procurement dollars in the amount of \$4.389 Million supports the production of 25 CLU retrofits.

The estimated missile unit prices are based on combined United States Army, other services, and FMS procurements of 850 missiles per year.

The Army intends to convert any price advantage created through contract negotiations, other service procurement, and/or foreign military sales to increase the Army procurement of Javelin missiles, increase procurement of Block 0 to Block I retrofits, and/or address obsolescence, modernization, cost reduction, and production initiatives.

Javelin Lightweight CLU procurement will begin in FY21.

The cut in of the G-Model Missile Engineering Change Proposal will begin in FY19. G-Model Missile Low Rate Initial Production will begin in FY21.

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 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 02 / 30	<b>P-1 Line Item Number / Title:</b> 0648CC0007 / Javelin (AAWS-M) System Summary	<b>Item Number / Title [DODIC]:</b> H06102 / JAVELIN (AAWS-M)

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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<b>Resource Summary</b>	<b>Prior Years</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Procurement Quantity ( <i>Units in Each</i> )	30,026	955	1,202	-	697	697
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	4,845.788	265.535	222.985	-	142.794	142.794
Less PY Advance Procurement ( <i>\$ in Millions</i> )	100.622	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	4,745.166	265.535	222.985	-	142.794	142.794
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	100.622	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>4,845.788</b>	<b>265.535</b>	<b>222.985</b>	<b>-</b>	<b>142.794</b>	<b>142.794</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> )	161.386	278.047	185.512	-	204.869	204.869

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 2018</b>			<b>FY 2019</b>			<b>FY 2020 Base</b>			<b>FY 2020 OCO</b>			<b>FY 2020 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)
<b>Flyaway Cost</b>																		
<b>Recurring Cost</b>																		
All Up Round <sup>(1)</sup>	101.098	29,933	3,026.180	168.882	955	161.282	174.083	784	136.481	-	-	-	177.565	672	119.324	177.565	672	119.324
Engineering Services	-	-	156.340	-	-	7.711	-	-	7.396	-	-	-	-	-	8.121	-	-	8.121
Engineering Change Orders	-	-	11.443	-	-	0.161	-	-	0.136	-	-	-	-	-	1.008	-	-	1.008
Acceptance Testing	-	-	57.197	-	-	1.003	-	-	1.023	-	-	-	-	-	1.043	-	-	1.043
Production Engineering	-	-	108.663	-	-	4.649	-	-	4.336	-	-	-	-	-	4.837	-	-	4.837
Publications/Technical Data	-	-	2.685	-	-	0.075	-	-	0.076	-	-	-	-	-	0.078	-	-	0.078
CLU Retrofits	-	-	-	160.923	520	83.680	166.538	418	69.613	-	-	-	170.000	25	4.250	170.000	25	4.250
Advanced Procurement	-	-	100.622	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	<i>-</i>	<i>-</i>	<i>3,463.116</i>	<i>-</i>	<i>-</i>	<i>258.561</i>	<i>-</i>	<i>-</i>	<i>219.061</i>	<i>-</i>	<i>-</i>	<i>0.000</i>	<i>-</i>	<i>-</i>	<i>138.661</i>	<i>-</i>	<i>-</i>	<i>138.661</i>
<i>Subtotal: Flyaway Cost</i>	<i>-</i>	<i>-</i>	<i>3,463.116</i>	<i>-</i>	<i>-</i>	<i>258.561</i>	<i>-</i>	<i>-</i>	<i>219.061</i>	<i>-</i>	<i>-</i>	<i>0.000</i>	<i>-</i>	<i>-</i>	<i>138.661</i>	<i>-</i>	<i>-</i>	<i>138.661</i>
<b>Support - Program Management Cost</b>																		
Government Management	-	-	1,382.672	-	-	6.974	-	-	3.924	-	-	-	-	-	4.133	-	-	4.133
<i>Subtotal: Support - Program Management Cost</i>	<i>-</i>	<i>-</i>	<i>1,382.672</i>	<i>-</i>	<i>-</i>	<i>6.974</i>	<i>-</i>	<i>-</i>	<i>3.924</i>	<i>-</i>	<i>-</i>	<i>0.000</i>	<i>-</i>	<i>-</i>	<i>4.133</i>	<i>-</i>	<i>-</i>	<i>4.133</i>
<b>Gross/Weapon System Cost</b>	<b>161.386</b>	<b>30,026</b>	<b>4,845.788</b>	<b>278.047</b>	<b>955</b>	<b>265.535</b>	<b>185.512</b>	<b>1,202</b>	<b>222.985</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>204.869</b>	<b>697</b>	<b>142.794</b>	<b>204.869</b>	<b>697</b>	<b>142.794</b>

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**Exhibit P-5, Cost Analysis: PB 2020 Army** **Date:** March 2019

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 02 / 30	<b>P-1 Line Item Number / Title:</b> 0648CC0007 / Javelin (AAWS-M) System Summary	<b>Item Number / Title [DODIC]:</b> H06102 / JAVELIN (AAWS-M)
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**ID Code** (A=Service Ready, B=Not Service Ready) : **MDAP/MAIS Code:**

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	955	1,202	0	697	697
	Total Obligation Authority	265.535	222.985	0.000	142.794	142.794
<b>Total:</b>	<b>Quantity</b>	<b>955</b>	<b>1,202</b>	<b>-</b>	<b>697</b>	<b>697</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>265.535</b>	<b>222.985</b>	<b>-</b>	<b>142.794</b>	<b>142.794</b>

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

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**Exhibit P-5a, Procurement History and Planning: PB 2020 Army** **Date:** March 2019

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 02 / 30	<b>P-1 Line Item Number / Title:</b> 0648CC0007 / Javelin (AAWS-M) System Summary	<b>Item Number / Title [DODIC]:</b> H06102 / JAVELIN (AAWS-M)
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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
All Up Round <sup>(†)</sup>		2018	JJV All Up Round / Tucson AZ Orlando FL	SS / FFP	AMCOM, Redstone Arsenal, AL	Jun 2018	Apr 2020	955	168.882	Y		Aug 2017
All Up Round <sup>(†)</sup>		2019	JJV All Up Round / Tucson AZ Orlando FL	SS / FFP	AMCOM, Redstone Arsenal, AL	Jun 2019	Apr 2021	784	174.083	Y		Aug 2018
All Up Round <sup>(†)</sup>	✓	2020	JJV All Up Round / Tucson AZ Orlando FL	SS / FFP	AMCOM, Redstone Arsenal, AL	Jun 2020	Apr 2022	672	177.565	Y		Aug 2018

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

**Remarks:**  
 Javelin Joint Venture (JJV) includes Raytheon in Tucson, AZ and Lockheed Martin in Orlando, FL.  
 Sole Source (SS)  
 Firm Fixed Price (FFP)  
 Aviation and Missile Command (AMCOM)

Missile unit prices are affected by combining Army procurement quantities with other U.S. services and foreign military sales quantities. Estimated unit price is based on combined U.S. Army, other services and FMS procurements of 850 missiles per year.

FY20 is planned to be an option on the FY19 contract.



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**Exhibit P-21, Production Schedule: PB 2020 Army** **Date:** March 2019

**Appropriation / Budget Activity / Budget Sub Activity:** 2032A / 02 / 30 **P-1 Line Item Number / Title:** 0648CC0007 / Javelin (AAWS-M) System Summary **Item Number / Title [DODIC]:** H06102 / JAVELIN (AAWS-M)

Cost Elements <i>(Units in Each)</i>				Fiscal Year 2020														Fiscal Year 2021												BALANCE			
OCO #	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2019	BAL DUE AS OF 1 OCT	Calendar Year 2020														Calendar Year 2021												
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG		SEP		
All Up Round																																	
Prior Years Deliveries: 29933																																	
	1	2018	ARMY	955	0	955	-	-	-	-	-	-	136	136	136	136	136	134	134	7	-	-	-	-					0				
	1	2018	FMS (†)	414	0	414	-	-	-	-	-	-	-	-	-	-	-	-	-	23	131	130	130					0					
	1	2018	MC (†)	233	0	233	-	-	-	-	-	-	-	-	-	-	-	-	125	108	-	-	-					0					
	<b>1</b>	<b>2018</b>	<b>Total</b>	<b>1,602</b>	<b>0</b>	<b>1,602</b>	-	-	-	-	-	-	<b>136</b>	<b>136</b>	<b>136</b>	<b>136</b>	<b>136</b>	<b>134</b>	<b>134</b>	<b>132</b>	<b>131</b>	<b>131</b>	<b>130</b>	<b>130</b>	-	-	-	-	<b>0</b>				
	1	2019	ARMY	784	0	784	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	71	71	71	71	71	71	358			
	1	2019	FMS (†)	61	0	61	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	61				
	1	2019	MC (†)	5	0	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5				
	<b>1</b>	<b>2019</b>	<b>Total</b>	<b>850</b>	<b>0</b>	<b>850</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<b>71</b>	<b>71</b>	<b>71</b>	<b>71</b>	<b>71</b>	<b>71</b>	<b>424</b>			
✓	1	2020	ARMY	672	0	672									A	-	-	-	-	-	-	-	-	-	-	-	-	-	672				
✓	1	2020	FMS (†)	81	0	81									A	-	-	-	-	-	-	-	-	-	-	-	-	-	81				
✓	1	2020	MC (†)	97	0	97									A	-	-	-	-	-	-	-	-	-	-	-	-	-	97				
✓	<b>1</b>	<b>2020</b>	<b>Total OCO</b>	<b>850</b>	<b>0</b>	<b>850</b>									-	-	-	-	-	-	-	-	-	-	-	-	-	-	<b>850</b>				
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP			

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**Exhibit P-21, Production Schedule:** PB 2020 Army **Date:** March 2019

**Appropriation / Budget Activity / Budget Sub Activity:** 2032A / 02 / 30 **P-1 Line Item Number / Title:** 0648CC0007 / Javelin (AAWS-M) System Summary **Item Number / Title [DODIC]:** H06102 / JAVELIN (AAWS-M)

Cost Elements <i>(Units in Each)</i>						Fiscal Year 2022												Fiscal Year 2023												BALANCE			
OCO #	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2021	BAL DUE AS OF 1 OCT	Calendar Year 2022												Calendar Year 2023														
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG		SEP		
All Up Round																																	
Prior Years Deliveries: 29933																																	
	1	2018	ARMY	955	955	0																											0
	1	2018	FMS (+)	414	414	0																											0
	1	2018	MC (+)	233	233	0																											0
	<b>1</b>	<b>2018</b>	<b>Total</b>	<b>1,602</b>	<b>1,602</b>	<b>0</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<b>0</b>	
	1	2019	ARMY	784	426	358	71	71	71	70	70	5																				0	
	1	2019	FMS (+)	61	0	61	-	-	-	-	-	61																				0	
	1	2019	MC (+)	5	0	5	-	-	-	-	-	5																				0	
	<b>1</b>	<b>2019</b>	<b>Total</b>	<b>850</b>	<b>426</b>	<b>424</b>	<b>71</b>	<b>71</b>	<b>71</b>	<b>70</b>	<b>70</b>	<b>71</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<b>0</b>		
✓	1	2020	ARMY	672	0	672	-	-	-	-	-	-	71	71	71	71	71	71	71	71	33	-	-									0	
✓	1	2020	FMS (+)	81	0	81	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	70									0	
✓	1	2020	MC (+)	97	0	97	-	-	-	-	-	-	-	-	-	-	-	-	-	-	38	59	-									0	
✓	<b>1</b>	<b>2020</b>	<b>Total OCO</b>	<b>850</b>	<b>0</b>	<b>850</b>	-	-	-	-	-	-	<b>71</b>	<b>71</b>	<b>71</b>	<b>71</b>	<b>71</b>	<b>71</b>	<b>71</b>	<b>71</b>	<b>70</b>	<b>70</b>	-	-	-	-	-	-	-	-	<b>0</b>		
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP			

**UNCLASSIFIED**

<b>Exhibit P-21, Production Schedule:</b> PB 2020 Army	<b>Date:</b> March 2019
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<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 02 / 30	<b>P-1 Line Item Number / Title:</b> 0648CC0007 / Javelin (AAWS-M) System Summary	<b>Item Number / Title [DODIC]:</b> H06102 / JAVELIN (AAWS-M)
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MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2020	1-8-5 For 2020	MAX For 2020	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	JJV All Up Round - Tucson AZ Orlando FL	850	3,960	6,480	11	3	23	26	6	3	29	32

**Remarks:**

Army production quantity includes Base and OCO missiles on the P-21.

(‡) Delivery rows marked with this symbol indicate that they are funded through a separate Line Item. See the respective components' exhibits for details, including the full delivery schedule.

"A" in the Delivery Schedule indicates the Contract Award Date.

**Note:** Due to space limitations, quantities in the Exhibit P-21 delivery calendar are truncated and rounded based on the maximum quantity in the calendar as follows. If the maximum quantity is less than or equal to than 9,999, all quantities are shown as each. If the maximum quantity is between 10,000 and 999,999 all quantities are shown in thousands. If the maximum quantity is between 1,000,000 and 999,999,999 all quantities are shown in millions (rounded to the nearest thousand). If the maximum quantity is equal or greater than 1,000,000,000 all quantities are shown in billions (rounded to the nearest million).



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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 02 / 30		<b>P-1 Line Item Number / Title:</b> 0648CC0007 / Javelin (AAWS-M) System Summary
		<b>Item Number / Title [DODIC]:</b> H06103 / Javelin Lightweight Command Launch Unit (CLU)

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	135	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	-	-	22.500	-	-	-
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	-	-	22.500	-	-	-
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	-	-	<b>22.500</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> )	-	-	166.667	-	-	-

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Flyaway Cost																		
Recurring Cost																		
CLU Retrofits (Block 0 to Block 1)	-	-	-	-	-	-	166.667	135	22.500	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	22.500	-	-	-	-	-	-	-	-	-
<i>Subtotal: Flyaway Cost</i>	-	-	-	-	-	-	-	-	22.500	-	-	-	-	-	-	-	-	-
<b>Gross/Weapon System Cost</b>	-	-	-	-	-	-	<b>166.667</b>	<b>135</b>	<b>22.500</b>	-	-	-	-	-	-	-	-	-

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army					
Quantity	-	135	-	-	-
Total Obligation Authority	-	22.500	-	-	-
<b>Total: Secondary Distribution</b>					
Quantity	-	135	-	-	-
Total Obligation Authority	-	22.500	-	-	-

**UNCLASSIFIED**

**Exhibit P-40, Budget Line Item Justification:** PB 2020 Army **Date:** March 2019

**Appropriation / Budget Activity / Budget Sub Activity:**  
2032A: Missile Procurement, Army / BA 02: Other Missiles / BSA 30: Anti-Tank/  
Assault Missile Sys **P-1 Line Item Number / Title:**  
2104C59300 / TOW 2 System Summary

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

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

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	171,129	1,205	1,439	-	1,460	1,460	1,834	1,149	1,852	1,675	-	181,743
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	3,410.918	100.474	119.062	-	134.289	134.289	165.220	121.077	193.673	178.296	-	4,423.009
Less PY Advance Procurement ( <i>\$ in Millions</i> )	177.207	10.716	19.949	-	19.949	19.949	10.500	-	-	-	-	238.321
Net Procurement (P-1) ( <i>\$ in Millions</i> )	3,233.711	89.758	99.113	-	114.340	114.340	154.720	121.077	193.673	178.296	-	4,184.688
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	187.923	19.949	19.949	-	10.500	10.500	-	-	-	-	-	238.321
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>3,421.634</b>	<b>109.707</b>	<b>119.062</b>	-	<b>124.840</b>	<b>124.840</b>	<b>154.720</b>	<b>121.077</b>	<b>193.673</b>	<b>178.296</b>	-	<b>4,423.009</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> )	19.932	83.381	82.739	-	91.979	91.979	90.087	105.376	104.575	106.445	-	24.337

**Description:**

FY 2020 funding totals include \$0.0M for Base and \$124.840M for Overseas Contingency Operations (OCO); of which \$124.840M and 1,460 quantity is realigned as part of the OCO for Base Requirements. FY 2020 OCO for Base Requirements is OCO funding for base budget requirements in support of the National Defense Strategy. The Budget requests these funds in OCO to comply with the base budget defense caps included in the Budget Control Act of 2011.

TOW missiles (BGM-71 Series) are combat proven munitions that provide heavy anti-armor/assault capability to the Army's Infantry Brigade Combat Teams (IBCT), Stryker Brigade Combat Teams (SBCT) and Armor Brigade Combat Teams (ABCT). TOW missiles continue to be used as the weapon of choice in precision combat engagements. TOW missiles are also the primary heavy anti-armor/ assault missile for the U.S. Marine Corps (USMC) and more than 43 allied nations. Warfighters also employ TOW missiles against buildings and field fortifications, taking advantage of the missile's precision assault capabilities.

The TOW Weapon System includes the ITAS launcher, TOW missiles, and associated tactical training aids/devices. The ITAS is a combat proven TOW missile launcher that provides long-range, lethal anti-armor and precision assault fires capability for Active, Reserve, and National Guard component Infantry and Stryker Brigade Combat Teams (BCT) across a spectrum of operational environments. The USMC employs the TOW missile from its ITAS derived M41A7 Saber launchers, ATGM vehicles, and AH-1W Cobra helicopters.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army									
Quantity	1,205	1,439	0	1,460	1,460	1,834	1,149	1,852	1,675
Total Obligation Authority	109.707	119.062	0.000	124.840	124.840	154.720	121.077	193.673	178.296
<b>Total:</b>									
<b>Secondary Distribution</b>									
Quantity	<b>1,205</b>	<b>1,439</b>	<b>0</b>	<b>1,460</b>	<b>1,460</b>	<b>1,834</b>	<b>1,149</b>	<b>1,852</b>	<b>1,675</b>
Total Obligation Authority	<b>109.707</b>	<b>119.062</b>	-	<b>124.840</b>	<b>124.840</b>	<b>154.720</b>	<b>121.077</b>	<b>193.673</b>	<b>178.296</b>

**UNCLASSIFIED**

**Exhibit P-40, Budget Line Item Justification:** PB 2020 Army **Date:** March 2019

**Appropriation / Budget Activity / Budget Sub Activity:** 2032A: Missile Procurement, Army / BA 02: Other Missiles / BSA 30: Anti-Tank/ Assault Missile Sys **P-1 Line Item Number / Title:** 2104C59300 / TOW 2 System Summary

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

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

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	C59403 / TOW Family of Missiles	P-5a, P-21			171,129 / 3,410.918	1,205 / 100.474	1,439 / 119.062	- / -	1,460 / 134.289	1,460 / 134.289
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>171,129 / 3,410.918</b>	<b>1,205 / 100.474</b>	<b>1,439 / 119.062</b>	<b>- / -</b>	<b>1,460 / 134.289</b>	<b>1,460 / 134.289</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:**

FY20 funding in the amount of \$124.840 million supports the fourth year of a five year (FY17-21) multi-year contract, which includes \$10.500 million Advance Procurement in support of FY21.

The Army intends to convert any price advantage created through contract negotiations, other service procurement, and/or foreign military sales to increase the Army procurement of TOW missiles and to mitigate safety and obsolescence issues.

IAW Section 1815 of the FY08 NDAA, this item is necessary for use by the active components 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 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 02 / 30	<b>P-1 Line Item Number / Title:</b> 2104C59300 / TOW 2 System Summary	<b>Item Number / Title [DODIC]:</b> C59403 / TOW Family of Missiles

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity ( <i>Units in Each</i> )	171,129	1,205	1,439	-	1,460	1,460
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	3,410.918	100.474	119.062	-	134.289	134.289
Less PY Advance Procurement ( <i>\$ in Millions</i> )	177.207	10.716	19.949	-	19.949	19.949
Net Procurement (P-1) ( <i>\$ in Millions</i> )	3,233.711	89.758	99.113	-	114.340	114.340
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	187.923	19.949	19.949	-	10.500	10.500
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>3,421.634</b>	<b>109.707</b>	<b>119.062</b>	<b>-</b>	<b>124.840</b>	<b>124.840</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> )	19.932	83.381	82.739	-	91.979	91.979

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Flyaway Cost																		
Recurring Cost																		
Missile Contract <sup>(†)</sup>	19.483	171,199	3,335.470	71.691	1,205	86.388	74.006	1,439	106.495	-	-	-	78.455	1,460	114.545	78.455	1,460	114.545
<i>Subtotal: Recurring Cost</i>	-	-	3,335.470	-	-	86.388	-	-	106.495	-	-	0.000	-	-	114.544	-	-	114.544
<i>Subtotal: Flyaway Cost</i>	-	-	3,335.470	-	-	86.388	-	-	106.495	-	-	0.000	-	-	114.544	-	-	114.544
Support - Acceptance Testing Cost																		
Acceptance Test	-	-	9.296	-	-	3.638	-	-	4.557	-	-	-	-	-	4.650	-	-	4.650
<i>Subtotal: Support - Acceptance Testing Cost</i>	-	-	9.296	-	-	3.638	-	-	4.557	-	-	0.000	-	-	4.650	-	-	4.650
Support - Program Management Cost																		
Government Management	-	-	39.863	-	-	8.130	-	-	5.285	-	-	-	-	-	5.933	-	-	5.933
<i>Subtotal: Support - Program Management Cost</i>	-	-	39.863	-	-	8.130	-	-	5.285	-	-	0.000	-	-	5.933	-	-	5.933
Support - System Engineering Cost																		
System Engineering	-	-	26.358	-	-	2.318	-	-	2.725	-	-	-	-	-	9.161	-	-	9.161
<i>Subtotal: Support - System Engineering Cost</i>	-	-	26.358	-	-	2.318	-	-	2.725	-	-	0.000	-	-	9.161	-	-	9.161
<b>Gross/Weapon System Cost</b>	<b>19.932</b>	<b>171,129</b>	<b>3,410.918</b>	<b>83.381</b>	<b>1,205</b>	<b>100.474</b>	<b>82.739</b>	<b>1,439</b>	<b>119.062</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>91.979</b>	<b>1,460</b>	<b>134.289</b>	<b>91.979</b>	<b>1,460</b>	<b>134.289</b>

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 02 / 30	<b>P-1 Line Item Number / Title:</b> 2104C59300 / TOW 2 System Summary	<b>Item Number / Title [DODIC]:</b> C59403 / TOW Family of Missiles
<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 Element Breakout	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Missile Contract	19.483	171,199	3,335.470	71.691	1,205	86.388	74.006	1,439	106.495	-	-	-	78.455	1,460	114.545	78.455	1,460	114.545
All configurations (FY 19 and prior)	19.483	171,199	3,335.470	71.691	1,205	86.388	74.006	1,439	106.495	-	-	-	-	-	-	-	-	-
2B Aero	-	-	-	-	-	-	-	-	-	-	-	-	90.695	960	87.067	90.695	960	87.067
Bunker Buster	-	-	-	-	-	-	-	-	-	-	-	-	54.956	500	27.478	54.956	500	27.478

**Remarks:**

Beginning in FY20, the breakout by variant has been included in order to facilitate coordination with Navy budget exhibits.

FY20 funding in the amount of \$124.840 million procures 960 TOW 2B Aero and 500 Bunker Buster missiles in support of the fourth year of a five-year (FY17-21) multi-year contract, which includes \$10.500 million Advance Procurement in support of FY21.

FY20 System Engineering estimate increases due to obsolescence mitigation for Counter Active Protection Systems (CAPS) module to enable future production of CAPS capable missiles.

FY19 TOW Missile quantity by configuration:

2B Aero - 939  
Bunker Buster - 500

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	1,205	1,439	0	1,460	1,460
	Total Obligation Authority	109.707	119.062	0.000	124.840	124.840
<b>Total:</b>	<b>Quantity</b>	<b>1,205</b>	<b>1,439</b>	<b>-</b>	<b>1,460</b>	<b>1,460</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>109.707</b>	<b>119.062</b>	<b>-</b>	<b>134.289</b>	<b>124.840</b>

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

**UNCLASSIFIED**

**Exhibit P-5a, Procurement History and Planning:** PB 2020 Army **Date:** March 2019

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 02 / 30	<b>P-1 Line Item Number / Title:</b> 2104C59300 / TOW 2 System Summary	<b>Item Number / Title [DODIC]:</b> C59403 / TOW Family of Missiles
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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
Missile Contract <sup>(†)</sup>		2018	Raytheon / Tucson	SS / FPIF	AMCOM, Redstone Arsenal, AL	Apr 2018	Aug 2019	1,205	71.691	Y		
Missile Contract <sup>(†)</sup>		2019	Raytheon / Tucson	SS / FPIF	AMCOM, Redstone Arsenal, AL	Jun 2019	Aug 2020	1,439	74.006	Y		
Missile Contract <sup>(†)</sup>	✓	2020	Raytheon / Tucson	SS / FPIF	AMCOM, Redstone Arsenal, AL	Mar 2020	Aug 2021	1,460	78.455	Y		

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

**Remarks:**

Raytheon is currently the only industry source that is both facilitized and qualified to produce TOW missiles.

AMCOM   Aviation Missile Command  
 SS       Sole Source  
 FPIF     Fixed Price Incentive Fee  
 MY       Multi-Year

**UNCLASSIFIED**

**Exhibit P-21, Production Schedule: PB 2020 Army**

**Date:** March 2019

**Appropriation / Budget Activity / Budget Sub Activity:**  
2032A / 02 / 30

**P-1 Line Item Number / Title:**  
2104C59300 / TOW 2 System Summary

**Item Number / Title [DODIC]:**  
C59403 / TOW Family of Missiles

Cost Elements <i>(Units in Each)</i>				Fiscal Year 2018													Fiscal Year 2019													<b>B A L A N C E</b>																						
O C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2017	BAL DUE AS OF 1 OCT	Calendar Year 2018													Calendar Year 2019																																
							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																					
Missile Contract																																																				
Prior Years Deliveries: 171199																																																				
	1	2018	ARMY	1,205	0	1,205																									A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	175	175	855			
	1	2018	FMS (+)	517	0	517																									A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	517		
	1	2018	MC (+)	821	0	821																									A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	821		
	<b>1</b>	<b>2018</b>	<b>Total</b>	<b>2,543</b>	<b>0</b>	<b>2,543</b>																																												<b>175</b>	<b>175</b>	<b>2,193</b>
	1	2019	ARMY	1,439	0	1,439																																												1,439		
	1	2019	MC (+)	792	0	792																																												792		
	<b>1</b>	<b>2019</b>	<b>Total</b>	<b>2,231</b>	<b>0</b>	<b>2,231</b>																																											<b>175</b>	<b>175</b>	<b>2,231</b>	
✓	1	2020	ARMY	1,460	0	1,460																																												1,460		
✓	1	2020	MC (+)	500	0	500																																												500		
✓	<b>1</b>	<b>2020</b>	<b>Total OCO</b>	<b>1,960</b>	<b>0</b>	<b>1,960</b>																																												<b>1,960</b>		
							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 2020 Army **Date:** March 2019

**Appropriation / Budget Activity / Budget Sub Activity:** 2032A / 02 / 30 **P-1 Line Item Number / Title:** 2104C59300 / TOW 2 System Summary **Item Number / Title [DODIC]:** C59403 / TOW Family of Missiles

Cost Elements <i>(Units in Each)</i>					Fiscal Year 2020												Fiscal Year 2021												BALANCE		
OCO #	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2019	BAL DUE AS OF 1 OCT	Calendar Year 2020												Calendar Year 2021												
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL		AUG	SEP
Missile Contract																															
Prior Years Deliveries: 171199																															
	1	2018	ARMY	1,205	350	855	175	175	175	175	155	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0			
	1	2018	FMS (†)	517	0	517	-	-	-	-	50	75	100	100	75	117	-	-	-	-	-	-	-	-	-	-	-	0			
	1	2018	MC (†)	821	0	821	-	-	-	-	20	175	175	175	175	101	-	-	-	-	-	-	-	-	-	-	-	0			
	<b>1</b>	<b>2018</b>	<b>Total</b>	<b>2,543</b>	<b>350</b>	<b>2,193</b>	<b>175</b>	<b>175</b>	<b>175</b>	<b>175</b>	<b>225</b>	<b>250</b>	<b>275</b>	<b>275</b>	<b>250</b>	<b>218</b>	-	-	-	-	-	-	-	-	-	-	-	<b>0</b>			
	1	2019	ARMY	1,439	0	1,439	-	-	-	-	-	-	-	-	-	-	175	175	175	175	175	175	175	175	175	39	-	-	0		
	1	2019	MC (†)	792	0	792	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	125	225	225	217	0	
	<b>1</b>	<b>2019</b>	<b>Total</b>	<b>2,231</b>	<b>0</b>	<b>2,231</b>	-	-	-	-	-	-	-	-	-	-	<b>175</b>	<b>175</b>	<b>175</b>	<b>175</b>	<b>175</b>	<b>175</b>	<b>175</b>	<b>175</b>	<b>164</b>	<b>225</b>	<b>225</b>	<b>217</b>	-	-	<b>0</b>
✓	1	2020	ARMY	1,460	0	1,460	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	175	175	1,110
✓	1	2020	MC (†)	500	0	500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	500
✓	<b>1</b>	<b>2020</b>	<b>Total OCO</b>	<b>1,960</b>	<b>0</b>	<b>1,960</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<b>175</b>	<b>175</b>	<b>1,610</b>
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	



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**Exhibit P-21, Production Schedule: PB 2020 Army** **Date:** March 2019

**Appropriation / Budget Activity / Budget Sub Activity:** 2032A / 02 / 30 **P-1 Line Item Number / Title:** 2104C59300 / TOW 2 System Summary **Item Number / Title [DODIC]:** C59403 / TOW Family of Missiles

Cost Elements <i>(Units in Each)</i>						Fiscal Year 2022												Fiscal Year 2023												BALANCE	
OCO #	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2021	BAL DUE AS OF 1 OCT	Calendar Year 2022												Calendar Year 2023												
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG		SEP
Missile Contract																															
Prior Years Deliveries: 171199																															
	1	2018	ARMY	1,205	1,205	0																								0	
	1	2018	FMS (†)	517	517	0																								0	
	1	2018	MC (†)	821	821	0																								0	
	<b>1</b>	<b>2018</b>	<b>Total</b>	<b>2,543</b>	<b>2,543</b>	<b>0</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<b>0</b>	
	1	2019	ARMY	1,439	1,439	0																								0	
	1	2019	MC (†)	792	792	0																								0	
	<b>1</b>	<b>2019</b>	<b>Total</b>	<b>2,231</b>	<b>2,231</b>	<b>0</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<b>0</b>	
✓	1	2020	ARMY	1,460	350	1,110	175	175	175	175	175	175	60	-	-															0	
✓	1	2020	MC (†)	500	0	500	-	-	-	-	-	-	157	175	168															0	
✓	<b>1</b>	<b>2020</b>	<b>Total OCO</b>	<b>1,960</b>	<b>350</b>	<b>1,610</b>	<b>175</b>	<b>175</b>	<b>175</b>	<b>175</b>	<b>175</b>	<b>175</b>	<b>217</b>	<b>175</b>	<b>168</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	<b>0</b>		
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	

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**Exhibit P-21, Production Schedule:** PB 2020 Army **Date:** March 2019

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 02 / 30	<b>P-1 Line Item Number / Title:</b> 2104C59300 / TOW 2 System Summary	<b>Item Number / Title [DODIC]:</b> C59403 / TOW Family of Missiles
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MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2020	1-8-5 For 2020	MAX For 2020	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	Raytheon - Tucson	2,100	7,200	16,800	3	2	16	18	3	2	16	18

**Remarks:**  
Multiyear contracts do not follow the Production Lead Time shown for annual year contracts.

Army FY20 OCO: 1460 missiles  
USMC FY20: 500 missiles

10 U.S. Code #2431 and DoD Financial Mgt Reg Vol 2B, Ch4 mandate Production Rates be defined in terms of "budget year."

(‡) Delivery rows marked with this symbol indicate that they are funded through a separate Line Item. See the respective components' exhibits for details, including the full delivery schedule.  
"A" in the Delivery Schedule indicates the Contract Award Date.

**Note:** Due to space limitations, quantities in the Exhibit P-21 delivery calendar are truncated and rounded based on the maximum quantity in the calendar as follows. If the maximum quantity is less than or equal to than 9,999, all quantities are shown as each. If the maximum quantity is between 10,000 and 999,999 all quantities are shown in thousands. If the maximum quantity is between 1,000,000 and 999,999,999 all quantities are shown in millions (rounded to the nearest thousand). If the maximum quantity is equal or greater than 1,000,000,000 all quantities are shown in billions (rounded to the nearest million).

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**Exhibit P-40, Advance Procurement Budget Line Item Justification:** PB 2020 Army **Date:** March 2019

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A: Missile Procurement, Army / BA 02: Other Missiles / BSA 30: Anti-Tank/ Assault Missile Sys	<b>P-1 Line Item Number / Title:</b> 2104C59300 / TOW 2 System Summary
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<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 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	187.923	19.949	19.949	-	10.500	10.500	-	-	-	-	-	238.321
Net Procurement (P-1) ( <i>\$ in Millions</i> )	187.923	19.949	19.949	-	10.500	10.500	-	-	-	-	-	238.321
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>187.923</b>	<b>19.949</b>	<b>19.949</b>	<b>-</b>	<b>10.500</b>	<b>10.500</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>238.321</b>

**Description:**

TOW missiles (BGM-71 Series) are combat proven munitions that provide heavy anti-armor/assault capability to the Army's Infantry Brigade Combat Teams (IBCT), Stryker Brigade Combat Teams (SBCT) and Armor Brigade Combat Teams (ABCT). TOW missiles continue to be used as the weapon of choice in precision combat engagements. TOW missiles are also the primary heavy anti-armor/ assault missile for the U.S. Marine Corps (USMC) and more than 43 allied nations. Warfighters also employ TOW missiles against buildings and field fortifications, taking advantage of the missile's precision assault capabilities.

The TOW Weapon System includes the ITAS launcher, TOW missiles, and associated tactical training aids/devices. The ITAS is a combat proven TOW missile launcher that provides long-range, lethal anti-armor and precision assault fires capability for Active, Reserve, and National Guard component Infantry and Stryker Brigade Combat Teams (BCT) across a spectrum of operational environments. The USMC employs the TOW missile from its ITAS derived M41A7 Saber launchers, ATGM vehicles, and AH-1W Cobra helicopters.

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<b>Exhibit P-40, Advance Procurement Budget Line Item Justification:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A: Missile Procurement, Army / BA 02: Other Missiles / BSA 30: Anti-Tank/ Assault Missile Sys		<b>P-1 Line Item Number / Title:</b> 2104C59300 / TOW 2 System Summary
<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									
Exhibits Schedule				Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	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-10	C59403 / TOW Family of Missiles			171,129 / 187.923	1,205 / 19.949	1,439 / 19.949	- / -	1,460 / 10.500	1,460 / 10.500
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>			<b>171,129 / 187.923</b>	<b>1,205 / 19.949</b>	<b>1,439 / 19.949</b>	<b>- / -</b>	<b>1,460 / 10.500</b>	<b>1,460 / 10.500</b>

\*Title represents the P-10 Title for Advance Procurement.  
 Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.

**Justification:**  
 FY20 Funding in the amount of \$124.840 million supports the fourth year of a five year (FY 17-21) multi-year contract, which includes \$10.500 million Advance Procurement in support of FY21.  
 The Army intends to convert any price advantage created through contract negotiations, other service procurement, and/or foreign military sales to increase the Army procurement of TOW missiles, and to mitigate safety and obsolescence.  
 IAW Section 1815 of the FY08 NDAA, this item is necessary for use by the active components 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-10, Advance Procurement Requirements Analysis (page 1 - Budget Funding Justification):</b> PB 2020 Army					<b>Date:</b> March 2019	
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 02 / 30		<b>P-1 Line Item Number / Title:</b> 2104C59300 / TOW 2 System Summary			<b>P-5 Number / Title:</b> C59403 / TOW Family of Missiles	
<b>First System (2020) Award Date:</b> December 2017		<b>First System (2020) Completion Date:</b> July 2018		<b>Interval Between Systems:</b> 12 Months		
<b>TOW Family of Missiles</b>		<b>Production Leadtime</b> <i>(Months)</i>	<b>Prior Years</b> <i>(Each)</i>	<b>FY 2018</b> <i>(Each)</i>	<b>FY 2019</b> <i>(Each)</i>	<b>FY 2020</b> <i>(Each)</i>
Quantity			171,129	1,205	1,439	1,460
<b>Cost Elements</b>		<b>When Required</b> <i>(Months)</i>	<b>Prior Years</b> <i>(\$ M)</i>	<b>FY 2018</b> <i>(\$ M)</i>	<b>FY 2019</b> <i>(\$ M)</i>	<b>FY 2020</b> <i>(\$ M)</i>
<b>Other</b>						
Warhead		14	79.035	15.581	7.942	6.923
Launch Motor		14	10.298	1.101	0.838	0.730
Flight Motor		12	3.141	0.158	0.158	0.138
2B Sensor		18	57.143	-	7.902	-
Gyro		13	17.614	1.433	1.433	1.249
Flight Motor Case Kit		10	3.994	0.325	0.325	0.283
Control Surface Actuator		14	10.423	0.848	0.848	0.739
Beacon Shutter Actuator		11	6.275	0.503	0.503	0.438
<i>Total: Other</i>			187.923	19.949	19.949	10.500
<b>Total Advance Procurement/Obligation Authority</b>			<b>187.923</b>	<b>19.949</b>	<b>19.949</b>	<b>10.500</b>

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**Exhibit P-10, Advance Procurement Requirements Analysis (page 2 - Budget Funding Justification):** PB 2020 Army **Date:** March 2019

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 02 / 30	<b>P-1 Line Item Number / Title:</b> 2104C59300 / TOW 2 System Summary	<b>P-5 Number / Title:</b> C59403 / TOW Family of Missiles
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Cost Elements	QPA <i>(Each)</i>	FY 2020					Total Cost Request <i>(\$ M)</i>
		Production Leadtime <i>(Months)</i>	Unit Cost <i>(\$ K)</i>	Contract Forecast Date	2020 Qty <i>(Each)</i>	For FY	
<b>Other</b>							
Warhead	1						6.923
Launch Motor	1						0.730
Flight Motor	1						0.138
2B Sensor	1						-
Gyro	1						1.249
Flight Motor Case Kit	1						0.283
Control Surface Actuator	1						0.739
Beacon Shutter Actuator	1						0.438
<i>Total: Other</i>							<i>10.500</i>
<b>Total Advance Procurement/Obligation Authority</b>							<b>10.500</b>

**Description:**  
FY20 Advance Procurement funding supports procurement of 500 Bunker Buster missiles in FY21.

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**Exhibit P-40, Budget Line Item Justification:** PB 2020 Army **Date:** March 2019

**Appropriation / Budget Activity / Budget Sub Activity:**  
2032A: Missile Procurement, Army / BA 02: Other Missiles / BSA 30: Anti-Tank/  
Assault Missile Sys **P-1 Line Item Number / Title:**  
6005C64400 / Guided MLRS Rocket (GMLRS)

**ID Code** (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0603778A, 0205778A

**Line Item MDAP/MAIS Code:** 260

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	27,231	6,528	7,818	-	9,570	9,570	9,492	4,620	6,336	5,808	Continuing	Continuing
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	3,395.807	1,027.968	975.507	-	1,228.809	1,228.809	1,239.202	706.644	976.771	991.074	Continuing	Continuing
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	3,395.807	1,027.968	975.507	-	1,228.809	1,228.809	1,239.202	706.644	976.771	991.074	Continuing	Continuing
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>3,395.807</b>	<b>1,027.968</b>	<b>975.507</b>	-	<b>1,228.809</b>	<b>1,228.809</b>	<b>1,239.202</b>	<b>706.644</b>	<b>976.771</b>	<b>991.074</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> )	124.704	157.471	124.777	-	128.402	128.402	130.552	152.953	154.162	170.639	Continuing	Continuing

**Description:**

FY 2020 funding totals include \$0.0M for Base and \$1,228.809M for Overseas Contingency Operations (OCO); of which \$796.722M and 6,209 quantity is realigned as part of the OCO for Base Requirements. FY 2020 OCO for Base Requirements is OCO funding for base budget requirements in support of the National Defense Strategy. The Budget requests these funds in OCO to comply with the base budget defense caps included in the Budget Control Act of 2011.

FY20 P1 total quantity is an error and does not match the correct quantity reflected in this P-40 Exhibit.

Guided Multiple Launch Rocket System (GMLRS) rockets are surface-to-surface artillery rockets fired from the Multiple Launch Rocket System (MLRS) and High Mobility Artillery Rocket System (HIMARS) launchers. GMLRS rockets provide 24/7, all-weather precision fires to engage both area and point targets at short, medium, and long ranges. The U.S. Marine Corps also procures GMLRS rockets through the Army project office.

The GMLRS Program currently consists of multiple variants: GMLRS Dual Purpose Improved Conventional Munition (DPICM) is a cluster munition that replaced the shorter range MLRS rockets to engage area or imprecisely located targets. GMLRS DPICM Production was terminated in response to the June 2008 Department of Defense (DoD) Cluster Munitions Policy. GMLRS Unitary utilizes a 200 pound high explosive warhead to engage point targets with limited collateral damage. GMLRS Alternative Warhead (AW) was developed as a non-cluster munition to engage the same target sets as DPICM. GMLRS Unitary and AW are currently in full rate production.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	6,528	7,818	0	9,570	9,570	9,492	4,620	6,336	5,808
	Total Obligation Authority	1,027.968	975.507	0.000	1,228.809	1,228.809	1,239.202	706.644	976.771	991.074
<b>Total:</b> <b>Secondary Distribution</b>	<b>Quantity</b>	<b>6,528</b>	<b>7,818</b>	<b>0</b>	<b>9,570</b>	<b>9,570</b>	<b>9,492</b>	<b>4,620</b>	<b>6,336</b>	<b>5,808</b>
	<b>Total Obligation Authority</b>	<b>1,027.968</b>	<b>975.507</b>	-	<b>1,228.809</b>	<b>1,228.809</b>	<b>1,239.202</b>	<b>706.644</b>	<b>976.771</b>	<b>991.074</b>

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**Exhibit P-40, Budget Line Item Justification:** PB 2020 Army **Date:** March 2019

**Appropriation / Budget Activity / Budget Sub Activity:**  
2032A: Missile Procurement, Army / BA 02: Other Missiles / BSA 30: Anti-Tank/  
Assault Missile Sys **P-1 Line Item Number / Title:**  
6005C64400 / Guided MLRS Rocket (GMLRS)

**ID Code** (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0603778A, 0205778A

**Line Item MDAP/MAIS Code:** 260

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	C65404 / GUIDED MLRS ROCKET (GMLRS)	P-5a, P-21			27,231 / 3,392.290	6,528 / 1,027.319	7,818 / 975.507	- / -	9,570 / 1,228.318	9,570 / 1,228.318
P-40a	C65406 / GMLRS Training Devices				- / 3.517	- / 0.649	- / -	- / -	- / 0.491	- / 0.491
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>27,231 / 3,395.807</b>	<b>6,528 / 1,027.968</b>	<b>7,818 / 975.507</b>	<b>- / -</b>	<b>9,570 / 1,228.809</b>	<b>9,570 / 1,228.809</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:**

There are no FY 2020 Base procurement dollars. FY 2020 OCO procurement dollars in the amount of \$1,228.318 million support the acquisition of 9,570 GMLRS rockets for the United States Army. \$0.491 million of OCO procurement dollars support the acquisition of equipment and support to ensure Guided Multiple Launch Rocket Common Training Device alignment with the production configuration. The actual missile buy quantities are subject to the mix between AW and Unitary warheads, Insensitive Munitions (IM) rocket motor cut-in, and 10,002 tooling capacity ramp-up. AAO: 140,004.

FY 2020 Direct OCO procurement dollars in the amount of \$281.596 million supports the production of 2,193 rockets.

FY 2020 Enduring OCO procurement dollars in the amount of \$150.000 million supports the production of 1,168 rockets.

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 2020 Army</b>													<b>Date:</b> March 2019								
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 02 / 30						<b>P-1 Line Item Number / Title:</b> 6005C64400 / Guided MLRS Rocket (GMLRS)						<b>Item Number / Title [DODIC]:</b> C65404 / GUIDED MLRS ROCKET (GMLRS)									
<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 2018</b>			<b>FY 2019</b>			<b>FY 2020 Base</b>			<b>FY 2020 OCO</b>			<b>FY 2020 Total</b>		
Procurement Quantity (Units in Each)				27,231			6,528			7,818			-			9,570			9,570		
Gross/Weapon System Cost (\$ in Millions)				3,392.290			1,027.319			975.507			-			1,228.318			1,228.318		
Less PY Advance Procurement (\$ in Millions)				-			-			-			-			-			-		
Net Procurement (P-1) (\$ in Millions)				3,392.290			1,027.319			975.507			-			1,228.318			1,228.318		
Plus CY Advance Procurement (\$ in Millions)				-			-			-			-			-			-		
<b>Total Obligation Authority (\$ in Millions)</b>				<b>3,392.290</b>			<b>1,027.319</b>			<b>975.507</b>			<b>-</b>			<b>1,228.318</b>			<b>1,228.318</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)				124.575			157.371			124.777			-			128.351			128.351		
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 2018</b>			<b>FY 2019</b>			<b>FY 2020 Base</b>			<b>FY 2020 OCO</b>			<b>FY 2020 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																					
Tactical GMLRS Hardware <sup>(†)</sup>	104.423	27,916	2,915.072	151.746	6,528	990.599	120.372	7,818	941.067	-	-	-	124.827	9,570	1,194.595	124.827	9,570	1,194.595			
Ind Maint/Init Prod Fac	-	-	59.461	-	-	4.716	-	-	4.810	-	-	-	-	-	4.904	-	-	4.904			
Production Verification Testing	-	-	62.148	-	-	6.491	-	-	6.617	-	-	-	-	-	5.065	-	-	5.065			
First Destination Transportation	-	-	4.252	-	-	0.880	-	-	1.068	-	-	-	-	-	1.380	-	-	1.380			
Production Engineering Support	-	-	166.709	-	-	12.235	-	-	12.473	-	-	-	-	-	12.716	-	-	12.716			
Spares	-	-	1.277	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
<i>Subtotal: Recurring Cost</i>	-	-	<b>3,208.919</b>	-	-	<b>1,014.920</b>	-	-	<b>966.036</b>	-	-	<b>0.000</b>	-	-	<b>1,218.659</b>	-	-	<b>1,218.659</b>			
<i>Subtotal: Flyaway Cost</i>	-	-	<b>3,208.919</b>	-	-	<b>1,014.920</b>	-	-	<b>966.036</b>	-	-	<b>0.000</b>	-	-	<b>1,218.659</b>	-	-	<b>1,218.659</b>			
Support - Engineering Change Proposals Cost																					
Engineering Change Proposals	-	-	102.984	-	-	5.869	-	-	5.983	-	-	-	-	-	6.100	-	-	6.100			
<i>Subtotal: Support - Engineering Change Proposals Cost</i>	-	-	<b>102.984</b>	-	-	<b>5.869</b>	-	-	<b>5.983</b>	-	-	<b>0.000</b>	-	-	<b>6.100</b>	-	-	<b>6.100</b>			
Support - Program Management Cost																					
Government Management	-	-	80.387	-	-	6.529	-	-	3.489	-	-	-	-	-	3.558	-	-	3.558			

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 02 / 30	<b>P-1 Line Item Number / Title:</b> 6005C64400 / Guided MLRS Rocket (GMLRS)	<b>Item Number / Title [DODIC]:</b> C65404 / GUIDED MLRS ROCKET (GMLRS)
<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 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
<i>Subtotal: Support - Program Management Cost</i>	-	-	80.387	-	-	6.529	-	-	3.489	-	-	0.000	-	-	3.558	-	-	3.558
<b>Gross/Weapon System Cost</b>	124.575	27,231	3,392.290	157.371	6,528	1,027.319	124.777	7,818	975.507	-	-	-	128.351	9,570	1,228.318	128.351	9,570	1,228.318

**Remarks:**  
Costs for Engineering Change Proposals covers activities associated with resolving manufacturing related changes that may arise from a variety of factors.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	6,528	7,818	0	9,570	9,570
	Total Obligation Authority	1,027.319	975.507	0.000	1,228.318	1,228.318
<b>Total:</b>	<b>Quantity</b>	<b>6,528</b>	<b>7,818</b>	<b>-</b>	<b>9,570</b>	<b>9,570</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>1,027.319</b>	<b>975.507</b>	<b>-</b>	<b>1,228.318</b>	<b>1,228.318</b>

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

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<b>Exhibit P-5a, Procurement History and Planning:</b> PB 2020 Army							<b>Date:</b> March 2019					
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 02 / 30			<b>P-1 Line Item Number / Title:</b> 6005C64400 / Guided MLRS Rocket (GMLRS)				<b>Item Number / Title [DODIC]:</b> C65404 / GUIDED MLRS ROCKET (GMLRS)					

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
Tactical GMLRS Hardware <sup>(†)</sup>		2015	Lockheed Martin M.&F.C Sys. / Dallas, TX	SS / FPIF	Aviation and Missile Command	Jun 2015	Jun 2016	450	125.576	N		Feb 2013
Tactical GMLRS Hardware <sup>(†)</sup>		2016	Lockheed Martin M.&F.C Sys. / Dallas, TX	SS / FPIF	Aviation and Missile Command	May 2016	May 2017	1,572	138.800	N		Feb 2016
Tactical GMLRS Hardware <sup>(†)</sup>		2017	Lockheed Martin M.&F.C Sys. / Dallas, TX	SS / FPIF	Aviation and Missile Command	May 2017	Jul 2018	2,970	112.270	N		Feb 2016
Tactical GMLRS Hardware <sup>(†)</sup>		2018	Lockheed Martin M.&F.C Sys. / Dallas, TX	SS / FPIF	Aviation and Missile Command	Apr 2018	Aug 2019	6,528	151.746	N		Feb 2017
Tactical GMLRS Hardware <sup>(†)</sup>		2019	Lockheed Martin M.&F.C Sys. / Dallas, TX	SS / FPIF	Aviation and Missile Command	Mar 2019	Jun 2020	7,818	120.372	N		Feb 2018
Tactical GMLRS Hardware <sup>(†)</sup>	✓	2020	Lockheed Martin M.&F.C Sys. / Dallas, TX	SS / FPIF	Aviation and Missile Command	Feb 2020	May 2021	9,570	124.827	N		Feb 2019

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

**Remarks:**

Lockheed Martin is currently the industry source that is both facilitated and qualified to produce the GMLRS rocket. FY19 and FY20 annual production contracts are options on the FY18 base contract.

\*Sole Source/Fixed Price Incentive Firm

\*\*Aviation and Missile Command, Redstone Arsenal, Alabama



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<b>Exhibit P-21, Production Schedule:</b> PB 2020 Army															<b>Date:</b> March 2019														
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 02 / 30										<b>P-1 Line Item Number / Title:</b> 6005C64400 / Guided MLRS Rocket (GMLRS)										<b>Item Number / Title [DODIC]:</b> C65404 / GUIDED MLRS ROCKET (GMLRS)									

Cost Elements <i>(Units in Each)</i>					Fiscal Year 2017														Fiscal Year 2018														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 1 6	BAL D U E A S O F 1 O C T	Calendar Year 2017														Calendar Year 2018														
							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					
Tactical GMLRS Hardware																																			
Prior Years Deliveries: 22924																																			
1	2015	ARMY	450	162	288	36	36	36	36	36	36	36	36	36																			0		
1	2015	FMS (+)	390	126	264	36	36	30	30	30	30	36	36																				0		
1	2015	MC (+)	60	24	36	6	6	6	6	6	6	-	-																				0		
<b>1</b>	<b>2015</b>	<b>Total</b>	<b>900</b>	<b>312</b>	<b>588</b>	<b>78</b>	<b>78</b>	<b>72</b>	<b>72</b>	<b>72</b>	<b>72</b>	<b>72</b>	<b>72</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<b>0</b>			
1	2016	ARMY	1,572	0	1,572	-	-	-	-	-	-	-	156	156	156	156	156	156	102	96	96	96	90									0			
1	2016	FMS (+)	492	0	492	-	-	-	-	-	-	-	36	36	36	42	42	42	42	42	42	48	42	42								0			
1	2016	MC (+)	90	0	90	-	-	-	-	-	-	-	12	12	12	6	6	6	6	6	6	6	6									0			
<b>1</b>	<b>2016</b>	<b>Total</b>	<b>2,154</b>	<b>0</b>	<b>2,154</b>	-	-	-	-	-	-	-	<b>204</b>	<b>204</b>	<b>204</b>	<b>204</b>	<b>204</b>	<b>204</b>	<b>204</b>	<b>150</b>	<b>144</b>	<b>150</b>	<b>144</b>	<b>138</b>	-	-	-	-	-	-	<b>0</b>				
1	2017	ARMY	2,970	0	2,970								A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	252	252	252	2,214				
1	2017	FMS (+)	60	0	60								A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	60	-	-	0				
1	2017	MC (+)	336	0	336								A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	24	24	264				
<b>1</b>	<b>2017</b>	<b>Total</b>	<b>3,366</b>	<b>0</b>	<b>3,366</b>								-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<b>336</b>	<b>276</b>	<b>276</b>	<b>2,478</b>				
1	2018	ARMY	6,528	0	6,528																											6,528			
1	2018	FMS (+)	96	0	96																											96			
1	2018	MC (+)	372	0	372																											372			
<b>1</b>	<b>2018</b>	<b>Total</b>	<b>6,996</b>	<b>0</b>	<b>6,996</b>																											<b>6,996</b>			
1	2019	ARMY	7,818	0	7,818																											7,818			
1	2019	FMS (+)	462	0	462																											462			
1	2019	MC (+)	222	0	222																											222			
<b>1</b>	<b>2019</b>	<b>Total</b>	<b>8,502</b>	<b>0</b>	<b>8,502</b>																											<b>8,502</b>			
✓ 1	2020	ARMY	9,570	0	9,570																											9,570			

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<b>Exhibit P-21, Production Schedule: PB 2020 Army</b>															<b>Date: March 2019</b>														
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 02 / 30										<b>P-1 Line Item Number / Title:</b> 6005C64400 / Guided MLRS Rocket (GMLRS)										<b>Item Number / Title [DODIC]:</b> C65404 / GUIDED MLRS ROCKET (GMLRS)									

Cost Elements <i>(Units in Each)</i>						Fiscal Year 2019														Fiscal Year 2020														BALANCE	
O C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2018	BAL DUE AS OF 1 OCT	Calendar Year 2019														Calendar Year 2020														
							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					
Tactical GMLRS Hardware																																			
Prior Years Deliveries: 22924																																			
1	2015	ARMY		450	450	0																												0	
1	2015	FMS (+)		390	390	0																												0	
1	2015	MC (+)		60	60	0																												0	
<b>1</b>	<b>2015</b>	<b>Total</b>		<b>900</b>	<b>900</b>	<b>0</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<b>0</b>		
1	2016	ARMY		1,572	1,572	0																												0	
1	2016	FMS (+)		492	492	0																												0	
1	2016	MC (+)		90	90	0																												0	
<b>1</b>	<b>2016</b>	<b>Total</b>		<b>2,154</b>	<b>2,154</b>	<b>0</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<b>0</b>		
1	2017	ARMY		2,970	756	2,214	246	246	246	246	246	246	246	246																				0	
1	2017	FMS (+)		60	60	0	-	-	-	-	-	-	-	-																				0	
1	2017	MC (+)		336	72	264	24	30	30	30	30	30	30	30																				0	
<b>1</b>	<b>2017</b>	<b>Total</b>		<b>3,366</b>	<b>888</b>	<b>2,478</b>	<b>270</b>	<b>276</b>	<b>276</b>	<b>276</b>	<b>276</b>	<b>276</b>	<b>276</b>	<b>276</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<b>0</b>		
1	2018	ARMY		6,528	0	6,528	-	-	-	-	-	-	-	-		546	546	546	546	546	546	546	546	540	540	540	540						0		
1	2018	FMS (+)		96	0	96	-	-	-	-	-	-	-	-		12	12	12	12	6	6	6	6	6	6	6	6						0		
1	2018	MC (+)		372	0	372	-	-	-	-	-	-	-	-		36	36	30	30	30	30	30	30	30	30	30	30						0		
<b>1</b>	<b>2018</b>	<b>Total</b>		<b>6,996</b>	<b>0</b>	<b>6,996</b>	-	-	-	-	-	-	-	-	<b>594</b>	<b>594</b>	<b>588</b>	<b>588</b>	<b>582</b>	<b>582</b>	<b>582</b>	<b>582</b>	<b>576</b>	<b>576</b>	<b>576</b>	<b>576</b>	-	-	-	-	-	<b>0</b>			
1	2019	ARMY		7,818	0	7,818																												5,202	
1	2019	FMS (+)		462	0	462																												318	
1	2019	MC (+)		222	0	222																												138	
<b>1</b>	<b>2019</b>	<b>Total</b>		<b>8,502</b>	<b>0</b>	<b>8,502</b>																												<b>5,658</b>	
✓ 1	2020	ARMY		9,570	0	9,570																												9,570	
							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: PB 2020 Army</b>															<b>Date: March 2019</b>														
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 02 / 30										<b>P-1 Line Item Number / Title:</b> 6005C64400 / Guided MLRS Rocket (GMLRS)										<b>Item Number / Title [DODIC]:</b> C65404 / GUIDED MLRS ROCKET (GMLRS)									

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					
Tactical GMLRS Hardware																																			
Prior Years Deliveries: 22924																																			
	1	2015	ARMY	450	450	0																													0
	1	2015	FMS (+)	390	390	0																													0
	1	2015	MC (+)	60	60	0																													0
	<b>1</b>	<b>2015</b>	<b>Total</b>	<b>900</b>	<b>900</b>	<b>0</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<b>0</b>	
	1	2016	ARMY	1,572	1,572	0																													0
	1	2016	FMS (+)	492	492	0																													0
	1	2016	MC (+)	90	90	0																													0
	<b>1</b>	<b>2016</b>	<b>Total</b>	<b>2,154</b>	<b>2,154</b>	<b>0</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<b>0</b>	
	1	2017	ARMY	2,970	2,970	0																													0
	1	2017	FMS (+)	60	60	0																													0
	1	2017	MC (+)	336	336	0																													0
	<b>1</b>	<b>2017</b>	<b>Total</b>	<b>3,366</b>	<b>3,366</b>	<b>0</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<b>0</b>	
	1	2018	ARMY	6,528	6,528	0																													0
	1	2018	FMS (+)	96	96	0																													0
	1	2018	MC (+)	372	372	0																													0
	<b>1</b>	<b>2018</b>	<b>Total</b>	<b>6,996</b>	<b>6,996</b>	<b>0</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<b>0</b>	
	1	2019	ARMY	7,818	2,616	5,202	654	654	654	648	648	648	648	648																					0
	1	2019	FMS (+)	462	144	318	42	42	42	42	42	42	36	30																					0
	1	2019	MC (+)	222	84	138	30	30	18	18	18	18	6	-																					0
	<b>1</b>	<b>2019</b>	<b>Total</b>	<b>8,502</b>	<b>2,844</b>	<b>5,658</b>	<b>726</b>	<b>726</b>	<b>714</b>	<b>708</b>	<b>708</b>	<b>708</b>	<b>690</b>	<b>678</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<b>0</b>		
✓	1	2020	ARMY	9,570	0	9,570	-	-	-	-	-	-	798	798	798	798	798	798	798	798	798	798	798	798	798	798	798	798	798	798	798	798	798	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 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 02 / 30		<b>P-1 Line Item Number / Title:</b> 6005C64400 / Guided MLRS Rocket (GMLRS)
		<b>Item Number / Title [DODIC]:</b> C65404 / GUIDED MLRS ROCKET (GMLRS)

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2020	1-8-5 For 2020	MAX For 2020	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	Lockheed Martin M.&F.C Sys. - Dallas, TX	2,160	10,002	10,002	0	2	16	18	0	5	15	20

**Remarks:**  
 Production of GMLRS varies as this program shares a production line with Low Cost Reduced Range Practice Rockets (LCRRPR). There are no production gaps during months that GMLRS are not being produced as LCRRPR Rocket production continues. GMLRS and LCRRPR synergized production efforts result in a decreased unit cost for both programs. An established organic industrial base is in place to perform download/demate of M26 rocket pods to support production efforts for both programs.

(‡) Delivery rows marked with this symbol indicate that they are funded through a separate Line Item. See the respective components' exhibits for details, including the full delivery schedule.  
 "A" in the Delivery Schedule indicates the Contract Award Date.

**Note:** Due to space limitations, quantities in the Exhibit P-21 delivery calendar are truncated and rounded based on the maximum quantity in the calendar as follows. If the maximum quantity is less than or equal to than 9,999, all quantities are shown as each. If the maximum quantity is between 10,000 and 999,999 all quantities are shown in thousands. If the maximum quantity is between 1,000,000 and 999,999,999 all quantities are shown in millions (rounded to the nearest thousand). If the maximum quantity is equal or greater than 1,000,000,000 all quantities are shown in billions (rounded to the nearest million).



**UNCLASSIFIED**

**Exhibit P-40a, Budget Item Justification For Aggregated Items:** PB 2020 Army **Date:** March 2019

**Appropriation / Budget Activity / Budget Sub Activity:** 2032A / 02 / 30 **P-1 Line Item Number / Title:** 6005C64400 / Guided MLRS Rocket (GMLRS) **Aggregated Items Title:** Various

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
<b>GMLRS Training Devices</b>																				
C65406 / GMLRS Training Devices			-	-	3.517	-	-	0.649	-	-	-	-	-	-	-	-	0.491	-	-	0.491
<i>Secondary Distribution</i>																				
Army			-	-	-	-	-	0.649	-	-	-	-	-	-	-	-	0.491	-	-	0.491
<b>Subtotal: GMLRS Training Devices</b>			-	-	<b>3.517</b>	-	-	<b>0.649</b>	-	-	-	-	-	-	-	-	<b>0.491</b>	-	-	<b>0.491</b>
<b>Total</b>			-	-	<b>3.517</b>	-	-	<b>0.649</b>	-	-	-	-	-	-	-	-	<b>0.491</b>	-	-	<b>0.491</b>

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

**UNCLASSIFIED**

**Exhibit P-40, Budget Line Item Justification:** PB 2020 Army **Date:** March 2019

**Appropriation / Budget Activity / Budget Sub Activity:**  
2032A: Missile Procurement, Army / BA 02: Other Missiles / BSA 30: Anti-Tank/  
Assault Missile Sys **P-1 Line Item Number / Title:**  
6060C65405 / MLRS Reduced Range Practice Rockets (RRPR)

**ID Code** (A=Service Ready, B=Not Service Ready): **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0210602A

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

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	43,593	3,420	2,214	-	2,982	2,982	3,330	3,432	2,256	2,364	Continuing	Continuing
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	247.783	34.651	20.964	-	27.555	27.555	31.199	32.788	22.555	24.025	Continuing	Continuing
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	247.783	34.651	20.964	-	27.555	27.555	31.199	32.788	22.555	24.025	Continuing	Continuing
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>247.783</b>	<b>34.651</b>	<b>20.964</b>	<b>-</b>	<b>27.555</b>	<b>27.555</b>	<b>31.199</b>	<b>32.788</b>	<b>22.555</b>	<b>24.025</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> )	5.684	10.132	9.469	-	9.240	9.240	9.369	9.554	9.998	10.163	Continuing	Continuing

**Description:**

FY 2020 funding totals include \$0.0M for Base and \$27.555M for Overseas Contingency Operations (OCO); of which \$27.555M and 2,982 quantity is realigned as part of the OCO for Base Requirements. FY 2020 OCO for Base Requirements is OCO funding for base budget requirements in support of the National Defense Strategy. The Budget requests these funds in OCO to comply with the base budget defense caps included in the Budget Control Act of 2011.

The Multiple Launch Rocket System (MLRS) Low Cost Reduced Range Practice Rocket (LCRRPR) is the only live training rocket that meets the annual certification and pre-deployment requirements for Active and National Guard High Mobility Artillery Rocket System (HIMARS) and M270/M270A1 MLRS launcher units. The critical validated requirement for launcher units ensures units can achieve and maintain combat readiness. HIMARS and M270A1 Battalions are organic and attached to modular Fires Brigades supporting Brigade Combat Teams (BCTs), Joint Expeditionary Force, and Joint Special Operations Force combatant commanders. The training rocket has an inert payload section and blunt nose for inducing reduced range for use at multiple facilities in the United States and foreign countries.

LCRRPRs are manufactured by Lockheed Martin in Camden, Arkansas and Letterkenny Munitions Center (LEMC) in Chambersburg, Pennsylvania. LEMC provides an organic dual source. The LCRRPR program includes the cost to Download/Demate (DL/DM) the M26 pod and rocket motor for production reuse. Total cost also includes Bunker Storage and the procurement of Performance Oriented Packaging (POP) boxes.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	2,802	1,554	0	2,088	2,088	2,334	2,406	1,584	1,656
	Total Obligation Authority	28.483	14.715	0.000	19.294	19.294	21.867	22.986	15.836	16.830
ANG	Quantity	618	660	0	894	894	996	1,026	672	708
	Total Obligation Authority	6.168	6.249	0.000	8.261	8.261	9.332	9.802	6.719	7.195
<b>Total:</b>	<b>Quantity</b>	<b>3,420</b>	<b>2,214</b>	<b>0</b>	<b>2,982</b>	<b>2,982</b>	<b>3,330</b>	<b>3,432</b>	<b>2,256</b>	<b>2,364</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>34.651</b>	<b>20.964</b>	<b>-</b>	<b>27.555</b>	<b>27.555</b>	<b>31.199</b>	<b>32.788</b>	<b>22.555</b>	<b>24.025</b>

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**Exhibit P-40, Budget Line Item Justification:** PB 2020 Army **Date:** March 2019

**Appropriation / Budget Activity / Budget Sub Activity:** 2032A: Missile Procurement, Army / BA 02: Other Missiles / BSA 30: Anti-Tank/ Assault Missile Sys **P-1 Line Item Number / Title:** 6060C65405 / MLRS Reduced Range Practice Rockets (RRPR)

**ID Code** (A=Service Ready, B=Not Service Ready): **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0210602A

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

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	C65405 / MLRS Reduced Range Practice Rockets (RRPR)	P-5a, P-21			43,593 / 247.783	3,420 / 34.651	2,214 / 20.964	- / -	2,982 / 27.555	2,982 / 27.555
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>43,593 / 247.783</b>	<b>3,420 / 34.651</b>	<b>2,214 / 20.964</b>	<b>- / -</b>	<b>2,982 / 27.555</b>	<b>2,982 / 27.555</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:**  
 FY2020 OCO procurement dollars in the amount of \$27.555 million support the procurement of 2,982 LCRRPRs which are required to maintain the practice rocket inventory for Standards in Training Commission (STRC) requirements.

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 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 02 / 30	<b>P-1 Line Item Number / Title:</b> 6060C65405 / MLRS Reduced Range Practice Rockets (RRPR)	<b>Item Number / Title [DODIC]:</b> C65405 / MLRS Reduced Range Practice Rockets (RRPR)

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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Resource Summary		Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity (Units in Each)		43,593	3,420	2,214	-	2,982	2,982
Gross/Weapon System Cost (\$ in Millions)		247.783	34.651	20.964	-	27.555	27.555
Less PY Advance Procurement (\$ in Millions)		-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)		247.783	34.651	20.964	-	27.555	27.555
Plus CY Advance Procurement (\$ in Millions)		-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>		<b>247.783</b>	<b>34.651</b>	<b>20.964</b>	<b>-</b>	<b>27.555</b>	<b>27.555</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)		5.684	10.132	9.469	-	9.240	9.240

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Flyaway Cost																		
Recurring Cost																		
Reduced Range Practice Rocket (LCRRPR) <sup>(f)</sup>	4.580	41,253	188.932	8.289	3,420	28.348	7.509	2,214	16.626	-	-	-	7.494	2,982	22.348	7.494	2,982	22.348
Warheads Govt Furnished Equip (GFE)	-	-	21.582	-	-	3.110	-	-	1.921	-	-	-	-	-	2.617	-	-	2.617
Production Verification Testing	-	-	3.646	-	-	0.074	-	-	0.076	-	-	-	-	-	0.077	-	-	0.077
First Destination Transportation	-	-	1.141	-	-	0.234	-	-	0.146	-	-	-	-	-	0.199	-	-	0.199
Production Engineering Support	-	-	15.795	-	-	1.776	-	-	1.606	-	-	-	-	-	1.719	-	-	1.719
<b>Subtotal: Recurring Cost</b>	-	-	<b>231.103</b>	-	-	<b>33.542</b>	-	-	<b>20.374</b>	-	-	<b>0.000</b>	-	-	<b>26.959</b>	-	-	<b>26.959</b>
<b>Subtotal: Flyaway Cost</b>	-	-	<b>231.103</b>	-	-	<b>33.542</b>	-	-	<b>20.374</b>	-	-	<b>0.000</b>	-	-	<b>26.959</b>	-	-	<b>26.959</b>
Support - Production Engineering Cost																		
Production Engineering	-	-	5.793	-	-	0.486	-	-	0.500	-	-	-	-	-	0.505	-	-	0.505
<b>Subtotal: Support - Production Engineering Cost</b>	-	-	<b>5.793</b>	-	-	<b>0.486</b>	-	-	<b>0.500</b>	-	-	<b>0.000</b>	-	-	<b>0.505</b>	-	-	<b>0.505</b>
Support - Program Management Cost																		
Government Management	-	-	10.894	-	-	0.624	-	-	0.090	-	-	-	-	-	0.091	-	-	0.091

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 02 / 30	<b>P-1 Line Item Number / Title:</b> 6060C65405 / MLRS Reduced Range Practice Rockets (RRPR)	<b>Item Number / Title [DODIC]:</b> C65405 / MLRS Reduced Range Practice Rockets (RRPR)
<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 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
<i>Subtotal: Support - Program Management Cost</i>	-	-	10.894	-	-	0.624	-	-	0.090	-	-	0.000	-	-	0.091	-	-	0.091
<b>Gross/Weapon System Cost</b>	5.684	43,593	247.783	10.132	3,420	34.651	9.469	2,214	20.964	-	-	-	9.240	2,982	27.555	9.240	2,982	27.555

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	2,802	1,554	0	2,088	2,088
	Total Obligation Authority	28.483	14.715	0.000	19.294	19.294
ANG	Quantity	618	660	0	894	894
	Total Obligation Authority	6.168	6.249	0.000	8.261	8.261
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	<b>3,420</b>	<b>2,214</b>	<b>-</b>	<b>2,982</b>	<b>2,982</b>
	<b>Total Obligation Authority</b>	<b>34.651</b>	<b>20.964</b>	<b>-</b>	<b>27.555</b>	<b>27.555</b>

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

**UNCLASSIFIED**

Exhibit P-5a, Procurement History and Planning: PB 2020 Army								Date: March 2019				
Appropriation / Budget Activity / Budget Sub Activity: 2032A / 02 / 30			P-1 Line Item Number / Title: 6060C65405 / MLRS Reduced Range Practice Rockets (RRPR)					Item Number / Title [DODIC]: C65405 / MLRS Reduced Range Practice Rockets (RRPR)				
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
Reduced Range Practice Rocket (LCRRPR) <sup>(†)</sup>		2016	Lockheed Martin / Dallas, TX	SS / FPIF	AMCOM,RSA,AL	May 2016	May 2017	3,954	7.060	Y		Feb 2016
Reduced Range Practice Rocket (LCRRPR) <sup>(†)</sup>		2016	Letterkenny Munitions Center / Chambersburg, PA	MIPR	LEMC, PA	Jan 2017	Feb 2017	276	5.650	Y		
Reduced Range Practice Rocket (LCRRPR) <sup>(†)</sup>		2017	Lockheed Martin / Dallas, TX	SS / FPIF	AMCOM,RSA,AL	May 2017	Jul 2018	1,362	8.660	Y		Feb 2016
Reduced Range Practice Rocket (LCRRPR) <sup>(†)</sup>		2017	Letterkenny Munitions Center / Chambersburg, PA	MIPR	LEMC, PA	Mar 2018	Apr 2018	342	5.850	Y		
Reduced Range Practice Rocket (LCRRPR) <sup>(†)</sup>		2018	Lockheed Martin / Dallas, TX	SS / FPIF	AMCOM,RSA,AL	Apr 2018	Aug 2019	3,078	8.770	Y		Feb 2017
Reduced Range Practice Rocket (LCRRPR) <sup>(†)</sup>		2018	Letterkenny Munitions Center / Chambersburg, PA	MIPR	LEMC, PA	Mar 2019	Apr 2019	342	5.920	Y		
Reduced Range Practice Rocket (LCRRPR) <sup>(†)</sup>		2019	Lockheed Martin / Dallas, TX	SS / FPIF	AMCOM,RSA,AL	Mar 2019	Jun 2020	1,542	8.900	Y		Feb 2018
Reduced Range Practice Rocket (LCRRPR) <sup>(†)</sup>		2019	Letterkenny Munitions Center / Chambersburg, PA	MIPR	LEMC, PA	Feb 2019	Apr 2020	672	6.040	Y		
Reduced Range Practice Rocket (LCRRPR) <sup>(†)</sup>	✓	2020	Lockheed Martin / Dallas, TX	SS / FPIF	AMCOM,RSA,AL	Feb 2020	May 2021	1,446	9.080	Y		Feb 2019
Reduced Range Practice Rocket (LCRRPR) <sup>(†)</sup>	✓	2020	Letterkenny Munitions Center / Chambersburg, PA	MIPR	LEMC, PA	Mar 2020	Apr 2021	1,536	6.160	Y		

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

**Remarks:**

Lockheed Martin is currently the industry source that is both facilitized and qualified to produce the Low Cost Reduced Range Practice Rocket (LCRRPR). Letterkenny Munitions Center (LEMC) has been established as the organic source that is both facilitized and qualified to produce the LCRRPR.

Footnote: Letterkenny Munitions Center (LEMC) Rocket Motor Inspection System (RMIS) Return on Investment (ROI) - Yielded 16 Additional Pods in FY17 and FY18 not reflected in the P-Form.

\* SS (Sole Source) / FPIF (Fixed Price Incentive Firm)

\*\* AMCOM (Aviation and Missile Command), RSA (Redstone Arsenal), AL

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Exhibit P-21, Production Schedule: PB 2020 Army Date: March 2019

Appropriation / Budget Activity / Budget Sub Activity: 2032A / 02 / 30 P-1 Line Item Number / Title: 6060C65405 / MLRS Reduced Range Practice Rockets (RRPR) Item Number / Title [DODIC]: C65405 / MLRS Reduced Range Practice Rockets (RRPR)

Table with columns for Cost Elements, Fiscal Year 2016 (Calendar Year 2016), Fiscal Year 2017 (Calendar Year 2017), and BALANCE. Includes rows for Reduced Range Practice Rocket (LCRRPR) from 2016 to 2020, with monthly breakdowns and totals.

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<b>Exhibit P-21, Production Schedule:</b> PB 2020 Army															<b>Date:</b> March 2019														
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 02 / 30										<b>P-1 Line Item Number / Title:</b> 6060C65405 / MLRS Reduced Range Practice Rockets (RRPR)										<b>Item Number / Title [DODIC]:</b> C65405 / MLRS Reduced Range Practice Rockets (RRPR)									

Cost Elements <i>(Units in Each)</i>					Fiscal Year 2018													Fiscal Year 2019													B A L A N C E				
O C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2017	BAL DUE AS OF 1 OCT	Calendar Year 2018													Calendar Year 2019															
							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					
Reduced Range Practice Rocket (LCRRPR)																																			
Prior Years Deliveries: 35319																																			
1	2016	ARMY	3,954	1,647	2,307	330	330	330	330	329	329	329																							0
1	2016	MC (†)	648	270	378	54	54	54	54	54	54	54																							0
<b>1</b>	<b>2016</b>	<b>Total</b>	<b>4,602</b>	<b>1,917</b>	<b>2,685</b>	<b>384</b>	<b>384</b>	<b>384</b>	<b>384</b>	<b>383</b>	<b>383</b>	<b>383</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<b>0</b>	
2	2016	ARMY	276	184	92	23	23	23	23																										0
1	2017	ARMY	1,362	0	1,362	-	-	-	-	-	-	-	-	-	113	113	113	114	114	114	114	114	114	113	113	113								0	
1	2017	MC (†)	648	0	648	-	-	-	-	-	-	-	-	-	54	54	54	54	54	54	54	54	54	54	54	54								0	
<b>1</b>	<b>2017</b>	<b>Total</b>	<b>2,010</b>	<b>0</b>	<b>2,010</b>	-	-	-	-	-	-	-	-	<b>167</b>	<b>167</b>	<b>167</b>	<b>168</b>	<b>168</b>	<b>168</b>	<b>168</b>	<b>168</b>	<b>168</b>	<b>167</b>	<b>167</b>	<b>167</b>	-	-	-	-	-	-	-	<b>0</b>		
2	2017	ARMY	342	0	342																														0
1	2018	ARMY	3,078	0	3,078																														2,566
1	2018	MC (†)	648	0	648																														540
<b>1</b>	<b>2018</b>	<b>Total</b>	<b>3,726</b>	<b>0</b>	<b>3,726</b>																													<b>3,106</b>	
2	2018	ARMY	342	0	342																														171
1	2019	ARMY	1,542	0	1,542																														1,542
1	2019	MC (†)	648	0	648																														648
<b>1</b>	<b>2019</b>	<b>Total</b>	<b>2,190</b>	<b>0</b>	<b>2,190</b>																														<b>2,190</b>
2	2019	ARMY	672	0	672																														672
✓ 1	2020	ARMY	1,446	0	1,446																														1,446
✓ 1	2020	MC (†)	648	0	648																														648
✓ 1	<b>2020</b>	<b>Total OCO</b>	<b>2,094</b>	<b>0</b>	<b>2,094</b>																														<b>2,094</b>
✓ 2	2020	ARMY	1,536	0	1,536																														1,536
						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 2020 Army																							Date: March 2019										
Appropriation / Budget Activity / Budget Sub Activity: 2032A / 02 / 30										P-1 Line Item Number / Title: 6060C65405 / MLRS Reduced Range Practice Rockets (RRPR)										Item Number / Title [DODIC]: C65405 / MLRS Reduced Range Practice Rockets (RRPR)													
Cost Elements (Units in Each)						Fiscal Year 2020													Fiscal Year 2021													BALANCE	
OCO #	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2019	BAL DUE AS OF 1 OCT	Calendar Year 2020													Calendar Year 2021													
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP			
Reduced Range Practice Rocket (LCRRPR)																																	
Prior Years Deliveries: 35319																																	
1	2016	ARMY	3,954	3,954	0																									0			
1	2016	MC (+)	648	648	0																									0			
<b>1</b>	<b>2016</b>	<b>Total</b>	<b>4,602</b>	<b>4,602</b>	<b>0</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<b>0</b>				
2	2016	ARMY	276	276	0																									0			
1	2017	ARMY	1,362	1,362	0																									0			
1	2017	MC (+)	648	648	0																									0			
<b>1</b>	<b>2017</b>	<b>Total</b>	<b>2,010</b>	<b>2,010</b>	<b>0</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<b>0</b>				
2	2017	ARMY	342	342	0																									0			
1	2018	ARMY	3,078	512	2,566	256	257	257	257	257	257	256	256	256																0			
1	2018	MC (+)	648	108	540	54	54	54	54	54	54	54	54	54																0			
<b>1</b>	<b>2018</b>	<b>Total</b>	<b>3,726</b>	<b>620</b>	<b>3,106</b>	<b>310</b>	<b>311</b>	<b>311</b>	<b>311</b>	<b>311</b>	<b>311</b>	<b>310</b>	<b>310</b>	<b>310</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<b>0</b>				
2	2018	ARMY	342	171	171	29	29	29	28	28	28																			0			
1	2019	ARMY	1,542	0	1,542	-	-	-	-	-	-	-	-	128	129	129	129	129	129	129	128	128	128	128	128					0			
1	2019	MC (+)	648	0	648	-	-	-	-	-	-	-	-	54	54	54	54	54	54	54	54	54	54	54	54					0			
<b>1</b>	<b>2019</b>	<b>Total</b>	<b>2,190</b>	<b>0</b>	<b>2,190</b>	-	-	-	-	-	-	-	-	<b>182</b>	<b>183</b>	<b>183</b>	<b>183</b>	<b>183</b>	<b>183</b>	<b>183</b>	<b>182</b>	<b>182</b>	<b>182</b>	<b>182</b>	<b>182</b>	-	-	-	-	<b>0</b>			
2	2019	ARMY	672	0	672	-	-	-	-	-	-	56	56	56	56	56	56	56	56	56	56	56	56	56						0			
✓ 1	2020	ARMY	1,446	0	1,446					A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	120	120	120	120	121	845			
✓ 1	2020	MC (+)	648	0	648					A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	54	54	54	54	54	378			
<b>✓ 1</b>	<b>2020</b>	<b>Total OCO</b>	<b>2,094</b>	<b>0</b>	<b>2,094</b>						-	-	-	-	-	-	-	-	-	-	-	-	-	-	<b>174</b>	<b>174</b>	<b>174</b>	<b>174</b>	<b>175</b>	<b>1,223</b>			
✓ 2	2020	ARMY	1,536	0	1,536					A -	-	-	-	-	-	-	-	-	-	-	-	-	-	128	128	128	128	128	768				
						OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP				

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<b>Exhibit P-21, Production Schedule:</b> PB 2020 Army															<b>Date:</b> March 2019														
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 02 / 30										<b>P-1 Line Item Number / Title:</b> 6060C65405 / MLRS Reduced Range Practice Rockets (RRPR)										<b>Item Number / Title [DODIC]:</b> C65405 / MLRS Reduced Range Practice Rockets (RRPR)									

Cost Elements <i>(Units in Each)</i>						Fiscal Year 2022												Fiscal Year 2023												BALANCE	
O 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
Reduced Range Practice Rocket (LCRRPR)																															
Prior Years Deliveries: 35319																															
	1	2016	ARMY	3,954	3,954	0																							0		
	1	2016	MC (†)	648	648	0																							0		
	<b>1</b>	<b>2016</b>	<b>Total</b>	<b>4,602</b>	<b>4,602</b>	<b>0</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<b>0</b>		
	2	2016	ARMY	276	276	0																							0		
	1	2017	ARMY	1,362	1,362	0																							0		
	1	2017	MC (†)	648	648	0																							0		
	<b>1</b>	<b>2017</b>	<b>Total</b>	<b>2,010</b>	<b>2,010</b>	<b>0</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<b>0</b>		
	2	2017	ARMY	342	342	0																							0		
	1	2018	ARMY	3,078	3,078	0																							0		
	1	2018	MC (†)	648	648	0																							0		
	<b>1</b>	<b>2018</b>	<b>Total</b>	<b>3,726</b>	<b>3,726</b>	<b>0</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<b>0</b>		
	2	2018	ARMY	342	342	0																							0		
	1	2019	ARMY	1,542	1,542	0																							0		
	1	2019	MC (†)	648	648	0																							0		
	<b>1</b>	<b>2019</b>	<b>Total</b>	<b>2,190</b>	<b>2,190</b>	<b>0</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<b>0</b>		
	2	2019	ARMY	672	672	0																							0		
✓	1	2020	ARMY	1,446	601	845	121	121	121	121	121	120																	0		
✓	1	2020	MC (†)	648	270	378	54	54	54	54	54	54																	0		
✓	<b>1</b>	<b>2020</b>	<b>Total OCO</b>	<b>2,094</b>	<b>871</b>	<b>1,223</b>	<b>175</b>	<b>175</b>	<b>175</b>	<b>175</b>	<b>175</b>	<b>174</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<b>0</b>			
✓	2	2020	ARMY	1,536	768	768	128	128	128	128	128																		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 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 02 / 30		<b>P-1 Line Item Number / Title:</b> 6060C65405 / MLRS Reduced Range Practice Rockets (RRPR)
		<b>Item Number / Title [DODIC]:</b> C65405 / MLRS Reduced Range Practice Rockets (RRPR)

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2020	1-8-5 For 2020	MAX For 2020	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	Lockheed Martin - Dallas, TX	504	9,216	11,520	0	2	16	18	0	5	15	20
2	Letterkenny Munitions Center - Chambersburg, PA	504	1,500	1,968	0	2	16	18	0	6	13	19

**Remarks:**  
 Production of Low Cost Reduced Range Practice Rockets (LCRRPRs) varies as this program shares a production line with Guide Multiple Launch Rocket System (GMLRS). There are no production gaps during months that LCRRPRs are not being produced as GMLRS Rocket production continues. Continued production of LCRRPRs at Camden, Arkansas mitigates shared production costs with GMLRS and Army Tactical Missile System (ATACMS).

(‡) Delivery rows marked with this symbol indicate that they are funded through a separate Line Item. See the respective components' exhibits for details, including the full delivery schedule.

"A" in the Delivery Schedule indicates the Contract Award Date.

**Note:** Due to space limitations, quantities in the Exhibit P-21 delivery calendar are truncated and rounded based on the maximum quantity in the calendar as follows. If the maximum quantity is less than or equal to than 9,999, all quantities are shown as each. If the maximum quantity is between 10,000 and 999,999 all quantities are shown in thousands. If the maximum quantity is between 1,000,000 and 999,999,999 all quantities are shown in millions (rounded to the nearest thousand). If the maximum quantity is equal or greater than 1,000,000,000 all quantities are shown in billions (rounded to the nearest million).

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**Exhibit P-40, Budget Line Item Justification:** PB 2020 Army **Date:** March 2019

**Appropriation / Budget Activity / Budget Sub Activity:**  
2032A: Missile Procurement, Army / BA 02: Other Missiles / BSA 30: Anti-Tank/  
Assault Missile Sys **P-1 Line Item Number / Title:**  
6200C02901 / High Mobility Artillery Rocket System (HIMARS)

**ID Code** (A=Service Ready, B=Not Service Ready): **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0210608A, 0603778A

**Line Item MDAP/MAIS Code:** 367

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	387	24	17	-	-	-	-	11	4	-	-	443
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	1,623.489	238.000	171.138	-	-	-	-	89.077	41.274	-	-	2,162.978
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	1,623.489	238.000	171.138	-	-	-	-	89.077	41.274	-	-	2,162.978
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>1,623.489</b>	<b>238.000</b>	<b>171.138</b>	-	-	-	-	<b>89.077</b>	<b>41.274</b>	-	-	<b>2,162.978</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> )	4,195.062	9,916.667	10,066.941	-	-	-	-	8,097.909	10,318.500	-	-	4,882.569

**Description:**

The M142 High Mobility Artillery Rocket System (HIMARS) launcher is a full spectrum, combat proven, all weather, 24/7 lethal and responsive, precision strike weapon system. HIMARS provides critical missile precision strike, operational shaping fires, counter-fire, and close support destructive and suppressive fires. HIMARS is a C-130 or C-17 transportable, wheeled, indirect fire, rocket/misile launcher capable of firing one pod of precision rockets/missiles from the Multiple Launch Rocket System (MLRS) Family of Munitions (MFOM), to include the Extended Range (ER) Guided Multiple Launch Rocket System (GMLRS), the Army Tactical Missile System (ATACMS), and the Precision Strike Missile. These munitions are capable of engaging targets with precision at ranges in excess of 400 kilometers. In FY2017, the Army directed the program office to produce 56 HIMARS launchers in an effort called HIMARS Fleet Expansion. Army Acquisition Objective (AAO) is 363 HIMARS launchers. HIMARS Fleet Expansion will increase the Army Acquisition Objective to 419.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army									
Quantity	24	17	-	-	-	-	11	4	-
Total Obligation Authority	238.000	171.138	-	-	-	-	89.077	41.274	-
<b>Total:</b>									
<b>Secondary Distribution</b>									
Quantity	<b>24</b>	<b>17</b>	-	-	-	-	<b>11</b>	<b>4</b>	-
Total Obligation Authority	<b>238.000</b>	<b>171.138</b>	-	-	-	-	<b>89.077</b>	<b>41.274</b>	-

**Justification:**

There is no budget request for FY2020.

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 2020 Army **Date:** March 2019

**Appropriation / Budget Activity / Budget Sub Activity:**  
2032A: Missile Procurement, Army / BA 02: Other Missiles / BSA 30: Anti-Tank/  
Assault Missile Sys **P-1 Line Item Number / Title:**  
6472C98510 / ARMY TACTICAL MSL SYS (ATACMS) - SYS SUM

**ID Code** (A=Service Ready, B=Not Service Ready): **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0203802A

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

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	1,279	-	-	-	240	240	30	50	138	274	Continuing	Continuing
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	1,266.402	-	-	-	340.612	340.612	50.000	100.000	178.700	282.920	Continuing	Continuing
Less PY Advance Procurement ( <i>\$ in Millions</i> )	75.067	-	-	-	-	-	-	-	-	-	-	75.067
Net Procurement (P-1) ( <i>\$ in Millions</i> )	1,191.335	-	-	-	340.612	340.612	50.000	100.000	178.700	282.920	Continuing	Continuing
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	75.067	-	-	-	-	-	-	-	-	-	-	75.067
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>1,266.402</b>	-	-	-	<b>340.612</b>	<b>340.612</b>	<b>50.000</b>	<b>100.000</b>	<b>178.700</b>	<b>282.920</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> )	990.150	-	-	-	1,419.217	1,419.217	1,666.667	2,000.000	1,294.928	1,032.555	Continuing	Continuing

**Description:**

NOTE: All funds for this program were previously included in CA6700 ATACMS Mods in support of New Missiles.

FY 2020 funding totals include \$0.0M for Base and \$340.612M for Overseas Contingency Operations (OCO); of which \$209.842M and 146 quantity is realigned as part of the OCO for Base Requirements. FY 2020 OCO for Base Requirements is OCO funding for base budget requirements in support of the National Defense Strategy. The Budget requests these funds in OCO to comply with the base budget defense caps included in the Budget Control Act of 2011.

Army Tactical Missile System (ATACMS) is the United States (U.S.) Army's primary 24/7, all weather, and surface-to-surface artillery precision missile used by current and future Combatant Commanders to shape the battlefield with long-range fires against hard and soft stationary targets in open, complex, and urban environments. The missile provides the Combatant Commanders with a 24/7 all-weather 300 kilometers (km) long-range fires capability to attack high-payoff, time-sensitive targets without placing aircraft and crews at risk. It's precision accuracy, along with the absence of potential duds and reduced lethal radii, mitigate the warfighter's collateral damage concerns against hard and soft targets in complex and urban environments.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	-	-	0	240	240	30	50	138	274
	Total Obligation Authority	-	-	0.000	340.612	340.612	50.000	100.000	178.700	282.920
<b>Total:</b> <b>Secondary Distribution</b>	<b>Quantity</b>	-	-	<b>0</b>	<b>240</b>	<b>240</b>	<b>30</b>	<b>50</b>	<b>138</b>	<b>274</b>
	<b>Total Obligation Authority</b>	-	-	-	<b>340.612</b>	<b>340.612</b>	<b>50.000</b>	<b>100.000</b>	<b>178.700</b>	<b>282.920</b>

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**Exhibit P-40, Budget Line Item Justification:** PB 2020 Army **Date:** March 2019

**Appropriation / Budget Activity / Budget Sub Activity:** 2032A: Missile Procurement, Army / BA 02: Other Missiles / BSA 30: Anti-Tank/ Assault Missile Sys **P-1 Line Item Number / Title:** 6472C98510 / ARMY TACTICAL MSL SYS (ATACMS) - SYS SUM

**ID Code** (A=Service Ready, B=Not Service Ready): **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0203802A

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

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	C98501 / ATACMS BLK IA	P-5a, P-21			1,279 / 1,266.402	- / -	- / -	- / -	240 / 340.612	240 / 340.612
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>1,279 / 1,266.402</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>240 / 340.612</b>	<b>240 / 340.612</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 2020 Overseas Contingency Operations (OCO) procurement dollars in the amount of \$340.612 million supports the acquisition of 240 ATACMS new missile builds. Additional supporting tasks include bunker storage, Follow-on Production Testing (FPT), Stockpile Reliability Program (SRP), rate tooling, Government System Engineering/Program Management (SEPM), obsolescence, and software.  
  
 FY 2020 OCO for Base procurement dollars in the amount of \$209.842M supports the productions of 143 missiles.  
 FY 2020 Enduring OCO procurement dollars in the amount of \$130.770 million supports the production of 94 missiles.  
  
 Procurement dollars moved from ATACMS Mods (1823CA6700) 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.  
  
 This program supports the Long Range Precision Fires Cross Functional Team (CFT), ATACMS BLK 1A (C98501).

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 02 / 30	<b>P-1 Line Item Number / Title:</b> 6472C98510 / ARMY TACTICAL MSL SYS (ATACMS) - SYS SUM	<b>Item Number / Title [DODIC]:</b> C98501 / ATACMS BLK IA

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity (Units in Each)	1,279	-	-	-	240	240
Gross/Weapon System Cost (\$ in Millions)	1,266.402	-	-	-	340.612	340.612
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	1,266.402	-	-	-	340.612	340.612
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>1,266.402</b>	-	-	-	<b>340.612</b>	<b>340.612</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)	990.150	-	-	-	1,419.217	1,419.217

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Flyaway Cost																		
Recurring Cost																		
Recurring Production <sup>(†)</sup>	-	-	1,036.847	-	-	-	-	-	-	-	-	-	1,161.963	240	278.871	1,161.963	240	278.871
Engineering Changes	-	-	30.867	-	-	-	-	-	-	-	-	-	-	-	8.302	-	-	8.302
Systems Engineering/Mgmt	-	-	95.085	-	-	-	-	-	-	-	-	-	-	-	25.574	-	-	25.574
Systems Test and Eval	-	-	5.172	-	-	-	-	-	-	-	-	-	-	-	1.391	-	-	1.391
Transportation	-	-	0.863	-	-	-	-	-	-	-	-	-	-	-	0.232	-	-	0.232
<b>Subtotal: Recurring Cost</b>	-	-	<b>1,168.834</b>	-	-	-	-	-	-	-	-	<b>0.000</b>	-	-	<b>314.370</b>	-	-	<b>314.370</b>
Non Recurring Cost																		
Non-Recurring Production	-	-	47.635	-	-	-	-	-	-	-	-	-	-	-	12.812	-	-	12.812
<b>Subtotal: Non Recurring Cost</b>	-	-	<b>47.635</b>	-	-	-	-	-	-	-	-	<b>0.000</b>	-	-	<b>12.812</b>	-	-	<b>12.812</b>
<b>Subtotal: Flyaway Cost</b>	-	-	<b>1,216.469</b>	-	-	-	-	-	-	-	-	<b>0.000</b>	-	-	<b>327.182</b>	-	-	<b>327.182</b>
Support - Data Cost																		
Support Data Data	-	-	12.463	-	-	-	-	-	-	-	-	-	-	-	3.352	-	-	3.352
<b>Subtotal: Support - Data Cost</b>	-	-	<b>12.463</b>	-	-	-	-	-	-	-	-	<b>0.000</b>	-	-	<b>3.352</b>	-	-	<b>3.352</b>
Support - Fielding Cost																		
Fielding	-	-	0.628	-	-	-	-	-	-	-	-	-	-	-	0.169	-	-	0.169

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 02 / 30	<b>P-1 Line Item Number / Title:</b> 6472C98510 / ARMY TACTICAL MSL SYS (ATACMS) - SYS SUM	<b>Item Number / Title [DODIC]:</b> C98501 / ATACMS BLK IA

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<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 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
<i>Subtotal: Support - Fielding Cost</i>	-	-	0.628	-	-	-	-	-	-	-	-	0.000	-	-	0.169	-	-	0.169
Support - Support Equipment Cost																		
Test and Measurement Equipment	-	-	28.272	-	-	-	-	-	-	-	-	-	-	-	7.604	-	-	7.604
<i>Subtotal: Support - Support Equipment Cost</i>	-	-	28.272	-	-	-	-	-	-	-	-	0.000	-	-	7.604	-	-	7.604
Support - Training Cost																		
Services	-	-	8.570	-	-	-	-	-	-	-	-	-	-	-	2.305	-	-	2.305
<i>Subtotal: Support - Training Cost</i>	-	-	8.570	-	-	-	-	-	-	-	-	0.000	-	-	2.305	-	-	2.305
<b>Gross/Weapon System Cost</b>	<b>990.150</b>	<b>1,279</b>	<b>1,266.402</b>	-	-	-	-	-	-	-	-	-	<b>1,419.217</b>	<b>240</b>	<b>340.612</b>	<b>1,419.217</b>	<b>240</b>	<b>340.612</b>

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	-	-	0	240	240
	Total Obligation Authority	-	-	0.000	340.612	340.612
<b>Total: Secondary Distribution</b>	Quantity	-	-	-	<b>240</b>	<b>240</b>
	Total Obligation Authority	-	-	-	<b>340.612</b>	<b>340.612</b>

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



**UNCLASSIFIED**

<b>Exhibit P-5a, Procurement History and Planning:</b> PB 2020 Army							<b>Date:</b> March 2019					
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 02 / 30			<b>P-1 Line Item Number / Title:</b> 6472C98510 / ARMY TACTICAL MSL SYS (ATACMS) - SYS SUM				<b>Item Number / Title [DODIC]:</b> C98501 / ATACMS BLK IA					
<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>
Recurring Production <sup>(†)</sup>	✓	2020	Lockheed Martin / Dallas, Texas	SS / FPIF	Aviation and Missile Command	Jun 2020	Feb 2022	240	1,161.963	N		Aug 2018

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



**UNCLASSIFIED**

<b>Exhibit P-21, Production Schedule:</b> PB 2020 Army															<b>Date:</b> March 2019														
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 02 / 30										<b>P-1 Line Item Number / Title:</b> 6472C98510 / ARMY TACTICAL MSL SYS (ATACMS) - SYS SUM										<b>Item Number / Title [DODIC]:</b> C98501 / ATACMS BLK IA									

Cost Elements <i>(Units in Each)</i>						Fiscal Year 2022														Fiscal Year 2023														BALANCE	
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					

Recurring Production																																				
✓	1	2020	ARMY	240	0	240	-	-	-	-	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	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 2020 Army								<b>Date:</b> March 2019				
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 02 / 30				<b>P-1 Line Item Number / Title:</b> 6472C98510 / ARMY TACTICAL MSL SYS (ATACMS) - SYS SUM				<b>Item Number / Title [DODIC]:</b> C98501 / ATACMS BLK IA				
MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Month)			Procurement Leadtime (Months)							
		MSR For 2020	1-8-5 For 2020	MAX For 2020	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	Lockheed Martin - Dallas, Texas	7	38	48	0	9	20	29	0	9	20	29

"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 2020 Army **Date:** March 2019

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A: Missile Procurement, Army / BA 02: Other Missiles / BSA 30: Anti-Tank/ Assault Missile Sys	<b>P-1 Line Item Number / Title:</b> 6870C88001 / LETHAL MINIATURE AERIAL MISSILE SYSTEM (LMAMS)
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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 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	1,130	1,130	1,835	-	-	-	-	2,965
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	55.377	23.108	104.973	-	83.300	83.300	83.300	-	-	-	-	350.058
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	55.377	23.108	104.973	-	83.300	83.300	83.300	-	-	-	-	350.058
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>55.377</b>	<b>23.108</b>	<b>104.973</b>	-	<b>83.300</b>	<b>83.300</b>	<b>83.300</b>	-	-	-	-	<b>350.058</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> )	-	-	-	-	73.717	73.717	45.395	-	-	-	-	118.063

**Description:**

Lethal Miniature Aerial Missile System (LMAMS) is a single man-portable/operable, light-weight organic, beyond line-of-sight, precision guided, loitering aerial missile system capable of locating and engaging obscured and/or fleeting enemy targets who otherwise cannot be engaged by typical direct fire weapon systems. Front and Side Look High Resolution Electro-Optical (day) and Front Look Infrared (night) cameras allow the Warfighter to have eyes on the target for positive identification. LMAMS Wave-Off capability allows the operator to wave-off or re-direct the LMAMS flight path prior to impact, if necessary. The system is comprised of a fire control unit, launcher, missile, and a modular payload capable of high lethality against unprotected Combatant Personnel and producing casualties against Personnel in Soft Skinned Vehicles. LMAMS has the ability to be employed in less than two minutes.

FY20 All Up Rounds (AUR) is Quantity 1,130.

FY20 P1 total quantity is an error and does not match the correct quantity reflected in this P-40 Exhibit.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army									
Quantity	-	-	0	1,130	1,130	1,835	-	-	-
Total Obligation Authority	23.108	104.973	0.000	83.300	83.300	83.300	-	-	-
<b>Total:</b>									
<b>Secondary Distribution</b>									
Quantity	-	-	0	1,130	1,130	1,835	-	-	-
Total Obligation Authority	23.108	104.973	-	83.300	83.300	83.300	-	-	-

**UNCLASSIFIED**

**Exhibit P-40, Budget Line Item Justification:** PB 2020 Army **Date:** March 2019

**Appropriation / Budget Activity / Budget Sub Activity:** 2032A: Missile Procurement, Army / BA 02: Other Missiles / BSA 30: Anti-Tank/ Assault Missile Sys **P-1 Line Item Number / Title:** 6870C88001 / LETHAL MINIATURE AERIAL MISSILE SYSTEM (LMAMS)

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

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

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	C88022 / LETHAL MINIATURE AERIAL MISSILE SYSTEM (LMAMS)	P-5a, P-21			- / 55.377	- / 23.108	- / 104.973	- / -	1,130 / 83.300	1,130 / 83.300
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 55.377</b>	<b>- / 23.108</b>	<b>- / 104.973</b>	<b>- / -</b>	<b>1,130 / 83.300</b>	<b>1,130 / 83.300</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 2020 Direct OCO procurement dollars in the amount of \$83.300 million procures 1,130 All Up Rounds (AURs), 190 Inert Training Missiles, 38 Training Simulators, 38 Fire Control Units (FCUs), 7 Multi-Pack Launchers, training support equipment, and fielding of hardware. LMAMS capability is required to fulfill JUONs and maintain asset inventory in support of Joint Urgent Operational Need 0556, 0008, Operational Need Statement 17-22331, and other emerging urgent requirements.

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>													<b>Date:</b> March 2019					
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 02 / 30						<b>P-1 Line Item Number / Title:</b> 6870C88001 / LETHAL MINIATURE AERIAL MISSILE SYSTEM (LMAMS)						<b>Item Number / Title [DODIC]:</b> C88022 / LETHAL MINIATURE AERIAL MISSILE SYSTEM (LMAMS)						
<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 2018</b>		<b>FY 2019</b>		<b>FY 2020 Base</b>		<b>FY 2020 OCO</b>		<b>FY 2020 Total</b>				
Procurement Quantity (Units in Each)				-		-		-		-		1,130		1,130				
Gross/Weapon System Cost (\$ in Millions)				55.377		23.108		104.973		-		83.300		83.300				
Less PY Advance Procurement (\$ in Millions)				-		-		-		-		-		-				
Net Procurement (P-1) (\$ in Millions)				55.377		23.108		104.973		-		83.300		83.300				
Plus CY Advance Procurement (\$ in Millions)				-		-		-		-		-		-				
<b>Total Obligation Authority (\$ in Millions)</b>				<b>55.377</b>		<b>23.108</b>		<b>104.973</b>		<b>-</b>		<b>83.300</b>		<b>83.300</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)				-		-		-		-		73.717		73.717				
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 2018</b>			<b>FY 2019</b>			<b>FY 2020 Base</b>			<b>FY 2020 OCO</b>			<b>FY 2020 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>
Hardware Cost																		
Recurring Cost																		
All Up Rounds <sup>(†)</sup>	61.100	509	31.100	57.402	204	11.710	57.358	1,172	67.224	-	-	-	57.398	1,130	64.860	57.398	1,130	64.860
Inert Training Missiles	52.320	200	10.464	44.558	120	5.347	44.255	200	8.851	-	-	-	44.458	190	8.447	44.458	190	8.447
Training Simulators	25.410	39	0.991	-	-	-	25.175	40	1.007	-	-	-	25.000	38	0.950	25.000	38	0.950
Multi-Pack Launcher	-	-	-	-	-	-	81.000	10	0.810	-	-	-	81.000	7	0.567	81.000	7	0.567
Training Support Equipment	-	-	0.345	-	-	1.985	-	-	0.465	-	-	-	-	-	1.514	-	-	1.514
Fielding	-	-	6.424	-	-	2.301	-	-	16.268	-	-	-	-	-	3.358	-	-	3.358
<i>Subtotal: Recurring Cost</i>	-	-	<b>49.324</b>	-	-	<b>21.343</b>	-	-	<b>94.625</b>	-	-	<b>0.000</b>	-	-	<b>79.696</b>	-	-	<b>79.696</b>
<i>Subtotal: Hardware Cost</i>	-	-	<b>49.324</b>	-	-	<b>21.343</b>	-	-	<b>94.625</b>	-	-	<b>0.000</b>	-	-	<b>79.696</b>	-	-	<b>79.696</b>
Command and Launch Cost																		
Fire Control Units	25.077	39	0.978	24.000	12	0.288	24.700	40	0.988	-	-	-	25.316	38	0.962	25.316	38	0.962
<i>Subtotal: Command and Launch Cost</i>	-	-	<b>0.978</b>	-	-	<b>0.288</b>	-	-	<b>0.988</b>	-	-	<b>0.000</b>	-	-	<b>0.962</b>	-	-	<b>0.962</b>
Support - Acceptance Testing Cost																		
Acceptance Test	-	-	1.016	-	-	0.250	-	-	4.653	-	-	-	-	-	0.799	-	-	0.799
<i>Subtotal: Support - Acceptance Testing Cost</i>	-	-	<b>1.016</b>	-	-	<b>0.250</b>	-	-	<b>4.653</b>	-	-	<b>0.000</b>	-	-	<b>0.799</b>	-	-	<b>0.799</b>
Support - Program Management Cost																		
Government Management	-	-	4.059	-	-	1.227	-	-	4.707	-	-	-	-	-	1.843	-	-	1.843

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 02 / 30	<b>P-1 Line Item Number / Title:</b> 6870C88001 / LETHAL MINIATURE AERIAL MISSILE SYSTEM (LMAMS)	<b>Item Number / Title [DODIC]:</b> C88022 / LETHAL MINIATURE AERIAL MISSILE SYSTEM (LMAMS)
<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 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
<i>Subtotal: Support - Program Management Cost</i>	-	-	4.059	-	-	1.227	-	-	4.707	-	-	0.000	-	-	1.843	-	-	1.843
<b>Gross/Weapon System Cost</b>	-	-	55.377	-	-	23.108	-	-	104.973	-	-	-	73.717	1,130	83.300	73.717	1,130	83.300

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	-	-	0	1,130	1,130
	Total Obligation Authority	23.108	104.973	0.000	83.300	83.300
<b>Total: Secondary Distribution</b>	Quantity	-	-	-	1,130	1,130
	Total Obligation Authority	23.108	104.973	-	83.300	83.300

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



**UNCLASSIFIED**

<b>Exhibit P-5a, Procurement History and Planning:</b> PB 2020 Army							<b>Date:</b> March 2019				
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 02 / 30			<b>P-1 Line Item Number / Title:</b> 6870C88001 / LETHAL MINIATURE AERIAL MISSILE SYSTEM (LMAMS)				<b>Item Number / Title [DODIC]:</b> C88022 / LETHAL MINIATURE AERIAL MISSILE SYSTEM (LMAMS)				

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
All Up Rounds <sup>(†)</sup>		2018	AeroVironment / Simi Valley, CA	SS / FFP	AMCOM, Redstone Arsenal, AL	Mar 2018	Oct 2018	204	57.402	Y		
All Up Rounds <sup>(†)</sup>		2019	AeroVironment / Simi Valley, CA	SS / FFP	AMCOM, Redstone Arsenal, AL	Mar 2019	Oct 2019	1,172	57.358	Y		
All Up Rounds <sup>(†)</sup>	✓	2020	AeroVironment / Simi Valley, CA	SS / FFP	AMCOM, Redstone Arsenal, AL	Mar 2020	Oct 2020	1,130	57.398	Y		

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

**Remarks:**  
10 U.S. Code #2431 and DoD Financial Mgt Reg  
Vol 2B, Ch4 mandate Production Rates be  
defined in terms of ""budget year.""

**UNCLASSIFIED**

<b>Exhibit P-21, Production Schedule:</b> PB 2020 Army																		<b>Date:</b> March 2019															
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 02 / 30											<b>P-1 Line Item Number / Title:</b> 6870C88001 / LETHAL MINIATURE AERIAL MISSILE SYSTEM (LMAMS)											<b>Item Number / Title [DODIC]:</b> C88022 / LETHAL MINIATURE AERIAL MISSILE SYSTEM (LMAMS)											

Cost Elements <i>(Units in Each)</i>					Fiscal Year 2018														Fiscal Year 2019														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 1 7	BAL D U E A S O F 1 O C T	Calendar Year 2018														Calendar Year 2019														
							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					
All Up Rounds																																			
Prior Years Deliveries: 509																																			
	1	2018	ARMY	204	0	204																													0
	1	2019	ARMY	1,172	0	1,172																												1,172	
✓	1	2020	ARMY	1,130	0	1,130																												1,130	
							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 2020 Army															<b>Date:</b> March 2019														
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 02 / 30										<b>P-1 Line Item Number / Title:</b> 6870C88001 / LETHAL MINIATURE AERIAL MISSILE SYSTEM (LMAMS)										<b>Item Number / Title [DODIC]:</b> C88022 / LETHAL MINIATURE AERIAL MISSILE SYSTEM (LMAMS)									

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						
All Up Rounds																																				
Prior Years Deliveries: 509																																				
	1	2018	ARMY	204	204	0																													0	
	1	2019	ARMY	1,172	0	1,172	98	98	98	98	98	98	98	97	97	97	97																			0
✓	1	2020	ARMY	1,130	0	1,130																													0	

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<b>Exhibit P-21, Production Schedule:</b> PB 2020 Army							<b>Date:</b> March 2019					
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 02 / 30				<b>P-1 Line Item Number / Title:</b> 6870C88001 / LETHAL MINIATURE AERIAL MISSILE SYSTEM (LMAMS)				<b>Item Number / Title [DODIC]:</b> C88022 / LETHAL MINIATURE AERIAL MISSILE SYSTEM (LMAMS)				
MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2020	1-8-5 For 2020	MAX For 2020	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	AeroVironment - Simi Valley, CA	600	660	1,380	1	1	5	6	1	1	5	6

**Remarks:**  
Since All Up Rounds are delivered in response to JUONS, neither MSR nor MAX apply to LMAMS.

"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 2020 Army **Date:** March 2019

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A: Missile Procurement, Army / BA 03: Modification of Missiles / BSA 10: Modifications	<b>P-1 Line Item Number / Title:</b> 0962C50700 / Patriot Mods
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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> 0607865A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	3,627.034	536.527	323.228	-	279.464	279.464	192.287	135.857	157.679	93.164	Continuing	Continuing
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	3,627.034	536.527	323.228	-	279.464	279.464	192.287	135.857	157.679	93.164	Continuing	Continuing
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>3,627.034</b>	<b>536.527</b>	<b>323.228</b>	-	<b>279.464</b>	<b>279.464</b>	<b>192.287</b>	<b>135.857</b>	<b>157.679</b>	<b>93.164</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> )	-	6,028.393	8,506.000	-	14,708.632	14,708.632	19,228.700	-	-	-	Continuing	Continuing

**Description:**

FY 2020 funding totals include \$0.0M for Base and \$279.464M for Overseas Contingency Operations (OCO); of which \$279.464M is realigned as part of the OCO for Base Requirements. FY 2020 OCO for Base Requirements is OCO funding for base budget requirements in support of the National Defense Strategy. The Budget requests these funds in OCO to comply with the base budget defense caps included in the Budget Control Act of 2011.

The PATRIOT Mods program implements critical capability, readiness and sustainability modifications to the weapon system and maintains Integrated Logistics Support. Required modifications are identified through various means to include: validated requirement documents such as the Capability Production Document (CPD), Capabilities Development Document (CDD), and the Operational Needs Statement (ONS); material changes supported by improved operational effectiveness as identified in the PATRIOT Product Improvement Program (PIP); material deficiencies identified in the field; obsolescence issues; emerging technologies; software improvements related to warfighter machine and crew interface requirements and communication upgrades.

PATRIOT Mods funding supports Reliability, Availability, and Maintainability (RAM) Mods; Recapitalization (RECAP); Dismounted Patriot Information Coordination Central (D-PICC); Battery Command Post/Tactical Command System /Computer Software Module (BCP/TCS/CSM) Mod; the Combined Crypto Modification Phase I (CCMPI) upgrade; the Radar Digital Processor-Configuration (RDP-C) upgrade; PATRIOT Maintenance Trainer (PMT); PATRIOT Multi-Echelon Training (PMET); Reconfigurable Table Top Trainers (RT3); Assured Positioning, Navigation, and Timing (PNT); Test Detachment; Enhanced Launcher Electronic Systems (ELES); SIPRNet/NIPRNet Access Point/Troposcatter (SNAP/TROPO); Digital Sidelobe Canceller (DSLCC); Command Obsolescence Alleviation; 35th Brigade Modification Kits and ADI TPX 57 Obsolescence; MAP/RDP Encryption Compliance; IFF Antenna Redesign; Communications Obsolescence Upgrade; and Report Rocket Classification.

**SYSTEM ACTIVITIES**

RAM modifications provide resolution to field failures which are identified through component analysis, field data collection, obsolescence issues and emerging technologies which are prioritized based on readiness and Operations and Support (O&S) impacts. This effort includes the engineering, acquisition, qualification testing, installation, technical support and training device upgrades associated with modification and design changes which are essential to stabilize the system at the highest readiness posture available and reduction of O&S. Kit quantity is based on expected Engineering Change Proposals (ECPs) to be applied to Major End Items (MEIs). Quantities will be procured at an optimized rate utilizing price advantage created through contract negotiation, other service procurement, and/or foreign military sales into a buy-to-budget procurement strategy.

Recapitalization (RECAP) Modifications include critical upgrades including but not limited to: Family of Medium Tactical Vehicles (FMTV), and Depot Maintenance Plant Equipment (DMPE), Harmonic Generator Kits, Post Deployment Build 8 (PDB-8) S/W & H/W, Cryptographic Modernization Kits, Modern Man Station (MMS), Antenna Mast Group (AMG) Cable upgrades, Electronic Power Plant (EPP) C3 Power

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<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A: Missile Procurement, Army / BA 03: Modification of Missiles / BSA 10: Modifications		<b>P-1 Line Item Number / Title:</b> 0962C50700 / Patriot Mods
<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> 0607865A
<b>Line Item MDAP/MAIS Code:</b> N/A		
<p>Distribution Unit (PDU) kits, Information and Coordination Central (ICC) External Time Reference (ETR) kits, and Cooling Liquid Electron Tube (CLET) kits. These modifications are synchronized within the RECAP program. RECAP is a battalion set, resulting in a more supportable, reliable, and capable unit in the force. Quantity represents 1 battalion a year.</p> <p>Dismounted Patriot Information Coordination Central (D-PICC) effort rehosts tactical Patriot software maintained via engineering services to a smaller, more mobile hardware configuration that will allow flexible, tailorable deployment options by freeing up Battalion level ICC's.</p> <p>Assured Position, Navigation and Timing (PNT) - Purchases integrated Project Manager (PM) PNT M-code capable hardware for integration on Patriot Major End Items (MEI). Effort supports mandated FY2011 National Defense Authorization Act; public law 111-383 Sec. 913.</p> <p>Test Detachment - A manned and equipped unit consisting of various ancillary PATRIOT Ground Support Equipment elements that will assume the testing role and relieve operational units. The Air and Missile Defense (AMD) test detachment is a Table of Distribution and Allowances (TDA) unit consisting of 143 personnel containing a mixture of air defense, communications and maintenance Military Occupational Specialty (MOS) Soldiers which participate in all government developmental tests, missile flight tests, Tactics Techniques and Procedures (TTP) development and operational testing in support of the development, modernization and sustainment of current and future AMD programs. Applied modernization configuration and capability will include funding to support the Radar Digital Processor (RDP), Modern Man Station (MMS), Combined Crypto Modernization Phase-1 (CCMP-1) and Post Deployment Build 8 (PDB-8) enhancements. Use of this detachment to support testing versus tasking operational PATRIOT units allows execution of currently scheduled testing while vastly minimizing the stress on the 15 PATRIOT Battalions in the operational force.</p> <p>35th Brigade Modernization: Modification kits were used in FY17 to support the critical and urgent VCSA initiative that accelerated the 35th Brigade modernization. The effort to procure kits and to modify tactical assets to the C3+ configuration will continue for the remaining PATRIOT Battalions.</p> <p><b>MISSION COMMAND ACTIVITIES</b></p> <p>The Battery Command Post/Tactical Command System/Computer Software Module (BCP/TCS/CSM) effort continues the development of the Capabilities Development Document (CDD) required Battle Management, Command, Control, Communications, Computers, and Intelligence (BMC4I) capability to maintain compatibility with tactical software enhancements, while enhancing and improving the defense design and planning capabilities for the PATRIOT warfighter. This includes systems engineering, software requirements, software design/code/test and independent validation and verification testing. This effort also provides Integrated Logistics Support, required due to the large amount of Commercial Off The Shelf components, of the 62 Battery Command Posts and 17 Tactical Command Systems. Additionally, this effort supports the BCP/TCS/CSM fielding upgrades for each PATRIOT Post Deployment Build updates. Note: Quantities procured and installed in prior years.</p> <p>Combined Crypto Modification Phase I (CCMPI): The planned PATRIOT communications upgrade program is a phased approach leveraging National Security Agency (NSA) mandated crypto updates, user generated requirements, (PATRIOT Data Information Link (PADIL) over IP), Beyond Line of Sight (BLOS) communications, and communications hardware obsolescence mitigation efforts. This approach allows cost efficiencies and better business practices by synergizing these efforts. CCMPI is fully funded and addresses the PAC-3 Capability Production Document (CPD) requirements including the crypto modernization, a limited PADIL over Internet Protocol (IP) capability, and 3011C multi-cast (protocol). CCMPI installs a Black Station Clock Upgrade (BSCU) to allow for increased data rates; the Ruggedized iQ1000 (RIQ) for data processing and IP overlay; and interfaces for soldier provided SIPR/NIPR devices. The CCMPI program also replaces KG-94A/194A encryptors with KIV-7M encryptors.</p> <p>Patriot Multi-Echelon Training (PMET), Reconfigurable Table Top Trainer (RT3): The PATRIOT Weapons System uses tactical equipment and training aids, devices, simulators, and simulations (TADSS) to conduct multi-level training for both operators and maintenance personnel. This includes both hardware devices and software programs utilized to include; the Patriot Maintenance Trainer (PMT), Reconfigurable Table Top Trainer (RT3) and the Patriot Multi-Echelon Training (PMET). The PMT is a new device being developed and planned for fielding to the Air Defense Artillery Schools at Fort Sill, OK. The PMT trains 14E, 140E, 14T, 94S and 948D 6D tasks. It reduces dependency on tactical equipment by merging physical simulators and virtual simulations replicating a realistic training environment. The PMT will have one instructor station, one radar set, one launching station, and an engagement control station. Some components will be actual physical representations of the tactical hardware while other components will be virtually simulated using state of the art gaming technology of P-MET. The two environments will work seamlessly together to simulate the tactical end items. P-MET is a Microsoft Windows based software application utilizing state of the art gaming technology to train U.S. Army personnel in the proper trouble-shooting techniques to repair and maintain the PATRIOT Missile System. P-MET is the Life Cycle Replacement for the PATRIOT Intermediate Maintenance Institutional Trainer (PIMIT) for Intermediate Maintenance training but is also used for Organizational, NET, and even Depot maintenance training. P-MET is used in an institutional, field and depot environment. P-MET is designed and developed to operate on the RT3. The RT3 provides a flexible training platform that may be configured to support multiple training levels and systems, via removable hard drives. In PATRIOT the RT3 is used to</p>		

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<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A: Missile Procurement, Army / BA 03: Modification of Missiles / BSA 10: Modifications		<b>P-1 Line Item Number / Title:</b> 0962C50700 / Patriot Mods
<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> 0607865A
<b>Line Item MDAP/MAIS Code:</b> N/A		
<p>run the PATRIOT tactical embedded training software (re-hosted tactical training software, PATRIOT Conduct of Fire Trainer (PCOFT)) for operations tasks, the P-MET software for maintenance tasks, and the PATRIOT Skills Library (PSL) lessons for both maintenance and operator tasks. Other weapon systems may also use the RT3 platform for training (i.e., C-RAM, THAAD, and JLENS). The RT3 is a Life Cycle Replacement for the PCOFT and the PATRIOT Intermediate Maintenance Institutional Trainer (PIMIT) hardware platforms.</p> <p>SIPRNet/NIPRNet Access Point/Troposcatter (SNAP/TROPO). The SNAP/TROPO program provides units with an organic Beyond Line of Sight (BLOS) capability and completes the 94 AAMDC UMR requirement to support both intra battalion and external battalion communications. Troposcatter terminals allow connectivity between PATRIOT shelters when local terrain or long distances make organic Ultra High Frequency (UHF) Line of Sight (LOS) communications impossible to support fire control quality data exchanges. SNAP terminals allow a PATRIOT shelter without access to any local infrastructure to remotely connect to both SIPRnet and NIPRnet using Ku, Ka, or X band satellites for range extension in response to Operational Need Statements from combatant commands.</p> <p>Command Obsolescence Alleviation supports updates for interoperability and supportability by working obsolescence alleviation and engineering changes.</p> <p>Communications Obsolescence: Task is to replace obsolete PATRIOT communications equipment that is no longer supportable, with modern communications equipment for four PATRIOT Battalions. The fielded PATRIOT communications architecture utilizes obsolete serial technology that is no longer producible or repairable. This process requires modernization at battalion (BN) level to prevent breaking intra-BN communications, addresses the BN specific architecture to facilitate modern external and external communications. These measures will provide an interim solution until transition to AIAMD system architecture is achieved.</p> <p><b>RADAR STATION ACTIVITIES</b> The Radar Digital Processor-Configuration (RDP-C) replaces obsolete digital processors with single rack commercial off-the-shelf based modern processors. Battery Replaceable Units (BRUs) are reduced from 759 to 56 with 13 power supplies and 18 racks removed. Benefits of the RDP-C include improvement in radar reliability, life cycle cost savings, and capability and growth potential through software improvements. The RDP-C modification will enable full AN/TPX-57(v)1 Identification Friend or Foe (IFF) Mode 5 Level 1 and 2 and new Combat Identification capabilities. The enhanced IFF capability allows for expanded target reports from the AN/TPX-57 which will include: National Origin, Platform ID Number (PIN), and GPS position (Level 2). The RDP-C is a prerequisite for migration to an IAMD Netted Sensor. The RDP-C will support efforts to counter emerging threats and growth to the netted sensor concept. This effort includes funding for kits and some spares.</p> <p>Digital Sidelobe Canceller (DSLCL) is an Electronic Counter Measures (ECM) technique used to cancel the interference that is entering the radar via the antenna sidelobes. This is currently being performed using analog hardware in the PATRIOT radar. DSLCL replaces the analog hardware and performs this task digitally in the radars processor. Benefits of the DSLCL include improved Side Lobe Canceller (SLC) Reliability and Maintainability, removal of complicated SLC adjustments, improves radar availability, removes 5 SLC Racks, provides hardware base for improved capability, and eliminates known and future obsolescence in SLC racks.</p> <p>MAP/RDP Encryption Compliance: The operating systems in Modernized Adjunct Processor (MAP) and Radar Digital Processor (RDP) require upgrade and DoD level certification of the encryption algorithms that protect the contained Critical Program Information.</p> <p>The Air Defense Interrogator (ADI) TPX 57 uses an Interrogator Reply Processor (IRP) card that is obsolete. The IRP card does not allow for SW/HW upgrades to the ADI. Once the spares in the field are absorbed the radar will become non mission capable (NMC).</p> <p>IFF Antenna Redesign: IFF antenna elements are not supportable. Upgrade circa 1970's design with new technology to mitigate obsolescence, reduce costs, and improve reliability.</p> <p>Report Rocket Classification: The modern Air and Missile Defense environment contains a wide variety and large quantities of TBM and rocket threats. This task provides situational awareness for operators and allows for greater efficiency in management of interceptor inventories in the complex AMD environment.</p> <p><b>LAUNCHER STATION ACTIVITIES</b> The Enhanced Launcher Electronics System (ELES) modification upgrades a PAC-2 Launcher to a PAC-3 Capability. In addition to the ELES modification kit, last time procurement of obsolete components will occur to support the assured producibility of the ELES.</p>		

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<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2020 Army							<b>Date:</b> March 2019			
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A: Missile Procurement, Army / BA 03: Modification of Missiles / BSA 10: Modifications					<b>P-1 Line Item Number / Title:</b> 0962C50700 / Patriot Mods					
<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> 0607865A				
<b>Line Item MDAP/MAIS Code:</b> N/A										

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	536.527	323.228	0.000	279.464	279.464	192.287	135.857	157.679	93.164
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	-	-	-	-	-	-	-	-	-
	<b>Total Obligation Authority</b>	<b>536.527</b>	<b>323.228</b>	-	<b>279.464</b>	<b>279.464</b>	<b>192.287</b>	<b>135.857</b>	<b>157.679</b>	<b>93.164</b>



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**Exhibit P-40, Budget Line Item Justification:** PB 2020 Army **Date:** March 2019

**Appropriation / Budget Activity / Budget Sub Activity:** 2032A: Missile Procurement, Army / BA 03: Modification of Missiles / BSA 10: Modifications **P-1 Line Item Number / Title:** 0962C50700 / Patriot Mods

**ID Code** (A=Service Ready, B=Not Service Ready): **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0607865A

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

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-3a	C50700 / PATRIOT MODS (Various)				- / 3,627.034	- / 536.527	- / 323.228	- / -	- / 279.464	- / 279.464
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 3,627.034</b>	<b>- / 536.527</b>	<b>- / 323.228</b>	<b>- / -</b>	<b>- / 279.464</b>	<b>- / 279.464</b>

Exhibits Schedule					FY 2021	FY 2022	FY 2023	FY 2024	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	C50700 / PATRIOT MODS (Various)				- / 192.287	- / 135.857	- / 157.679	- / 93.164	Continuing	Continuing
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 192.287</b>	<b>- / 135.857</b>	<b>- / 157.679</b>	<b>- / 93.164</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:**  
 FY2020 procurement dollars in the amount of \$279.464 million support the modifications for Reliability, Availability, and Maintainability Modifications (RAM Mods), Dismounted Patriot Information Coordination Central (D-PICC), Recapitalization (RECAP), Battery Command Post/ Tactical Command System/ Computer Software Module (BCP/TCS/CSM), Enhanced Launcher Electronics System (ELES), SIPRNet/ NIPRNet Access Point/Troposcatter (SNAP/TROPO), PATRIOT Multi-Echelon Training (PMET), Digital Sidelobe Cancellor (DSLCL), Command Obsolescence Alleviation, IFF Antenna Redesign, MAP/RDP Encryption, Report Rocket Classification, Communications Obsolescence, and PATRIOT Maintenance Trainer (PMT) .

Efforts have been and will continue to be made to determine and expedite PATRIOT materiel solutions to both enhance capability and facilitate integration into the Integrated Air and Missile Defense (IAMD) architecture.

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<b>Exhibit P-3a, Individual Modification:</b> PB 2020 Army	<b>Date:</b> March 2019
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<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 03 / 10	<b>P-1 Line Item Number / Title:</b> 0962C50700 / Patriot Mods	<b>Modification Number / Title:</b> C50700 / PATRIOT MODS
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	3,627.034	536.527	323.228	-	279.464	279.464	192.287	135.857	157.679	93.164	Continuing	Continuing
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	3,627.034	536.527	323.228	-	279.464	279.464	192.287	135.857	157.679	93.164	Continuing	Continuing
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>3,627.034</b>	<b>536.527</b>	<b>323.228</b>	<b>-</b>	<b>279.464</b>	<b>279.464</b>	<b>192.287</b>	<b>135.857</b>	<b>157.679</b>	<b>93.164</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> )	-	6,028.393	8,506.000	-	14,708.632	14,708.632	19,228.700	-	-	-	Continuing	Continuing

**Description:**

The PATRIOT weapon system modernization program implements modifications to the weapon system and maintains Integrated Logistics Support. Required modifications are identified through various means, including the following: validated requirements documents such as Capability Production Documents and Operational Needs Statements; material changes identified in the PATRIOT Product Improvement Program (PIP); material deficiencies identified in the field; obsolescence issues; emerging technologies; software improvements; crew interface and communications upgrades.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	536.527	323.228	0.000	279.464	279.464	192.287	135.857	157.679	93.164
<b>Total:</b>									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	536.527	323.228	-	279.464	279.464	192.287	135.857	157.679	93.164

**UNCLASSIFIED**

<b>Exhibit P-3a, Individual Modification: PB 2020 Army</b>											<b>Date: March 2019</b>		
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 03 / 10				<b>P-1 Line Item Number / Title:</b> 0962C50700 / Patriot Mods				<b>Modification Number / Title:</b> C50700 / PATRIOT MODS					
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :							<b>MDAP/MAIS Code:</b>						
<b>Models of Systems Affected:</b> Various				<b>Modification Type:</b> Various				<b>Related RDT&amp;E PEs:</b>					
Financial Plan	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total	
	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 23: Dismounted Information coordination Central</b>													
B Kits													
Non-Recurring													
Dismounted Information Coordination Cent	- / -	1 / 10.000	1 / 10.000	0 / 0.000	1 / 10.346	1 / 10.346	- / -	- / -	- / -	- / -	Continuing	Continuing	
<b>Subtotal: Non-Recurring</b>	- / -	1 / 10.000	1 / 10.000	- / -	1 / 10.346	1 / 10.346	- / -	- / -	- / -	- / -	Continuing	Continuing	
<b>Subtotal: Dismounted Information coordination Central</b>	- / -	1 / 10.000	1 / 10.000	- / 0.000	1 / 10.346	1 / 10.346	- / -	- / -	- / -	- / -	Continuing	Continuing	
<b>Modification Item 2 of 23: RAM Mods</b>													
A Kits													
Recurring													
Kit Quantity	6,563 / 666.820	130 / 20.593	126 / 20.791	0 / 0.000	144 / 24.573	144 / 24.573	153 / 23.846	146 / 18.530	141 / 19.995	140 / 17.759	Continuing	Continuing	
Training	- / 174.658	- / 15.601	- / 15.749	- / 0.000	- / 16.650	- / 16.650	- / 16.656	- / 16.294	- / 17.419	- / 17.620	Continuing	Continuing	
Training Equipment	- / 126.314	- / 3.113	- / 3.151	- / 0.000	- / 3.331	- / 3.331	- / 3.332	- / 3.460	- / 3.485	- / 4.000	Continuing	Continuing	
Support Equipment	- / 146.099	- / 8.116	- / 8.189	- / 0.000	- / 8.657	- / 8.657	- / 8.661	- / 8.993	- / 9.058	- / 9.085	Continuing	Continuing	
Fielding Support and NET	- / 82.391	- / 13.729	- / 13.860	- / 0.000	- / 14.652	- / 14.652	- / 14.658	- / 14.719	- / 15.329	- / 15.500	Continuing	Continuing	
Integrated Logistics Support	- / 10.771	- / 1.257	- / 1.260	- / 0.000	- / 1.332	- / 1.332	- / 1.332	- / 1.383	- / 1.393	- / 1.400	Continuing	Continuing	
<b>Subtotal: Recurring</b>	6,563 / 907.053	130 / 62.409	126 / 63.000	- / -	144 / 69.195	144 / 69.195	153 / 68.485	146 / 63.379	141 / 66.679	140 / 65.364	Continuing	Continuing	
<b>Subtotal: RAM Mods</b>	6,563 / 907.053	130 / 62.409	126 / 63.000	- / 0.000	144 / 69.195	144 / 69.195	153 / 68.485	146 / 63.379	141 / 66.679	140 / 65.364	Continuing	Continuing	
<b>Modification Item 3 of 23: Recapitalization</b>													
A Kits													
Recurring													
Kit Quantity	14 / 233.750	1 / 12.650	1 / 13.100	0 / 0.000	1 / 14.101	1 / 14.101	1 / 14.104	1 / 14.300	1 / 14.300	1 / 12.300	Continuing	Continuing	
Integrated Logistics Support	- / 17.308	- / 1.650	- / 1.100	- / 0.000	- / 1.100	- / 1.100	- / 1.100	- / 1.200	- / 1.200	- / 1.200	Continuing	Continuing	
<b>Subtotal: Recurring</b>	14 / 251.058	1 / 14.300	1 / 14.200	- / -	1 / 15.201	1 / 15.201	1 / 15.204	1 / 15.500	1 / 15.500	1 / 13.500	Continuing	Continuing	
<b>Subtotal: Recapitalization</b>	14 / 251.058	1 / 14.300	1 / 14.200	- / 0.000	1 / 15.201	1 / 15.201	1 / 15.204	1 / 15.500	1 / 15.500	1 / 13.500	Continuing	Continuing	
<b>Modification Item 4 of 23: BCP/TCS/CSM</b>													
A Kits													
Recurring													
Engineering Change Orders	- / 2.845	- / 0.770	- / 0.770	- / 0.000	- / 0.770	- / 0.770	- / 0.770	- / 0.770	- / 0.770	- / 0.770	Continuing	Continuing	
Fielding Support	- / 4.959	- / 0.980	- / 0.980	- / 0.000	- / 0.980	- / 0.980	- / 0.980	- / 0.980	- / 0.980	- / 0.980	Continuing	Continuing	
Obsolescence/Tech Refresh	- / 1.013	- / 0.280	- / 0.280	- / 0.000	- / 0.280	- / 0.280	- / 0.280	- / 0.280	- / 0.280	- / 0.280	Continuing	Continuing	

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<b>Exhibit P-3a, Individual Modification: PB 2020 Army</b>										<b>Date: March 2019</b>			
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 03 / 10					<b>P-1 Line Item Number / Title:</b> 0962C50700 / Patriot Mods					<b>Modification Number / Title:</b> C50700 / PATRIOT MODS			
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :							<b>MDAP/MAIS Code:</b>						
<b>Models of Systems Affected:</b> Various				<b>Modification Type:</b> Various				<b>Related RDT&amp;E PEs:</b>					
Financial Plan	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total	
	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)	
Software/Systems Engineering	- 130.030	- 10.980	- 10.980	- 10.000	- 10.980	- 10.980	- 10.980	- 10.980	- 10.980	- 10.980	Continuing	Continuing	
Integrated Logistics Support	- 146.200	- 13.990	- 13.990	- 10.000	- 13.990	- 13.990	- 13.990	- 13.990	- 13.990	- 12.990	Continuing	Continuing	
<b>Subtotal: Recurring</b>	<b>- 185.047</b>	<b>- 17.000</b>	<b>- 17.000</b>	<b>- / -</b>	<b>- 17.000</b>	<b>- 17.000</b>	<b>- 17.000</b>	<b>- 17.000</b>	<b>- 17.000</b>	<b>- 17.000</b>	<b>Continuing</b>	<b>Continuing</b>	
Non-Recurring													
BCP Kit Quantity	62 / 29.435	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- 10.000	62 / 29.435	
TCS Kit Quantity	17 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- 10.000	17 / 0.000	
<b>Subtotal: Non-Recurring</b>	<b>79 / 29.435</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>79 / 29.435</b>	
<b>Subtotal: BCP/TCS/CSM</b>	<b>79 / 114.482</b>	<b>- 17.000</b>	<b>- 17.000</b>	<b>- 10.000</b>	<b>- 17.000</b>	<b>- 17.000</b>	<b>- 17.000</b>	<b>- 17.000</b>	<b>- 17.000</b>	<b>- 17.000</b>	<b>Continuing</b>	<b>Continuing</b>	
<b>Modification Item 5 of 23: Combined Crypto Modification Phase I (CCMPI)</b>													
A Kits													
Recurring													
Kit Quantity	150 / 48.970	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- 10.000	150 / 48.970	
Kit Quantity (GFE)	- 11.072	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- 10.000	- 11.072	
<b>Subtotal: Recurring</b>	<b>150 / 50.042</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>150 / 50.042</b>	
Non-Recurring													
Training	- 10.396	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- 10.000	- 10.396	
<b>Subtotal: Non-Recurring</b>	<b>- 10.396</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- 10.396</b>	
<b>Subtotal: Combined Crypto Modification Phase I (CCMPI)</b>	<b>150 / 50.438</b>	<b>- / -</b>	<b>- / -</b>	<b>- 10.000</b>	<b>- / -</b>	<b>- 10.000</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>150 / 50.438</b>	
<b>Modification Item 6 of 23: Radar Digital Processor - Configuration (RDP-C)</b>													
A Kits													
Recurring													
Kit Quantity	80 / 240.766	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- 10.000	80 / 240.766	
Fielding	- 18.000	- 14.000	- 12.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- 10.000	- 14.000	
Support Equipment	- 136.942	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- 10.000	- 136.942	
<b>Subtotal: Recurring</b>	<b>80 / 285.708</b>	<b>- 14.000</b>	<b>- 12.000</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>80 / 291.708</b>	
<b>Subtotal: Radar Digital Processor - Configuration (RDP-C)</b>	<b>80 / 285.708</b>	<b>- 14.000</b>	<b>- 12.000</b>	<b>- 10.000</b>	<b>- / -</b>	<b>- 10.000</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>80 / 291.708</b>	
<b>Modification Item 7 of 23: Air Defense Artillery School Upgrades/ TADSS</b>													
A Kits													

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<b>Exhibit P-3a, Individual Modification: PB 2020 Army</b>										<b>Date: March 2019</b>		
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 03 / 10				<b>P-1 Line Item Number / Title:</b> 0962C50700 / Patriot Mods						<b>Modification Number / Title:</b> C50700 / PATRIOT MODS		
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :							<b>MDAP/MAIS Code:</b>					
<b>Models of Systems Affected:</b> Various				<b>Modification Type:</b> Various				<b>Related RDT&amp;E PEs:</b>				
Financial Plan	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
	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)
Recurring												
Radar Kit Quantity	4 / 96.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	4 / 96.000
<b>Subtotal: Recurring</b>	4 / 96.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	4 / 96.000
<b>Subtotal: Air Defense Artillery School Upgrades/ TADSS</b>	4 / 96.000	- / -	- / -	- / 0.000	- / -	- / 0.000	- / -	- / -	- / -	- / -	- / -	4 / 96.000
<b>Modification Item 8 of 23: Modern Manstation (MMS)</b>												
A Kits												
Recurring												
Fielding	- / 17.825	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 17.825
Support Equipment	- / 156.567	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 156.567
<b>Subtotal: Recurring</b>	- / 164.392	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 164.392
Non-Recurring												
Kit Quantity	82 / 55.842	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	82 / 55.842
<b>Subtotal: Non-Recurring</b>	82 / 55.842	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	82 / 55.842
<b>Subtotal: Modern Manstation (MMS)</b>	82 / 120.234	- / -	- / -	- / 0.000	- / -	- / 0.000	- / -	- / -	- / -	- / -	- / -	82 / 120.234
<b>Modification Item 9 of 23: Enhanced Launcher Electronics System (ELES)</b>												
A Kits												
Recurring												
Kit Quantity	219 / 67.304	89 / 286.623	38 / 145.278	0 / 0.000	19 / 73.939	19 / 73.939	10 / 40.717	- / -	- / -	- / -	- / 0.000	375 / 613.861
<b>Subtotal: Recurring</b>	219 / 67.304	89 / 286.623	38 / 145.278	- / -	19 / 73.939	19 / 73.939	10 / 40.717	- / -	- / -	- / -	- / -	375 / 613.861
<b>Subtotal: Enhanced Launcher Electronics System (ELES)</b>	219 / 67.304	89 / 286.623	38 / 145.278	- / 0.000	19 / 73.939	19 / 73.939	10 / 40.717	- / -	- / -	- / -	- / -	375 / 613.861
<b>Modification Item 10 of 23: SNAP/TROPO</b>												
A Kits												
Recurring												
Kit Quantity SNAP	6 / 0.830	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	6 / 0.830
Support	- / 4.696	- / 1.115	- / 1.115	- / 0.000	- / 1.115	- / 1.115	- / -	- / -	- / -	- / -	- / 0.000	- / 8.041
Integrated Logistics Support	- / 2.094	- / 0.633	- / 0.633	- / 0.000	- / 0.633	- / 0.633	- / -	- / -	- / -	- / -	- / 0.000	- / 3.993
Training	- / 0.169	- / 0.002	- / 0.002	- / 0.000	- / 0.002	- / 0.002	- / -	- / -	- / -	- / -	- / 0.000	- / 0.175
Equipment	- / 0.859	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 0.859
<b>Subtotal: Recurring</b>	6 / 8.648	- / 1.750	- / 1.750	- / -	- / 1.750	- / 1.750	- / -	- / -	- / -	- / -	- / -	6 / 13.898
Non-Recurring												

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<b>Exhibit P-3a, Individual Modification: PB 2020 Army</b>										<b>Date: March 2019</b>			
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 03 / 10					<b>P-1 Line Item Number / Title:</b> 0962C50700 / Patriot Mods					<b>Modification Number / Title:</b> C50700 / PATRIOT MODS			
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :							<b>MDAP/MAIS Code:</b>						
<b>Models of Systems Affected:</b> Various				<b>Modification Type:</b> Various				<b>Related RDT&amp;E PEs:</b>					
Financial Plan	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total	
	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)	
Kit Quantity TROPO	26 / 12.884	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	26 / 12.884	
<i>Subtotal: Non-Recurring</i>	26 / 12.884	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	26 / 12.884	
<i>Subtotal: SNAP/TROPO</i>	32 / 21.532	- / 1.750	- / 1.750	- / 0.000	- / 1.750	- / 1.750	- / -	- / -	- / -	- / -	- / -	32 / 26.782	
<b>Modification Item 11 of 23: PATRIOT Maintenance Trainer (PMT)</b>													
A Kits													
Recurring													
Kit Quantity	2 / 30.941	2 / 42.000	- / 15.000	0 / 0.000	1 / 19.500	1 / 19.500	- / -	- / -	- / -	- / -	- / 0.000	5 / 107.441	
<i>Subtotal: Recurring</i>	2 / 30.941	2 / 42.000	- / 15.000	- / -	1 / 19.500	1 / 19.500	- / -	- / -	- / -	- / -	- / -	5 / 107.441	
Non-Recurring													
Training Support	- / 14.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 14.000	
<i>Subtotal: Non-Recurring</i>	- / 14.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 14.000	
<i>Subtotal: PATRIOT Maintenance Trainer (PMT)</i>	2 / 34.941	2 / 42.000	- / 15.000	- / 0.000	1 / 19.500	1 / 19.500	- / -	- / -	- / -	- / -	- / -	5 / 111.441	
<b>Modification Item 12 of 23: PATRIOT Multi-Echelon Training (PMET)</b>													
A Kits													
Recurring													
Kit Quantity	12 / 16.180	4 / 5.000	4 / 5.000	0 / 0.000	4 / 7.000	4 / 7.000	4 / 7.000	4 / 7.000	4 / 7.000	4 / 7.000	Continuing	Continuing	
<i>Subtotal: Recurring</i>	12 / 16.180	4 / 5.000	4 / 5.000	- / -	4 / 7.000	4 / 7.000	4 / 7.000	4 / 7.000	4 / 7.000	4 / 7.000	Continuing	Continuing	
<i>Subtotal: PATRIOT Multi-Echelon Training (PMET)</i>	12 / 16.180	4 / 5.000	4 / 5.000	- / 0.000	4 / 7.000	4 / 7.000	4 / 7.000	4 / 7.000	4 / 7.000	4 / 7.000	Continuing	Continuing	
<b>Modification Item 13 of 23: Reconfigurable Table Top Trainers (RT3)</b>													
A Kits													
Recurring													
Kit Quantity	326 / 21.338	163 / 10.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	489 / 31.338	
<i>Subtotal: Recurring</i>	326 / 21.338	163 / 10.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	489 / 31.338	
<i>Subtotal: Reconfigurable Table Top Trainers (RT3)</i>	326 / 21.338	163 / 10.000	- / -	- / 0.000	- / -	- / 0.000	- / -	- / -	- / -	- / -	- / -	489 / 31.338	
<b>Modification Item 14 of 23: Assured PNT</b>													
A Kits													
Recurring													
Hardware Integration	798 / 3.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	798 / 3.000	
<i>Subtotal: Recurring</i>	798 / 3.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	798 / 3.000	

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<b>Exhibit P-3a, Individual Modification: PB 2020 Army</b>										<b>Date:</b> March 2019		
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 03 / 10					<b>P-1 Line Item Number / Title:</b> 0962C50700 / Patriot Mods					<b>Modification Number / Title:</b> C50700 / PATRIOT MODS		
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :							<b>MDAP/MAIS Code:</b>					
<b>Models of Systems Affected:</b> Various				<b>Modification Type:</b> Various				<b>Related RDT&amp;E PEs:</b>				
Financial Plan	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
	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)
<i>Subtotal: Assured PNT</i>	798 / 3.000	- / -	- / -	- / 0.000	- / -	- / 0.000	- / -	- / -	- / -	- / -	- / -	798 / 3.000
<b>Modification Item 15 of 23:</b> Test Detachment												
A Kits												
Recurring												
Equipment	1 / 49.409	- / 6.591	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	1 / 56.000
<i>Subtotal: Recurring</i>	1 / 49.409	- / 6.591	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / 56.000
<i>Subtotal: Test Detachment</i>	1 / 49.409	- / 6.591	- / -	- / 0.000	- / -	- / 0.000	- / -	- / -	- / -	- / -	- / -	1 / 56.000
<b>Modification Item 16 of 23:</b> Digital Sidelobe Canceller (DSLCL)												
A Kits												
Recurring												
Kit Quantity	5 / 12.900	38 / 83.254	28 / 56.800	0 / 0.000	10 / 27.428	10 / 27.428	- / -	- / -	- / -	- / -	- / 0.000	81 / 180.382
<i>Subtotal: Recurring</i>	5 / 12.900	38 / 83.254	28 / 56.800	- / -	10 / 27.428	10 / 27.428	- / -	- / -	- / -	- / -	- / -	81 / 180.382
<i>Subtotal: Digital Sidelobe Canceller (DSLCL)</i>	5 / 12.900	38 / 83.254	28 / 56.800	- / 0.000	10 / 27.428	10 / 27.428	- / -	- / -	- / -	- / -	- / -	81 / 180.382
<b>Modification Item 17 of 23:</b> Command Obsolescence Alleviation												
A Kits												
Recurring												
Command Obsolescence Alleviation	- / 3.000	- / 2.000	- / 2.000	- / 0.000	- / 1.989	- / 1.989	- / -	- / -	- / -	- / -	- / 0.000	- / 8.989
<i>Subtotal: Recurring</i>	- / 3.000	- / 2.000	- / 2.000	- / -	- / 1.989	- / 1.989	- / -	- / -	- / -	- / -	- / -	- / 8.989
<i>Subtotal: Command Obsolescence Alleviation</i>	- / 3.000	- / 2.000	- / 2.000	- / 0.000	- / 1.989	- / 1.989	- / -	- / -	- / -	- / -	- / -	- / 8.989
<b>Modification Item 18 of 23:</b> Communications Obsolescence												
A Kits												
Non-Recurring												
Kits	- / -	- / -	- / -	0 / 0.000	1 / 20.906	1 / 20.906	1 / 30.685	1 / 35.678	1 / 29.000	- / -	- / 0.000	4 / 116.269
<i>Subtotal: Non-Recurring</i>	- / -	- / -	- / -	- / -	1 / 20.906	1 / 20.906	1 / 30.685	1 / 35.678	1 / 29.000	- / -	- / -	4 / 116.269
<i>Subtotal: Communications Obsolescence</i>	- / -	- / -	- / -	- / 0.000	1 / 20.906	1 / 20.906	1 / 30.685	1 / 35.678	1 / 29.000	- / -	- / -	4 / 116.269
<b>Modification Item 19 of 23:</b> 35th Brigade Modification Kits												
A Kits												
Non-Recurring												

**UNCLASSIFIED**

<b>Exhibit P-3a, Individual Modification: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 03 / 10	<b>P-1 Line Item Number / Title:</b> 0962C50700 / Patriot Mods	<b>Modification Number / Title:</b> C50700 / PATRIOT MODS

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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<b>Models of Systems Affected:</b> Various	<b>Modification Type:</b> Various	<b>Related RDT&amp;E PEs:</b>
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Financial Plan	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
	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)
Modification Kits	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	56 / 15.200	- / -	- / 0.000	56 / 15.200
<i>Subtotal: Non-Recurring</i>	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	56 / 15.200	- / -	- / -	56 / 15.200
<i>Subtotal: 35th Brigade Modification Kits</i>	- / -	- / -	- / -	- / 0.000	- / -	- / 0.000	- / -	- / -	56 / 15.200	- / -	- / -	56 / 15.200
<b>Modification Item 20 of 23:</b> ADI TPX 57 Obsolescence												
A Kits												
Non-Recurring												
ADI TPX	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	169 / 8.000	- / -	- / 0.000	169 / 8.000
<i>Subtotal: Non-Recurring</i>	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	169 / 8.000	- / -	- / -	169 / 8.000
<i>Subtotal: ADI TPX 57 Obsolescence</i>	- / -	- / -	- / -	- / 0.000	- / -	- / 0.000	- / -	- / -	169 / 8.000	- / -	- / -	169 / 8.000
<b>Modification Item 21 of 23:</b> MAP/RDP Encryption Compliance												
A Kits												
Non-Recurring												
Certification	- / -	- / -	- / -	- / 0.000	- / 11.999	- / 11.999	- / 11.996	- / -	- / -	- / -	- / 0.000	- / 23.995
<i>Subtotal: Non-Recurring</i>	- / -	- / -	- / -	- / -	- / 11.999	- / 11.999	- / 11.996	- / -	- / -	- / -	- / -	- / 23.995
<i>Subtotal: MAP/RDP Encryption Compliance</i>	- / -	- / -	- / -	- / 0.000	- / 11.999	- / 11.999	- / 11.996	- / -	- / -	- / -	- / -	- / 23.995
<b>Modification Item 22 of 23:</b> IFF Antenna Redesign												
A Kits												
Non-Recurring												
Kits	- / -	- / -	- / -	0 / 0.000	18 / 8.000	18 / 8.000	9 / 4.000	- / -	- / -	- / -	- / 0.000	27 / 12.000
<i>Subtotal: Non-Recurring</i>	- / -	- / -	- / -	- / -	18 / 8.000	18 / 8.000	9 / 4.000	- / -	- / -	- / -	- / -	27 / 12.000
<i>Subtotal: IFF Antenna Redesign</i>	- / -	- / -	- / -	- / 0.000	18 / 8.000	18 / 8.000	9 / 4.000	- / -	- / -	- / -	- / -	27 / 12.000
<b>Modification Item 23 of 23:</b> Report Rocket Classification												
A Kits												
Non-Recurring												
Kits	- / -	- / -	- / -	- / 0.000	- / 14.011	- / 14.011	- / 16.000	- / 16.000	- / 8.000	- / -	- / 0.000	- / 24.011
<i>Subtotal: Non-Recurring</i>	- / -	- / -	- / -	- / -	- / 14.011	- / 14.011	- / 16.000	- / 16.000	- / 8.000	- / -	- / -	- / 24.011
<i>Subtotal: Report Rocket Classification</i>	- / -	- / -	- / -	- / 0.000	- / 14.011	- / 14.011	- / 16.000	- / 16.000	- / 8.000	- / -	- / -	- / 24.011
<i>Subtotal: Procurement, All Modification Items</i>	8,367 / 2,054.577	428 / 534.927	198 / 322.028	- / -	199 / 278.264	199 / 278.264	178 / 191.087	152 / 134.557	372 / 156.379	145 / 91.864	Continuing	Continuing

<b>Installation</b>
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**UNCLASSIFIED**

<b>Exhibit P-3a, Individual Modification: PB 2020 Army</b>		<b>Date: March 2019</b>
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 03 / 10	<b>P-1 Line Item Number / Title:</b> 0962C50700 / Patriot Mods	<b>Modification Number / Title:</b> C50700 / PATRIOT MODS

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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<b>Models of Systems Affected:</b> Various	<b>Modification Type:</b> Various	<b>Related RDT&amp;E PEs:</b>
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Financial Plan	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
	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 2 of 23:</b> RAM Mods	6,534 / 151.613	120 / 0.000	130 / 0.000	- / -	137 / 0.000	137 / 0.000	149 / 0.000	149 / 0.000	144 / 0.000	140 / 0.000	6,605 / 0.000	14,108 / 151.613
<b>Modification Item 3 of 23:</b> Recapitalization	14 / 226.730	1 / 1.100	1 / 1.200	- / -	1 / 1.200	1 / 1.200	1 / 1.200	1 / 1.300	1 / 1.300	1 / 1.300	11 / 0.000	32 / 235.330
<b>Modification Item 4 of 23:</b> BCP/TCS/CSM	79 / 1,192.582	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	79 / 1,192.582
<b>Modification Item 5 of 23:</b> Combined Crypto Modification Phase I (CCMPI)	112 / 1.532	38 / 0.500	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	150 / 2.032
<i>Subtotal: Installation</i>	6,739 / 1,572.457	159 / 1.600	131 / 1.200	- / -	138 / 1.200	138 / 1.200	150 / 1.200	150 / 1.300	145 / 1.300	141 / 1.300	6,616 / 0.000	14,369 / 1,581.557
<b>Total</b>												
<b>Total Cost (Procurement + Support + Installation)</b>	<b>3,627.034</b>	<b>536.527</b>	<b>323.228</b>	<b>-</b>	<b>279.464</b>	<b>279.464</b>	<b>192.287</b>	<b>135.857</b>	<b>157.679</b>	<b>93.164</b>	<b>Continuing</b>	<b>Continuing</b>

**UNCLASSIFIED**

<b>Exhibit P-3a, Individual Modification:</b> PB 2020 Army					<b>Date:</b> March 2019		
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 03 / 10			<b>P-1 Line Item Number / Title:</b> 0962C50700 / Patriot Mods			<b>Modification Number / Title:</b> C50700 / PATRIOT MODS	
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :					<b>MDAP/MAIS Code:</b>		
<b>Modification Item 1 of 23:</b> Dismounted Information coordination Central							
<b>Manufacturer Information</b>							
Manufacturer Name: N/A				Manufacturer Location: N/A			
Administrative Leadtime (in Months):				Production Leadtime (in Months):			
<b>Dates</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
Contract Dates							
Delivery Dates							
<b>Installation Information</b>							
<b>Method of Implementation (Organic):</b> Engineering Services (Included in unit cost)					<b>Installation Quantity:</b> 0		

**UNCLASSIFIED**

<b>Exhibit P-3a, Individual Modification: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 03 / 10	<b>P-1 Line Item Number / Title:</b> 0962C50700 / Patriot Mods	<b>Modification Number / Title:</b> C50700 / PATRIOT MODS

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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**Modification Item 2 of 23:** RAM Mods

**Manufacturer Information**

Manufacturer Name: Raytheon	Manufacturer Location: Andover, MA
Administrative Leadtime (in Months): 2	Production Leadtime (in Months): 14

Dates	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Contract Dates	Dec 2017	Dec 2018	Dec 2019	Dec 2020	Dec 2021	Dec 2022	Dec 2023
Delivery Dates	Feb 2019	Feb 2020	Feb 2021	Feb 2022	Feb 2023	Feb 2024	Feb 2025

**Installation Information**

**Method of Implementation:** Lead Logistics Fielding Team (Included in unit cost)

Installation Cost	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
	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	6,534 / 151.613	54 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	6,588 / 151.613
FY 2018	0 / 0.000	66 / 0.000	64 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	130 / 0.000
FY 2019	0 / 0.000	- / -	66 / 0.000	0 / 0.000	65 / 0.000	65 / 0.000	- / -	- / -	- / -	- / -	- / -	131 / 0.000
FY 2020	0 / 0.000	- / -	- / -	0 / 0.000	72 / 0.000	72 / 0.000	72 / 0.000	- / -	- / -	- / -	- / -	144 / 0.000
FY 2021	0 / 0.000	- / -	- / -	- / -	- / -	- / -	77 / 0.000	76 / 0.000	- / -	- / -	- / -	153 / 0.000
FY 2022	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	73 / 0.000	73 / 0.000	- / -	- / -	146 / 0.000
FY 2023	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	71 / 0.000	70 / 0.000	- / -	141 / 0.000
FY 2024	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	70 / 0.000	70 / 0.000	140 / 0.000
To Complete	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	6,535 / 0.000	6,535 / 0.000
Total	6,534 / 151.613	120 / 0.000	130 / 0.000	- / -	137 / 0.000	137 / 0.000	149 / 0.000	149 / 0.000	144 / 0.000	140 / 0.000	6,605 / 0.000	14,108 / 151.613

**Installation Schedule**

	PYS	FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				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	6,668	27	33	32	32	32	33	33	33	32	32	32	31	31	41	41	40	40	37	36	36	36	37	37	37	35	35	35	36	6,614	14,254
Out	6,604	27	27	33	32	32	32	33	33	33	32	32	32	31	31	41	41	40	40	37	36	36	36	37	37	35	35	35	36	6,688	14,254

**UNCLASSIFIED**

**Exhibit P-3a, Individual Modification: PB 2020 Army** **Date:** March 2019

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 03 / 10	<b>P-1 Line Item Number / Title:</b> 0962C50700 / Patriot Mods	<b>Modification Number / Title:</b> C50700 / PATRIOT MODS
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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**Modification Item 3 of 23:** Recapitalization

**Manufacturer Information**

Manufacturer Name: Various	Manufacturer Location: Various
Administrative Leadtime (in Months): 6	Production Leadtime (in Months): 12

Dates	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Contract Dates	Apr 2018	Apr 2019	Apr 2020	Apr 2021	Apr 2022	Apr 2023	Apr 2024
Delivery Dates	Apr 2019	Apr 2020	Apr 2021	Apr 2022	Apr 2023	Apr 2024	Apr 2025

**Installation Information**

**Method of Implementation:** Depot, PM Office, contractor team (Included in unit cost)

Installation Cost	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
	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	14 / 226.730	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	14 / 226.730
FY 2018	- / -	1 / 1.100	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / 1.100
FY 2019	- / -	- / -	1 / 1.200	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / 1.200
FY 2020	- / -	- / -	- / -	0 / 0.000	1 / 1.200	1 / 1.200	- / -	- / -	- / -	- / -	- / -	1 / 1.200
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	1 / 1.200	- / -	- / -	- / -	- / -	1 / 1.200
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / 1.300	- / -	- / -	- / -	1 / 1.300
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / 1.300	- / -	- / -	1 / 1.300
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / 1.300	- / -	1 / 1.300
To Complete	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	11 / 0.000	11 / 0.000
<b>Total</b>	14 / 226.730	1 / 1.100	1 / 1.200	- / -	1 / 1.200	1 / 1.200	1 / 1.200	1 / 1.300	1 / 1.300	1 / 1.300	11 / 0.000	32 / 235.330

**Installation Schedule**

	PYS	FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				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	14	-	-	1	-	-	-	-	1	-	-	-	-	1	-	-	-	-	1	-	-	-	-	1	-	-	-	-	1	-	11	32
Out	13	-	1	-	-	-	1	-	-	-	-	1	-	-	-	-	1	-	-	-	-	1	-	-	-	-	1	-	-	-	12	32

**UNCLASSIFIED**

<b>Exhibit P-3a, Individual Modification: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 03 / 10	<b>P-1 Line Item Number / Title:</b> 0962C50700 / Patriot Mods	<b>Modification Number / Title:</b> C50700 / PATRIOT MODS

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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**Modification Item 4 of 23:** BCP/TCS/CSM

**Manufacturer Information**

Manufacturer Name: Various      Manufacturer Location: Various

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

Dates	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Contract Dates							
Delivery Dates							

**Installation Information**

**Method of Implementation:** Various (Included in unit cost)

Installation Cost	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
	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	79 / 1,192.582	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	79 / 1,192.582
FY 2018	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
FY 2019	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
FY 2020	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
FY 2021	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
FY 2022	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
FY 2023	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
FY 2024	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
To Complete	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
Total	79 / 1,192.582	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	79 / 1,192.582

**Installation Schedule**

	PYS	FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				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	79	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Out	79	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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**Exhibit P-3a, Individual Modification: PB 2020 Army** **Date:** March 2019

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 03 / 10	<b>P-1 Line Item Number / Title:</b> 0962C50700 / Patriot Mods	<b>Modification Number / Title:</b> C50700 / PATRIOT MODS
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**ID Code** (A=Service Ready, B=Not Service Ready) : **MDAP/MAIS Code:**

**Modification Item 5 of 23:** Combined Crypto Modification Phase I (CCMPI)

**Manufacturer Information**

Manufacturer Name: OGA	Manufacturer Location: N/A
Administrative Leadtime (in Months): 3	Production Leadtime (in Months): 12

Dates	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Contract Dates							
Delivery Dates							

**Installation Information**

**Method of Implementation:** LEAD Logistics Fielding Team (Included in unit cost)

Installation Cost	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
	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	112 / 1.532	38 / 0.500	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	150 / 2.032
FY 2018	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
FY 2019	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
FY 2020	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
FY 2021	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
FY 2022	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
FY 2023	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
FY 2024	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
To Complete	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
<b>Total</b>	<b>112 / 1.532</b>	<b>38 / 0.500</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>150 / 2.032</b>

**Installation Schedule**

	PYS	FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				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	150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	150
Out	112	19	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	150

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<b>Exhibit P-3a, Individual Modification:</b> PB 2020 Army					<b>Date:</b> March 2019		
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 03 / 10			<b>P-1 Line Item Number / Title:</b> 0962C50700 / Patriot Mods			<b>Modification Number / Title:</b> C50700 / PATRIOT MODS	
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :					<b>MDAP/MAIS Code:</b>		
<b>Modification Item 6 of 23:</b> Radar Digital Processor - Configuration (RDP-C)							
<b>Manufacturer Information</b>							
Manufacturer Name: Raytheon				Manufacturer Location: Andover, MA			
Administrative Leadtime (in Months): 8				Production Leadtime (in Months): 20			
<b>Dates</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
Contract Dates							
Delivery Dates							
<b>Installation Information</b>							
<b>Method of Implementation (Organic):</b> Depot, PM Office, contractor team (Included in unit cost)					<b>Installation Quantity:</b> 0		

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<b>Exhibit P-3a, Individual Modification:</b> PB 2020 Army						<b>Date:</b> March 2019	
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 03 / 10			<b>P-1 Line Item Number / Title:</b> 0962C50700 / Patriot Mods			<b>Modification Number / Title:</b> C50700 / PATRIOT MODS	
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :					<b>MDAP/MAIS Code:</b>		
<b>Modification Item 7 of 23:</b> Air Defense Artillery School Upgrades/ TADSS							
<b>Manufacturer Information</b>							
Manufacturer Name: PM Office, contractor team				Manufacturer Location: Various			
Administrative Leadtime (in Months): 6				Production Leadtime (in Months): 18			
<b>Dates</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
Contract Dates							
Delivery Dates							
<b>Installation Information</b>							
<b>Method of Implementation (Organic):</b> PM fielding team					<b>Installation Quantity:</b> 0		



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<b>Exhibit P-3a, Individual Modification:</b> PB 2020 Army					<b>Date:</b> March 2019		
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 03 / 10			<b>P-1 Line Item Number / Title:</b> 0962C50700 / Patriot Mods			<b>Modification Number / Title:</b> C50700 / PATRIOT MODS	
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :					<b>MDAP/MAIS Code:</b>		
<b>Modification Item 8 of 23:</b> Modern Manstation (MMS)							
<b>Manufacturer Information</b>							
Manufacturer Name: Raytheon				Manufacturer Location: Andover, MA			
Administrative Leadtime (in Months): 6				Production Leadtime (in Months): 15			
<b>Dates</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
Contract Dates							
Delivery Dates							
<b>Installation Information</b>							
<b>Method of Implementation (Organic):</b> Various (Included in unit cost)					<b>Installation Quantity:</b> 0		

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<b>Exhibit P-3a, Individual Modification:</b> PB 2020 Army						<b>Date:</b> March 2019	
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 03 / 10			<b>P-1 Line Item Number / Title:</b> 0962C50700 / Patriot Mods			<b>Modification Number / Title:</b> C50700 / PATRIOT MODS	
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :					<b>MDAP/MAIS Code:</b>		
<b>Modification Item 9 of 23:</b> Enhanced Launcher Electronics System (ELES)							
<b>Manufacturer Information</b>							
Manufacturer Name: Various				Manufacturer Location: Various			
Administrative Leadtime (in Months): 3				Production Leadtime (in Months): 18			
<b>Dates</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
Contract Dates	Dec 2017	Dec 2018	Dec 2019	Dec 2020	Dec 2021	Dec 2022	
Delivery Dates	Jun 2019	Jun 2020	Jun 2021	Jun 2022	Jun 2023	Jun 2024	
<b>Installation Information</b>							
<b>Method of Implementation (Organic):</b> Fielding Team (Included in unit cost)					<b>Installation Quantity:</b> 0		

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<b>Exhibit P-3a, Individual Modification:</b> PB 2020 Army					<b>Date:</b> March 2019		
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 03 / 10			<b>P-1 Line Item Number / Title:</b> 0962C50700 / Patriot Mods			<b>Modification Number / Title:</b> C50700 / PATRIOT MODS	
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :					<b>MDAP/MAIS Code:</b>		
<b>Modification Item 10 of 23:</b> SNAP/TROPO							
<b>Manufacturer Information</b>							
Manufacturer Name: TeleCommunication Systems (TCS)				Manufacturer Location: Tampa, FL			
Administrative Leadtime (in Months): 1				Production Leadtime (in Months): 9			
<b>Dates</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
Contract Dates							
Delivery Dates							
<b>Installation Information</b>							
<b>Method of Implementation (Organic):</b> Depot, PM, contractor team					<b>Installation Quantity:</b> 0		

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<b>Exhibit P-3a, Individual Modification:</b> PB 2020 Army					<b>Date:</b> March 2019		
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 03 / 10			<b>P-1 Line Item Number / Title:</b> 0962C50700 / Patriot Mods		<b>Modification Number / Title:</b> C50700 / PATRIOT MODS		
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :				<b>MDAP/MAIS Code:</b>			
<b>Modification Item 11 of 23:</b> PATRIOT Maintenance Trainer (PMT)							
<b>Manufacturer Information</b>							
Manufacturer Name: Raytheon				Manufacturer Location: Tewksbury, MA			
Administrative Leadtime (in Months): 4				Production Leadtime (in Months): 4			
<b>Dates</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
Contract Dates	Feb 2018			Feb 2021			
Delivery Dates	Jun 2018			Jun 2021			
<b>Installation Information</b>							
<b>Method of Implementation (Organic):</b> PM Office, Contractor Team					<b>Installation Quantity:</b> 0		

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<b>Exhibit P-3a, Individual Modification:</b> PB 2020 Army						<b>Date:</b> March 2019	
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 03 / 10			<b>P-1 Line Item Number / Title:</b> 0962C50700 / Patriot Mods			<b>Modification Number / Title:</b> C50700 / PATRIOT MODS	
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :					<b>MDAP/MAIS Code:</b>		
<b>Modification Item 12 of 23:</b> PATRIOT Multi-Echelon Training (PMET)							
<b>Manufacturer Information</b>							
Manufacturer Name: Raytheon				Manufacturer Location: Tewksbury, MA			
Administrative Leadtime (in Months): 4				Production Leadtime (in Months): 4			
<b>Dates</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
Contract Dates	Feb 2018	Feb 2019	Feb 2020	Feb 2021	Feb 2022	Feb 2023	Feb 2024
Delivery Dates	May 2018	May 2019	May 2020	May 2021	May 2022	May 2023	May 2024
<b>Installation Information</b>							
<b>Method of Implementation (Organic):</b> PM Office, Contractor Team (Included in unit cost)						<b>Installation Quantity:</b> 0	

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<b>Exhibit P-3a, Individual Modification:</b> PB 2020 Army						<b>Date:</b> March 2019	
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 03 / 10			<b>P-1 Line Item Number / Title:</b> 0962C50700 / Patriot Mods			<b>Modification Number / Title:</b> C50700 / PATRIOT MODS	
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :					<b>MDAP/MAIS Code:</b>		
<b>Modification Item 13 of 23:</b> Reconfigurable Table Top Trainers (RT3)							
<b>Manufacturer Information</b>							
Manufacturer Name: Raytheon				Manufacturer Location: Tewksbury, MA			
Administrative Leadtime (in Months): 3				Production Leadtime (in Months): 9			
<b>Dates</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
Contract Dates		Dec 2018					
Delivery Dates		Oct 2019					
<b>Installation Information</b>							
<b>Method of Implementation (Organic):</b> PM Office, Contractor Team (Included in unit cost)						<b>Installation Quantity:</b> 0	

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<b>Exhibit P-3a, Individual Modification:</b> PB 2020 Army						<b>Date:</b> March 2019	
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 03 / 10			<b>P-1 Line Item Number / Title:</b> 0962C50700 / Patriot Mods			<b>Modification Number / Title:</b> C50700 / PATRIOT MODS	
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :					<b>MDAP/MAIS Code:</b>		
<b>Modification Item 14 of 23:</b> Assured PNT							
<b>Manufacturer Information</b>							
Manufacturer Name: Raytheon				Manufacturer Location: Tewksbury, MA			
Administrative Leadtime (in Months): 4				Production Leadtime (in Months): 14			
<b>Dates</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
Contract Dates							
Delivery Dates							
<b>Installation Information</b>							
<b>Method of Implementation (Organic):</b> Logistics Fielding Team (Included in unit cost)					<b>Installation Quantity:</b> 0		

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<b>Exhibit P-3a, Individual Modification:</b> PB 2020 Army						<b>Date:</b> March 2019	
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 03 / 10			<b>P-1 Line Item Number / Title:</b> 0962C50700 / Patriot Mods			<b>Modification Number / Title:</b> C50700 / PATRIOT MODS	
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :					<b>MDAP/MAIS Code:</b>		
<b>Modification Item 15 of 23:</b> Test Detachment							
<b>Manufacturer Information</b>							
Manufacturer Name: Various				Manufacturer Location: Various			
Administrative Leadtime (in Months): 4				Production Leadtime (in Months): 8			
<b>Dates</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
Contract Dates							
Delivery Dates							
<b>Installation Information</b>							
<b>Method of Implementation (Organic):</b> WSMR PM owned test bed personnel					<b>Installation Quantity:</b> 0		



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<b>Exhibit P-3a, Individual Modification:</b> PB 2020 Army					<b>Date:</b> March 2019		
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 03 / 10			<b>P-1 Line Item Number / Title:</b> 0962C50700 / Patriot Mods			<b>Modification Number / Title:</b> C50700 / PATRIOT MODS	
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :					<b>MDAP/MAIS Code:</b>		
<b>Modification Item 16 of 23:</b> Digital Sidelobe Cancellor (DSLCL)							
<b>Manufacturer Information</b>							
Manufacturer Name: Raytheon				Manufacturer Location: Tewksbury, MA			
Administrative Leadtime (in Months): 3				Production Leadtime (in Months): 18			
<b>Dates</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
Contract Dates	Jan 2018	Jan 2019	Jan 2020				
Delivery Dates	Jul 2019	Jul 2020	Jul 2021				
<b>Installation Information</b>							
<b>Method of Implementation (Organic):</b> Depot, PM Office, Contractor Team (Included in unit cost)					<b>Installation Quantity:</b> 0		

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<b>Exhibit P-3a, Individual Modification:</b> PB 2020 Army						<b>Date:</b> March 2019	
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 03 / 10			<b>P-1 Line Item Number / Title:</b> 0962C50700 / Patriot Mods			<b>Modification Number / Title:</b> C50700 / PATRIOT MODS	
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :					<b>MDAP/MAIS Code:</b>		
<b>Modification Item 17 of 23:</b> Command Obsolescence Alleviation							
<b>Manufacturer Information</b>							
Manufacturer Name: Various				Manufacturer Location: Various			
Administrative Leadtime (in Months): 8				Production Leadtime (in Months): 5			
<b>Dates</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
Contract Dates							
Delivery Dates							
<b>Installation Information</b>							
<b>Method of Implementation (Organic):</b> PM Office, Contractor Team (Included in unit cost)					<b>Installation Quantity:</b> 0		

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<b>Exhibit P-3a, Individual Modification:</b> PB 2020 Army					<b>Date:</b> March 2019		
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 03 / 10			<b>P-1 Line Item Number / Title:</b> 0962C50700 / Patriot Mods			<b>Modification Number / Title:</b> C50700 / PATRIOT MODS	
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :					<b>MDAP/MAIS Code:</b>		
<b>Modification Item 18 of 23:</b> Communications Obsolescence							
<b>Manufacturer Information</b>							
Manufacturer Name: Raytheon				Manufacturer Location: Andover, MA			
Administrative Leadtime (in Months): 3				Production Leadtime (in Months): 5			
<b>Dates</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
Contract Dates				Jan 2021	Jan 2022	Jan 2023	Jan 2024
Delivery Dates				Jun 2021	Jun 2022	Jun 2023	Jun 2024
<b>Installation Information</b>							
<b>Method of Implementation (Organic):</b> TBD					<b>Installation Quantity:</b> 0		

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<b>Exhibit P-3a, Individual Modification:</b> PB 2020 Army					<b>Date:</b> March 2019		
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 03 / 10			<b>P-1 Line Item Number / Title:</b> 0962C50700 / Patriot Mods			<b>Modification Number / Title:</b> C50700 / PATRIOT MODS	
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :					<b>MDAP/MAIS Code:</b>		
<b>Modification Item 19 of 23:</b> 35th Brigade Modification Kits							
<b>Manufacturer Information</b>							
Manufacturer Name: TBD				Manufacturer Location: TBD			
Administrative Leadtime (in Months):				Production Leadtime (in Months):			
<b>Dates</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
Contract Dates							
Delivery Dates							
<b>Installation Information</b>							
<b>Method of Implementation (Organic):</b> TBD					<b>Installation Quantity:</b> 0		

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<b>Exhibit P-3a, Individual Modification:</b> PB 2020 Army					<b>Date:</b> March 2019		
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 03 / 10			<b>P-1 Line Item Number / Title:</b> 0962C50700 / Patriot Mods			<b>Modification Number / Title:</b> C50700 / PATRIOT MODS	
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :					<b>MDAP/MAIS Code:</b>		
<b>Modification Item 20 of 23:</b> ADI TPX 57 Obsolescence							
<b>Manufacturer Information</b>							
Manufacturer Name: TBD				Manufacturer Location: TBD			
Administrative Leadtime (in Months):				Production Leadtime (in Months):			
<b>Dates</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
Contract Dates							
Delivery Dates							
<b>Installation Information</b>							
<b>Method of Implementation (Organic):</b> TBD					<b>Installation Quantity:</b> 0		

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<b>Exhibit P-3a, Individual Modification:</b> PB 2020 Army					<b>Date:</b> March 2019		
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 03 / 10			<b>P-1 Line Item Number / Title:</b> 0962C50700 / Patriot Mods			<b>Modification Number / Title:</b> C50700 / PATRIOT MODS	
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :					<b>MDAP/MAIS Code:</b>		
<b>Modification Item 21 of 23:</b> MAP/RDP Encryption Compliance							
<b>Manufacturer Information</b>							
Manufacturer Name: Raytheon				Manufacturer Location: Andover, MA			
Administrative Leadtime (in Months): 4				Production Leadtime (in Months): 5			
<b>Dates</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
Contract Dates			Jan 2020	Jan 2021			
Delivery Dates			Jun 2020	Jun 2021			
<b>Installation Information</b>							
<b>Method of Implementation (Organic):</b> Contractor Team (Included in unit cost), PM Fielding Team					<b>Installation Quantity:</b> 0		

**UNCLASSIFIED**

<b>Exhibit P-3a, Individual Modification:</b> PB 2020 Army					<b>Date:</b> March 2019		
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 03 / 10			<b>P-1 Line Item Number / Title:</b> 0962C50700 / Patriot Mods		<b>Modification Number / Title:</b> C50700 / PATRIOT MODS		
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :				<b>MDAP/MAIS Code:</b>			
<b>Modification Item 22 of 23:</b> IFF Antenna Redesign							
<b>Manufacturer Information</b>							
Manufacturer Name: Raytheon				Manufacturer Location: Andover, MA			
Administrative Leadtime (in Months): 4				Production Leadtime (in Months):			
<b>Dates</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
Contract Dates			Jan 2020	Jan 2021			
Delivery Dates			Feb 2021	Feb 2022			
<b>Installation Information</b>							
<b>Method of Implementation (Organic):</b> PM Fielding Team (Included in Fielding cost)					<b>Installation Quantity:</b> 0		

**UNCLASSIFIED**

<b>Exhibit P-3a, Individual Modification:</b> PB 2020 Army						<b>Date:</b> March 2019	
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 03 / 10			<b>P-1 Line Item Number / Title:</b> 0962C50700 / Patriot Mods			<b>Modification Number / Title:</b> C50700 / PATRIOT MODS	
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :					<b>MDAP/MAIS Code:</b>		
<b>Modification Item 23 of 23:</b> Report Rocket Classification							
<b>Manufacturer Information</b>							
Manufacturer Name: Raytheon				Manufacturer Location: Andover, MA			
Administrative Leadtime ( <i>in Months</i> ): 4				Production Leadtime ( <i>in Months</i> ): 5			
<b>Dates</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
Contract Dates			Jan 2020	Jan 2021	Jan 2022	Jan 2023	
Delivery Dates			Jun 2020	Jun 2021	Jun 2022	Jun 2023	
<b>Installation Information</b>							
<b>Method of Implementation (Organic):</b> PM Fielding Team (Included in Fielding cost)						<b>Installation Quantity:</b> 0	



**UNCLASSIFIED**

**Exhibit P-40, Budget Line Item Justification:** PB 2020 Army **Date:** March 2019

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A: Missile Procurement, Army / BA 03: Modification of Missiles / BSA 10: Modifications	<b>P-1 Line Item Number / Title:</b> 1823CA6700 / ATACMS MODS
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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> 0203802A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	186.062	337.440	397.236	-	85.320	85.320	282.791	233.510	105.500	106.555	-	1,734.414
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	186.062	337.440	397.236	-	85.320	85.320	282.791	233.510	105.500	106.555	-	1,734.414
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>186.062</b>	<b>337.440</b>	<b>397.236</b>	-	<b>85.320</b>	<b>85.320</b>	<b>282.791</b>	<b>233.510</b>	<b>105.500</b>	<b>106.555</b>	-	<b>1,734.414</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> )	1,200.400	1,054.500	1,273.192	-	1,066.500	1,066.500	1,824.458	1,122.644	-	-	-	1,410.093

**Description:**

FY 2020 funding totals include \$0.0M for Base and \$85.320M for Overseas Contingency Operations (OCO); of which \$85.320M and 80 quantity is realigned as part of the OCO for Base Requirements. FY 2020 OCO for Base Requirements is OCO funding for base budget requirements in support of the National Defense Strategy. The Budget requests these funds in OCO to comply with the base budget defense caps included in the Budget Control Act of 2011.

Army Tactical Missile System (ATACMS) is the United States (U.S.) Army's primary 24/7, all weather, and surface-to-surface artillery precision missile used by current and future Combatant Commanders to shape the battle field with long-range fires against hard and soft stationary targets in open, complex, and urban environments.

This is the follow-on procurement to the integration and testing program funded under Program Element (PE) 0203802A.

Block (BLK) I/IA missiles are aging beyond their service life and have warheads (WHs) that are non-compliant with the Department of Defense (DoD) cluster munitions (CM) policy. A modification is being performed as a Service Life Extension Program (SLEP) and will take expired assets and reset them to a 10 year service life. This effort will replace the existing M74 bomblets with a policy compliant WH, update electronics and propellants. This effort effectively brings the expired inventory back into service, while meeting the DoD CM Policy, to engage targets up to 300 kilometers (km). A Height-of-Burst capability is expected to be introduced under this modification pending test program results under PE 0203802A.

ATACMS modifications will be performed by Lockheed Martin Missiles and Fire Control, Grand Prairie, TX.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	337.440	397.236	0.000	85.320	85.320	282.791	233.510	105.500	106.555
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	-	-	-	-	-	-	-	-	-
	<b>Total Obligation Authority</b>	<b>337.440</b>	<b>397.236</b>	-	<b>85.320</b>	<b>85.320</b>	<b>282.791</b>	<b>233.510</b>	<b>105.500</b>	<b>106.555</b>

**UNCLASSIFIED**

**Exhibit P-40, Budget Line Item Justification:** PB 2020 Army **Date:** March 2019

**Appropriation / Budget Activity / Budget Sub Activity:**  
2032A: Missile Procurement, Army / BA 03: Modification of Missiles / BSA 10: Modifications

**P-1 Line Item Number / Title:**  
1823CA6700 / ATACMS MODS

**ID Code** (A=Service Ready, B=Not Service Ready): **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0203802A

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

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-3a	CA6700 / Army Tactical Missile System (ATACMS) Modifications (Unclassified)				- / 186.062	- / 337.440	- / 397.236	- / -	- / 85.320	- / 85.320
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 186.062</b>	<b>- / 337.440</b>	<b>- / 397.236</b>	<b>- / -</b>	<b>- / 85.320</b>	<b>- / 85.320</b>

  

Exhibits Schedule					FY 2021	FY 2022	FY 2023	FY 2024	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	CA6700 / Army Tactical Missile System (ATACMS) Modifications (Unclassified)				- / 282.791	- / 233.510	- / 105.500	- / 106.555	- / -	- / 1,734.414
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 282.791</b>	<b>- / 233.510</b>	<b>- / 105.500</b>	<b>- / 106.555</b>	<b>- / -</b>	<b>- / 1,734.414</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 2020 Overseas Contingency Operations (OCO) procurement dollars in the amount of \$85.320 million supports the modification of up to 80 expired ATACMS to reset the 10 year service life. Additional supporting tasks include bunker storage, Follow-on Production Testing (FPT), Stockpile Reliability Program (SRP), rate tooling, Government System Engineering/Program Management (SEPM), obsolescence, and software.

Modification costs in FY 2020 include components, installation costs, and checkout in the unit price at the time of contract award.

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 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 03 / 10	<b>P-1 Line Item Number / Title:</b> 1823CA6700 / ATACMS MODS	<b>Modification Number / Title:</b> CA6700 / Army Tactical Missile System (ATACMS) Modifications

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	186.062	337.440	397.236	-	85.320	85.320	282.791	233.510	105.500	106.555	-	1,734.414
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	186.062	337.440	397.236	-	85.320	85.320	282.791	233.510	105.500	106.555	-	1,734.414
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>186.062</b>	<b>337.440</b>	<b>397.236</b>	-	<b>85.320</b>	<b>85.320</b>	<b>282.791</b>	<b>233.510</b>	<b>105.500</b>	<b>106.555</b>	-	<b>1,734.414</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> )	1,200.400	1,054.500	1,273.192	-	1,066.500	1,066.500	1,824.458	1,122.644	-	-	-	1,410.093

**Description:**

Block (BLK) I/IA missiles are aging beyond their service life and have warheads (WHs) that are non-compliant with the Department of Defense (DoD) cluster munitions (CM) policy. A modification is being performed as a Service Life Extension Program (SLEP) and will take expired assets and reset them to a 10 year service life. This effort will replace the existing M74 bomblets with a policy compliant WH, update electronics and propellants. This effort effectively brings the expired inventory back into service, while meeting the DoD CM Policy, to engage targets up to 300 kilometers (km). A Height-of-Burst capability is expected to be introduced under this modification pending test program results under PE 0203802A.

ATACMS modifications will be performed by Lockheed Martin Missiles and Fire Control, Grand Prairie, TX.

Modification costs in FY 2020 include components, installation costs, and checkout in the unit price at the time of contract award.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	337.440	397.236	0.000	85.320	85.320	282.791	233.510	105.500	106.555
<b>Total:</b>									
<b>Secondary Distribution</b>									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	337.440	397.236	-	85.320	85.320	282.791	233.510	105.500	106.555

**UNCLASSIFIED**

<b>Exhibit P-3a, Individual Modification: PB 2020 Army</b>										<b>Date: March 2019</b>			
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 03 / 10					<b>P-1 Line Item Number / Title:</b> 1823CA6700 / ATACMS MODS					<b>Modification Number / Title:</b> CA6700 / Army Tactical Missile System (ATACMS) Modifications			
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :							<b>MDAP/MAIS Code:</b>						
<b>Models of Systems Affected:</b> ATACMS				<b>Modification Type:</b> Unclassified				<b>Related RDT&amp;E PEs:</b>					
Financial Plan	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total	
	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>													
<i>Modification Item 1 of 1: CM Compliant Warhead</i>													
A Kits													
Recurring													
Kit Quantity	160 / 127.418	300 / 246.955	320 / 331.582	0 / 0.000	80 / 60.764	80 / 60.764	242 / 225.351	208 / 177.845	87 / 78.080	88 / 78.380	- / 0.000	1,485 / 1,326.375	
Project Management Admin	- / 18.278	- / 28.394	- / 28.663	- / 0.000	- / 11.848	- / 11.848	- / 24.055	- / 21.974	- / 13.112	- / 13.452	- / 0.000	- / 159.776	
<i>Subtotal: Recurring</i>	<i>160 / 145.696</i>	<i>300 / 275.349</i>	<i>320 / 360.245</i>	<i>- / -</i>	<i>80 / 72.612</i>	<i>80 / 72.612</i>	<i>242 / 249.406</i>	<i>208 / 199.819</i>	<i>87 / 91.192</i>	<i>88 / 91.832</i>	<i>- / -</i>	<i>1,485 / 1,486.151</i>	
Non-Recurring													
Other Non-Recurring	- / 22.031	- / 24.219	- / 15.068	- / 0.000	- / 12.290	- / 12.290	- / 19.230	- / 6.015	- / 2.549	- / 2.619	- / 0.000	- / 84.021	
<i>Subtotal: Non-Recurring</i>	<i>- / 22.031</i>	<i>- / 24.219</i>	<i>- / 15.068</i>	<i>- / -</i>	<i>- / 12.290</i>	<i>- / 12.290</i>	<i>- / 19.230</i>	<i>- / 6.015</i>	<i>- / 2.549</i>	<i>- / 2.619</i>	<i>- / -</i>	<i>- / 84.021</i>	
<i>Subtotal: CM Compliant Warhead</i>	<i>160 / 167.727</i>	<i>300 / 299.568</i>	<i>320 / 375.313</i>	<i>- / 0.000</i>	<i>80 / 74.902</i>	<i>80 / 74.902</i>	<i>242 / 258.636</i>	<i>208 / 205.834</i>	<i>87 / 93.741</i>	<i>88 / 94.451</i>	<i>- / -</i>	<i>1,485 / 1,570.172</i>	
<i>Subtotal: Procurement, All Modification Items</i>	<i>160 / 167.727</i>	<i>300 / 299.568</i>	<i>320 / 375.313</i>	<i>- / -</i>	<i>80 / 74.902</i>	<i>80 / 74.902</i>	<i>242 / 258.636</i>	<i>208 / 205.834</i>	<i>87 / 93.741</i>	<i>88 / 94.451</i>	<i>- / -</i>	<i>1,485 / 1,570.172</i>	
<b>Installation</b>													
<i>Modification Item 1 of 1: CM Compliant Warhead</i>	160 / 18.335	300 / 37.872	320 / 21.923	- / -	80 / 10.418	80 / 10.418	242 / 24.155	208 / 27.676	87 / 11.759	88 / 12.104	- / -	1,485 / 164.242	
<i>Subtotal: Installation</i>	<i>160 / 18.335</i>	<i>300 / 37.872</i>	<i>320 / 21.923</i>	<i>- / -</i>	<i>80 / 10.418</i>	<i>80 / 10.418</i>	<i>242 / 24.155</i>	<i>208 / 27.676</i>	<i>87 / 11.759</i>	<i>88 / 12.104</i>	<i>- / -</i>	<i>1,485 / 164.242</i>	
<b>Total</b>													
<b>Total Cost (Procurement + Support + Installation)</b>	<b>186.062</b>	<b>337.440</b>	<b>397.236</b>	<b>-</b>	<b>85.320</b>	<b>85.320</b>	<b>282.791</b>	<b>233.510</b>	<b>105.500</b>	<b>106.555</b>	<b>-</b>	<b>1,734.414</b>	

**UNCLASSIFIED**

<b>Exhibit P-3a, Individual Modification: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 03 / 10	<b>P-1 Line Item Number / Title:</b> 1823CA6700 / ATACMS MODS	<b>Modification Number / Title:</b> CA6700 / Army Tactical Missile System (ATACMS) Modifications

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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**Modification Item 1 of 1:** CM Compliant Warhead

**Manufacturer Information**

Manufacturer Name: Lockheed Martin	Manufacturer Location: Camden, AR
Administrative Leadtime (in Months): 3	Production Leadtime (in Months): 15

Dates	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Contract Dates	Jun 2018	Mar 2019	Mar 2020	Mar 2021	Mar 2022	Mar 2023	Mar 2024
Delivery Dates	Dec 2019	Sep 2020	Sep 2021	Sep 2022	Sep 2023	Sep 2024	Sep 2025

**Installation Information**

**Method of Implementation:** TBD

Installation Cost	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
	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	160 / 18.335	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	160 / 18.335
FY 2018	- / -	300 / 37.872	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	300 / 37.872
FY 2019	- / -	- / -	320 / 21.923	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	320 / 21.923
FY 2020	- / -	- / -	- / -	0 / 0.000	80 / 10.418	80 / 10.418	- / -	- / -	- / -	- / -	- / -	80 / 10.418
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	242 / 24.155	- / -	- / -	- / -	- / -	242 / 24.155
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	208 / 27.676	- / -	- / -	- / -	208 / 27.676
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	87 / 11.759	- / -	- / -	87 / 11.759
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	88 / 12.104	- / -	88 / 12.104
To Complete	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
Total	160 / 18.335	300 / 37.872	320 / 21.923	- / -	80 / 10.418	80 / 10.418	242 / 24.155	208 / 27.676	87 / 11.759	88 / 12.104	- / -	1,485 / 164.242

**Installation Schedule**

	PYS	FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				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	160	-	-	300	-	-	320	-	-	-	80	-	-	-	242	-	-	-	208	-	-	-	87	-	-	-	88	-	-	-	-	1,485
Out	-	-	-	-	-	40	40	40	115	75	75	155	80	80	80	20	20	20	20	60	60	61	61	52	52	52	52	22	153	1,485		

**UNCLASSIFIED**

**Exhibit P-40, Budget Line Item Justification:** PB 2020 Army **Date:** March 2019

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A: Missile Procurement, Army / BA 03: Modification of Missiles / BSA 10: Modifications	<b>P-1 Line Item Number / Title:</b> 1824C57701 / GMLRS MOD
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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 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	5.716	0.531	0.266	-	5.094	5.094	42.514	95.058	69.154	72.728	Continuing	Continuing
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	5.716	0.531	0.266	-	5.094	5.094	42.514	95.058	69.154	72.728	Continuing	Continuing
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>5.716</b>	<b>0.531</b>	<b>0.266</b>	<b>-</b>	<b>5.094</b>	<b>5.094</b>	<b>42.514</b>	<b>95.058</b>	<b>69.154</b>	<b>72.728</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> )	-	531.000	266.000	-	363.857	363.857	107.359	112.628	109.594	118.065	Continuing	Continuing

**Description:**

FY 2020 funding totals include \$0.0M for Base and \$5.094M for Overseas Contingency Operations (OCO); of which \$5.094M is realigned as part of the OCO for Base Requirements. FY 2020 OCO for Base Requirements is OCO funding for base budget requirements in support of the National Defense Strategy. The Budget requests these funds in OCO to comply with the base budget defense caps included in the Budget Control Act of 2011.

This modification effort will execute the inventory requirements established in the Total Munitions Requirement (TMR) and will reset the 10 year rocket service life of Guided Multiple Launch Rocket system (GMLRS) rockets into either GMLRS Unitary or GMLRS Alternative Warhead (AW) configurations. It capitalizes on the 90% commonality between GMLRS Unitary and AW variants. The conversion process will include replacement of obsolete guidance sets, proper warhead configuration, and other critical components.

GMLRS rockets are surface-to-surface artillery rockets fired from the Multiple Launch Rocket System (MLRS) and High Mobility Artillery Rocket System (HIMARS) launchers. GMLRS rockets provide 24/7, all-weather precision fires to engage both area and point targets at short, medium, and long ranges.

The GMLRS Program currently consists of multiple variants: GMLRS Dual Purpose Improved Conventional Munition (DPICM) is a cluster munition that replaced the shorter range MLRS rockets to engage area or imprecisely located targets. GMLRS DPICM Production was terminated in response to the June 2008 Department of Defense (DoD) Cluster Munitions Policy. GMLRS Unitary utilizes a 200 pound high explosive warhead to engage point targets with limited collateral damage. GMLRS Alternative Warhead (AW) was developed as a non-cluster munition to engage the same target sets as DPICM. GMLRS Unitary and AW are currently in full rate production.

The U.S. Army manages all three variants as part of the GMLRS Program. This modification program along with all GMLRS rockets are produced on a common production line by Lockheed Martin in Camden, Arkansas.

	Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	0.531	0.266	0.000	5.094	5.094	42.514	95.058	69.154	72.728

**UNCLASSIFIED**

**Exhibit P-40, Budget Line Item Justification:** PB 2020 Army **Date:** March 2019

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A: Missile Procurement, Army / BA 03: Modification of Missiles / BSA 10: Modifications	<b>P-1 Line Item Number / Title:</b> 1824C57701 / GMLRS MOD
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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

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
<b>Total:</b>	Quantity	-	-	-	-	-	-	-	-	-
<b>Secondary Distribution</b>	Total Obligation Authority	0.531	0.266	-	5.094	5.094	42.514	95.058	69.154	72.728

**UNCLASSIFIED**

<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2020 Army					<b>Date:</b> March 2019				
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A: Missile Procurement, Army / BA 03: Modification of Missiles / BSA 10: Modifications					<b>P-1 Line Item Number / Title:</b> 1824C57701 / GMLRS MOD				

<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

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-3a	C57701 / Guided Multiple Launch Rocket System (GMLRS) Unitary Modification (Unclassified)				- / 5.716	- / 0.531	- / 0.266	- / -	- / 5.094	- / 5.094
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 5.716</b>	<b>- / 0.531</b>	<b>- / 0.266</b>	<b>- / -</b>	<b>- / 5.094</b>	<b>- / 5.094</b>
Exhibits Schedule					FY 2021	FY 2022	FY 2023	FY 2024	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	C57701 / Guided Multiple Launch Rocket System (GMLRS) Unitary Modification (Unclassified)				- / 42.514	- / 95.058	- / 69.154	- / 72.728	Continuing	Continuing
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 42.514</b>	<b>- / 95.058</b>	<b>- / 69.154</b>	<b>- / 72.728</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:**  
FY2020 OCO procurement dollars in the amount of \$5.094 million support a production pathfinder effort to develop and document a process for conversion of existing GMLRS Unitary rockets to AW rockets.



**UNCLASSIFIED**

<b>Exhibit P-3a, Individual Modification:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 03 / 10	<b>P-1 Line Item Number / Title:</b> 1824C57701 / GMLRS MOD	<b>Modification Number / Title:</b> C57701 / Guided Multiple Launch Rocket System (GMLRS) Unitary Modification

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	5.716	0.531	0.266	-	5.094	5.094	42.514	95.058	69.154	72.728	Continuing	Continuing
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	5.716	0.531	0.266	-	5.094	5.094	42.514	95.058	69.154	72.728	Continuing	Continuing
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>5.716</b>	<b>0.531</b>	<b>0.266</b>	-	<b>5.094</b>	<b>5.094</b>	<b>42.514</b>	<b>95.058</b>	<b>69.154</b>	<b>72.728</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> )	-	531.000	266.000	-	363.857	363.857	107.359	112.628	109.594	118.065	Continuing	Continuing

**Description:**

Guided Multiple Launch Rocket System (GMLRS) Weapon System Modification Program implements modifications to the weapon system. Required modifications are identified through various means, including CPD, TAMR, Operational Needs Statement, materiel deficiencies identified in the field, obsolescence issues, emerging technologies, Crew recommendations, and software upgrades/improvements.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	0.531	0.266	0.000	5.094	5.094	42.514	95.058	69.154	72.728
<b>Total:</b>									
<b>Secondary Distribution</b>									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	<b>0.531</b>	<b>0.266</b>	-	<b>5.094</b>	<b>5.094</b>	<b>42.514</b>	<b>95.058</b>	<b>69.154</b>	<b>72.728</b>

**UNCLASSIFIED**

<b>Exhibit P-3a, Individual Modification: PB 2020 Army</b>											<b>Date:</b> March 2019		
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 03 / 10				<b>P-1 Line Item Number / Title:</b> 1824C57701 / GMLRS MOD				<b>Modification Number / Title:</b> C57701 / Guided Multiple Launch Rocket System (GMLRS) Unitary Modification					
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :							<b>MDAP/MAIS Code:</b>						
<b>Models of Systems Affected:</b> TBD				<b>Modification Type:</b> Unclassified				<b>Related RDT&amp;E PEs:</b>					
Financial Plan	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total	
	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>													
<i>Modification Item 1 of 1: GMLRS UNITARY/AW Conversion</i>													
A Kits													
Recurring													
Kit Quantity	- / -	- / -	- / -	0 / 0.000	14 / 3.768	14 / 3.768	396 / 34.370	844 / 81.506	631 / 58.227	616 / 61.760	Continuing	Continuing	
Production Verification Testing	- / 0.395	- / 0.531	- / 0.266	- / 0.000	- / 1.173	- / 1.173	- / 3.728	- / 3.953	- / 3.607	- / 3.679	Continuing	Continuing	
Facilitization	- / 5.321	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	Continuing	Continuing	
<i>Subtotal: Recurring</i>	- / 5.716	- / 0.531	- / 0.266	- / -	14 / 4.941	14 / 4.941	396 / 38.098	844 / 85.459	631 / 61.834	616 / 65.439	Continuing	Continuing	
<i>Subtotal: GMLRS UNITARY/AW Conversion</i>	- / 5.716	- / 0.531	- / 0.266	- / 0.000	14 / 4.941	14 / 4.941	396 / 38.098	844 / 85.459	631 / 61.834	616 / 65.439	Continuing	Continuing	
<i>Subtotal: Procurement, All Modification Items</i>	- / 5.716	- / 0.531	- / 0.266	- / -	14 / 4.941	14 / 4.941	396 / 38.098	844 / 85.459	631 / 61.834	616 / 65.439	Continuing	Continuing	
<b>Installation</b>													
<i>Modification Item 1 of 1: GMLRS UNITARY/AW Conversion</i>													
	- / -	- / -	- / -	- / -	14 / 0.153	14 / 0.153	396 / 4.416	844 / 9.599	631 / 7.320	616 / 7.289	- / -	2,501 / 28.777	
<i>Subtotal: Installation</i>	- / -	- / -	- / -	- / -	14 / 0.153	14 / 0.153	396 / 4.416	844 / 9.599	631 / 7.320	616 / 7.289	- / -	2,501 / 28.777	
<b>Total</b>													
<b>Total Cost (Procurement + Support + Installation)</b>	<b>5.716</b>	<b>0.531</b>	<b>0.266</b>	<b>-</b>	<b>5.094</b>	<b>5.094</b>	<b>42.514</b>	<b>95.058</b>	<b>69.154</b>	<b>72.728</b>	<b>Continuing</b>	<b>Continuing</b>	

**UNCLASSIFIED**

<b>Exhibit P-3a, Individual Modification: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 03 / 10	<b>P-1 Line Item Number / Title:</b> 1824C57701 / GMLRS MOD	<b>Modification Number / Title:</b> C57701 / Guided Multiple Launch Rocket System (GMLRS) Unitary Modification

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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**Modification Item 1 of 1:** GMLRS UNITARY/AW Conversion

**Manufacturer Information**

Manufacturer Name: Lockheed Martin	Manufacturer Location: Camden, AR
Administrative Leadtime (in Months): 3	Production Leadtime (in Months): 17

Dates	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Contract Dates			Dec 2019	Dec 2020	Dec 2021	Dec 2022	Dec 2023
Delivery Dates			Aug 2021	Aug 2021	Aug 2022	Aug 2023	Aug 2024

**Installation Information**

**Method of Implementation:** TBD

Installation Cost	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
	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	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2018	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
FY 2019	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
FY 2020	- / -	- / -	- / -	0 / 0.000	14 / 0.153	14 / 0.153	- / -	- / -	- / -	- / -	- / -	14 / 0.153
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	396 / 4.416	- / -	- / -	- / -	- / -	396 / 4.416
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	844 / 9.599	- / -	- / -	- / -	844 / 9.599
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	631 / 7.320	- / -	- / -	631 / 7.320
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	616 / 7.289	- / -	616 / 7.289
To Complete	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
Total	- / -	- / -	- / -	- / -	14 / 0.153	14 / 0.153	396 / 4.416	844 / 9.599	631 / 7.320	616 / 7.289	- / -	2,501 / 28.777

**Installation Schedule**

	PYS	FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				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	-	-	-	-	-	-	-	-	-	14	-	-	-	396	-	-	-	844	-	-	-	631	-	-	-	616	-	-	-	-	-	2,501
Out	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3	4	4	99	99	99	99	211	211	211	211	158	1,089	2,501	

**UNCLASSIFIED**

**Exhibit P-40, Budget Line Item Justification:** PB 2020 Army **Date:** March 2019

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A: Missile Procurement, Army / BA 03: Modification of Missiles / BSA 10: Modifications	<b>P-1 Line Item Number / Title:</b> 2684C20000 / Stinger 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> 0203801A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	211.789	83.061	94.756	-	89.115	89.115	1.457	3.072	-	-	-	483.250
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	211.789	83.061	94.756	-	89.115	89.115	1.457	3.072	-	-	-	483.250
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>211.789</b>	<b>83.061</b>	<b>94.756</b>	-	<b>89.115</b>	<b>89.115</b>	<b>1.457</b>	<b>3.072</b>	-	-	-	<b>483.250</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> )	-	-	-	-	-	-	-	-	-	-	-	-

**Description:**

FY 2020 funding totals include \$0.0M for Base and \$89.115M for Overseas Contingency Operations (OCO); of which \$81.615M and 1,484 SLEP missiles quantity is realigned as part of the OCO for Base Requirements. FY 2020 OCO for Base Requirements is OCO funding for base budget requirements in support of the National Defense Strategy. The Budget requests these funds in OCO to comply with the base budget defense caps included in the Budget Control Act of 2011.

The Stinger Block I missile is an advanced, fire-and-forget, short-range, man-portable, shoulder-fired and platform mounted guided missile system that provides the maneuver force and point defense assets air defense protection. Stinger's mission is to provide the force with low-altitude air defense against Fixed Wing (FW) and Rotary Wing (RW) Aircraft, Unmanned Aircraft Systems (UAS) and Cruise Missiles (CM). The Stinger missile is deployable from a variety of platforms that includes vehicles, helicopters, UAS and Man Portable Air Defense System (MANPADS). The missile is delivered as a certified round and requires no field testing or maintenance.

The Service Life Extension Program (SLEP) is ongoing at McAlester Army Ammunition Plant to replace aging key components in existing Block I missiles to extend the current shelf life providing a more viable asset to the Army's inventory. The addition of a Proximity Fuze (PROX) capability in FY 2019 will also provide improved effectiveness against UAS threats by eliminating the need for hit to kill.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	83.061	39.641	0.000	37.281	37.281	0.610	1.285	-	-
ANG	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	-	55.115	0.000	51.834	51.834	0.847	1.787	-	-
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	-	-	-	-	-	-	-	-	-
	<b>Total Obligation Authority</b>	<b>83.061</b>	<b>94.756</b>	-	<b>89.115</b>	<b>89.115</b>	<b>1.457</b>	<b>3.072</b>	-	-

**UNCLASSIFIED**

<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A: Missile Procurement, Army / BA 03: Modification of Missiles / BSA 10: Modifications		<b>P-1 Line Item Number / Title:</b> 2684C20000 / Stinger 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> 0203801A
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**Line Item MDAP/MAIS Code:** N/A

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-3a	C21300 / Stinger Service Life Extension Program (SLEP) (Service Life Extension)		A		- / 211.789	- / 83.061	- / 94.756	- / -	- / 89.115	- / 89.115
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 211.789</b>	<b>- / 83.061</b>	<b>- / 94.756</b>	<b>- / -</b>	<b>- / 89.115</b>	<b>- / 89.115</b>

  

Exhibits Schedule					FY 2021	FY 2022	FY 2023	FY 2024	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	C21300 / Stinger Service Life Extension Program (SLEP) (Service Life Extension)		A		- / 1.457	- / 3.072	- / -	- / -	- / -	- / 483.250
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 1.457</b>	<b>- / 3.072</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / 483.250</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 2020 OCO for Base procurement funding in the amount of \$81.615 million supports 1,484 Stinger Block I missiles through the SLEP and the addition of the PROX.  
 FY 2020 OCO for Enduring procurement funding in the amount of \$7.500 million supports 136 Stinger Block I missiles through the SLEP and the addition of the PROX.

In accordance with Section 1815 of the FY08 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 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 03 / 10	<b>P-1 Line Item Number / Title:</b> 2684C20000 / Stinger Mods	<b>Modification Number / Title:</b> C21300 / Stinger Service Life Extension Program (SLEP)

<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 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	211.789	83.061	94.756	-	89.115	89.115	1.457	3.072	-	-	-	483.250
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	211.789	83.061	94.756	-	89.115	89.115	1.457	3.072	-	-	-	483.250
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>211.789</b>	<b>83.061</b>	<b>94.756</b>	-	<b>89.115</b>	<b>89.115</b>	<b>1.457</b>	<b>3.072</b>	-	-	-	<b>483.250</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)	-	-	-	-	-	-	-	-	-	-	-	-

**Description:**

The Stinger Block I missile is an advanced, fire-and-forget, short-range, man-portable, shoulder-fired and platform mounted guided missile system that provides the maneuver force and point defense assets air defense protection. Stinger's mission is to provide the force with low-altitude air defense against Fixed Wing (FW) and Rotary Wing (RW) Aircraft, Unmanned Aircraft Systems (UAS) and Cruise Missiles (CM). The Stinger missile is deployable from a variety of platforms that includes vehicles, helicopters, UAS and Man Portable Air Defense System (MANPADS). The missile is delivered as a certified round and requires no field testing or maintenance.

The Service Life Extension Program (SLEP) is ongoing at McAlester Army Ammunition Plant to replace aging key components in existing Block I missiles to extend the current shelf life providing a more viable asset to the Army's inventory. The addition of a Proximity Fuze (PROX) capability in FY 2019 will also provide improved effectiveness against UAS threats by eliminating the need for hit to kill.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	83.061	39.641	0.000	37.281	37.281	0.610	1.285	-	-
ANG									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	-	55.115	0.000	51.834	51.834	0.847	1.787	-	-
<b>Total: Secondary Distribution</b>									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	<b>83.061</b>	<b>94.756</b>	-	<b>89.115</b>	<b>89.115</b>	<b>1.457</b>	<b>3.072</b>	-	-

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<b>Exhibit P-3a, Individual Modification:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 03 / 10	<b>P-1 Line Item Number / Title:</b> 2684C20000 / Stinger Mods	<b>Modification Number / Title:</b> C21300 / Stinger Service Life Extension Program (SLEP)

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A	<b>MDAP/MAIS Code:</b>
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<b>Models of Systems Affected:</b> FIM-92E Stinger Block I Missile	<b>Modification Type:</b> Service Life Extension	<b>Related RDT&amp;E PEs:</b>
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Financial Plan	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
	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)

**Procurement**

<b>Modification Item 1 of 1:</b> Stinger Service Life Extension Program (SLEP)												
A Kits												
Recurring												
Hardware	969 / 201.948	1,510 / 74.020	1,723 / 83.490	0 / 0.000	1,620 / 80.919	1,620 / 80.919	- / -	- / -	- / -	- / -	- / 0.000	5,822 / 440.377
Engineering Services	- / 1.383	- / 0.694	- / 1.185	- / 0.000	- / 0.026	- / 0.026	- / 0.810	- / 2.367	- / -	- / -	- / 0.000	- / 16.465
System Engineering/Program Management	- / 2.229	- / 0.797	- / 1.356	- / 0.000	- / 0.034	- / 0.034	- / 0.647	- / 0.705	- / -	- / -	- / 0.000	- / 15.768
Integration, Assembly, Test and Checkout	- / 6.229	- / 7.550	- / 8.725	- / 0.000	- / 8.136	- / 8.136	- / -	- / -	- / -	- / -	- / 0.000	- / 30.640
<b>Subtotal: Recurring</b>	<b>969 / 211.789</b>	<b>1,510 / 83.061</b>	<b>1,723 / 94.756</b>	<b>- / -</b>	<b>1,620 / 89.115</b>	<b>1,620 / 89.115</b>	<b>- / 1.457</b>	<b>- / 3.072</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>5,822 / 483.250</b>
<b>Subtotal: Stinger Service Life Extension Program (SLEP)</b>	<b>969 / 211.789</b>	<b>1,510 / 83.061</b>	<b>1,723 / 94.756</b>	<b>- / 0.000</b>	<b>1,620 / 89.115</b>	<b>1,620 / 89.115</b>	<b>- / 1.457</b>	<b>- / 3.072</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>5,822 / 483.250</b>
<b>Subtotal: Procurement, All Modification Items</b>	<b>969 / 211.789</b>	<b>1,510 / 83.061</b>	<b>1,723 / 94.756</b>	<b>- / -</b>	<b>1,620 / 89.115</b>	<b>1,620 / 89.115</b>	<b>- / 1.457</b>	<b>- / 3.072</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>5,822 / 483.250</b>

**Installation**

<b>Subtotal: Installation</b>	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
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**Total**

<b>Total Cost (Procurement + Support + Installation)</b>	<b>211.789</b>	<b>83.061</b>	<b>94.756</b>	<b>-</b>	<b>89.115</b>	<b>89.115</b>	<b>1.457</b>	<b>3.072</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>483.250</b>
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<b>Exhibit P-3a, Individual Modification:</b> PB 2020 Army					<b>Date:</b> March 2019		
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 03 / 10			<b>P-1 Line Item Number / Title:</b> 2684C20000 / Stinger Mods		<b>Modification Number / Title:</b> C21300 / Stinger Service Life Extension Program (SLEP)		
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A				<b>MDAP/MAIS Code:</b>			
<b>Modification Item 1 of 1:</b> Stinger Service Life Extension Program (SLEP)							
<b>Manufacturer Information</b>							
Manufacturer Name: McAlester Army Ammunition Plant				Manufacturer Location: McAlester, OK			
Administrative Leadtime ( <i>in Months</i> ): 3				Production Leadtime ( <i>in Months</i> ): 15			
<b>Dates</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
Contract Dates	Apr 2018	Apr 2019	Apr 2020	Apr 2021	Apr 2022		
Delivery Dates	Oct 2019	Dec 2020	Aug 2021	Mar 2023	Mar 2023		
<b>Installation Information</b>							
<b>Method of Implementation (Organic):</b> Depot Installation					<b>Installation Quantity:</b> 5822		



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**Exhibit P-40, Budget Line Item Justification:** PB 2020 Army **Date:** March 2019

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A: Missile Procurement, Army / BA 03: Modification of Missiles / BSA 10: Modifications	<b>P-1 Line Item Number / Title:</b> 2690CE8710 / AVENGER 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: 0203801A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	98.484	62.931	31.093	-	14.107	14.107	13.958	11.394	-	-	-	231.967
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	98.484	62.931	31.093	-	14.107	14.107	13.958	11.394	-	-	-	231.967
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>98.484</b>	<b>62.931</b>	<b>31.093</b>	<b>-</b>	<b>14.107</b>	<b>14.107</b>	<b>13.958</b>	<b>11.394</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>231.967</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> )	163.867	81.517	53.150	-	201.529	201.529	53.479	54.779	-	-	-	92.898

**Description:**

FY 2020 funding totals include \$0.0M for Base and \$14.107M for Overseas Contingency Operations (OCO); of which \$14.107M and 70 quantity is realigned as part of the OCO for Base Requirements. FY 2020 OCO for Base Requirements is OCO funding for base budget requirements in support of the National Defense Strategy. The Budget requests these funds in OCO to comply with the base budget defense caps included in the Budget Control Act of 2011.

Avenger is a lightweight, ground-to-air missile and gun weapon system mounted on a High Mobility Multi-purpose Wheeled Vehicle which protects against unmanned aircraft systems, cruise missiles, and fixed and rotary wing threats. Avenger provides day/night adverse weather operations, shoot on the move capability, rapid target engagement, and remote firing capability. Avenger can be air dropped, lifted by helicopter and is air transportable. The system employs up to eight Stinger missiles to counter aerial threats and a M3P gun for close-in ground and air threats. An Identification Friend or Foe (IFF) system aids in the identification of friendly aircraft in order to minimize the potential for fratricide. The Avenger fleet of 454 systems includes 170 systems that are equipped with a digital Slew-to-Cue (STC) capability to speed target detection and engagement.

The Avenger Modification - Service Life Extension Program (MOD-SLEP) addresses obsolescence of six key Avenger components to ensure Avenger maintains operational capability through FY 2031.

The Vehicle Internal Communications System is a required subsystem that allows communication between the gunner and driver. It also interfaces with the IFF and missile electronics resulting in improved IFF capabilities. The digital VIC-5 replaces the analog VIC-1 that is currently fielded with the Avenger.

The Avenger Fire Control Computer (AFCC) is a required subsystem of the Avenger Slew-to-Cue system that processes and displays air tracks data to the gunner. The current AFCC is not supportable through FY 2031. The AFCC will undergo software and hardware upgrades that will enable the system to handle increased targeting capability realized with the latest version of the FAAD early warning system, ensure the system meets the latest Information Assurance (IA) requirements, and allow for future growth in areas such as improved fire control/longer range engagements.

The Mode 5 IFF is required to replace the Mode 4 IFF, in order to comply with Department of Defense standards. Incorporation of Mode 5 IFF into Avenger is critical to retaining the cooperative target identification capability, allowing Avenger to remain relevant and effective in Air Defense and Homeland Defense missions.

The Environmental Control Unit/Prime Power Unit (ECU/PPU) is a required subsystem that provides turret air conditioning/heating and provides a separate backup power source in lieu of vehicle battery power. This modification addresses the ECU/PPU governor and starter.

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<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A: Missile Procurement, Army / BA 03: Modification of Missiles / BSA 10: Modifications		<b>P-1 Line Item Number / Title:</b> 2690CE8710 / AVENGER 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> 0203801A
<b>Line Item MDAP/MAIS Code:</b> N/A		

In prior years, the Avenger MODS program also addressed the Slew-to-Cue upgrade, Targeting Consoles (TC) and M3P .50 CAL machine guns.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	18.824	12.437	0.000	6.266	6.266	6.168	4.914	-	-
ANG	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	44.107	18.656	0.000	7.841	7.841	7.790	6.480	-	-
<b>Total:</b>	<b>Quantity</b>	-	-	-	-	-	-	-	-	-
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>62.931</b>	<b>31.093</b>	-	<b>14.107</b>	<b>14.107</b>	<b>13.958</b>	<b>11.394</b>	-	-

**UNCLASSIFIED**

**Exhibit P-40, Budget Line Item Justification:** PB 2020 Army **Date:** March 2019

**Appropriation / Budget Activity / Budget Sub Activity:** 2032A: Missile Procurement, Army / BA 03: Modification of Missiles / BSA 10: Modifications **P-1 Line Item Number / Title:** 2690CE8710 / AVENGER MODS

**ID Code** (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0203801A

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

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-3a	CE8710 / Avenger Modification (Operational)		A		- / 98.484	- / 62.931	- / 31.093	- / -	- / 14.107	- / 14.107
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 98.484</b>	<b>- / 62.931</b>	<b>- / 31.093</b>	<b>- / -</b>	<b>- / 14.107</b>	<b>- / 14.107</b>

Exhibits Schedule					FY 2021	FY 2022	FY 2023	FY 2024	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	CE8710 / Avenger Modification (Operational)		A		- / 13.958	- / 11.394	- / -	- / -	- / -	- / 231.967
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 13.958</b>	<b>- / 11.394</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / 231.967</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 2020 procurement dollars in the amount of \$14.107 million procures 70 Mode 5 IFF kits with spares as part of the Avenger MOD-SLEP. The Avenger MOD-SLEP ensures that Avenger is viable and sustainable through FY 2031.

Funding in this program was realigned to C14301 ((Maneuver-Short Range Air Defense) a Cross Functional Team supported program) to reflect requirements specific to that 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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<b>Exhibit P-3a, Individual Modification: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 03 / 10	<b>P-1 Line Item Number / Title:</b> 2690CE8710 / AVENGER MODS	<b>Modification Number / Title:</b> CE8710 / Avenger Modification

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

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	98.484	62.931	31.093	-	14.107	14.107	13.958	11.394	-	-	-	231.967
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	98.484	62.931	31.093	-	14.107	14.107	13.958	11.394	-	-	-	231.967
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>98.484</b>	<b>62.931</b>	<b>31.093</b>	-	<b>14.107</b>	<b>14.107</b>	<b>13.958</b>	<b>11.394</b>	-	-	-	<b>231.967</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> )	163.867	81.517	53.150	-	201.529	201.529	53.479	54.779	-	-	-	92.898

**Description:**

The ongoing Avenger Modification - Service Life Extension Program (MOD-SLEP) addresses obsolescence of six key Avenger components to ensure Avenger maintains operational capability through FY31. These Funds are provided to procure the MOD-SLEP components: Targeting Console (TC), .50 Caliber Machine Gun (M3P), Avenger Fire Control Computer (AFCC), Mode 5 Identification Friend or Foe (IFF), Vehicle Internal Communications (VIC-5) and the Environmental Control Unit/Prime Power Unit (ECU/PPU) governor and starter.

The Avenger MOD-SLEP is fielded in two phases. Phase I fields the TC. Phase II fields the AFCC, Mode 5 IFF and the ECU/PPU starter kit. The M3P and ECU/PPU governor will be fielded through attrition.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	18.824	12.437	0.000	6.266	6.266	6.168	4.914	-	-
ANG	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	44.107	18.656	0.000	7.841	7.841	7.790	6.480	-	-
<b>Total:</b>	<b>Quantity</b>	-	-	-	-	-	-	-	-	-
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>62.931</b>	<b>31.093</b>	-	<b>14.107</b>	<b>14.107</b>	<b>13.958</b>	<b>11.394</b>	-	-

**UNCLASSIFIED**

<b>Exhibit P-3a, Individual Modification: PB 2020 Army</b>										<b>Date: March 2019</b>			
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 03 / 10					<b>P-1 Line Item Number / Title:</b> 2690CE8710 / AVENGER MODS					<b>Modification Number / Title:</b> CE8710 / Avenger Modification			
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A							<b>MDAP/MAIS Code:</b>						
<b>Models of Systems Affected:</b> Avenger Basic and Slew-to-Cue Systems				<b>Modification Type:</b> Operational				<b>Related RDT&amp;E PEs:</b>					
Financial Plan	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total	
	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 6: Prior Modifications</b>													
A Kits													
Recurring													
Prior Year Modifications	466 / 62.505	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	466 / 62.505	
<b>Subtotal: Recurring</b>	<b>466 / 62.505</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>466 / 62.505</b>	
<b>Subtotal: Prior Modifications</b>	<b>466 / 62.505</b>	<b>- / -</b>	<b>- / -</b>	<b>- / 0.000</b>	<b>- / -</b>	<b>- / 0.000</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>466 / 62.505</b>	
<b>Modification Item 2 of 6: Vehicle Internal Communication (VIC-5)</b>													
A Kits													
Recurring													
Hardware	454 / 3.949	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	454 / 3.949	
Spares	- / 0.457	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 0.457	
Engineering Services	- / 0.344	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 0.344	
Systems Engineering/Program Management	- / 0.996	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 0.996	
Fielding	- / 0.112	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 0.112	
<b>Subtotal: Recurring</b>	<b>454 / 5.858</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>454 / 5.858</b>	
B Kits													
Recurring													
Avenger to VIC 5 Cables	- / -	264 / 6.809	190 / 4.820	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	454 / 11.629	
Spares	- / -	- / 0.762	- / 0.540	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 1.302	
Engineering Services	- / -	- / 1.100	- / 0.985	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 2.085	
Systems Engineering/Program Management	- / -	- / 2.259	- / 1.096	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 3.355	
Fielding	- / -	- / 0.250	- / 0.195	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 0.445	
<b>Subtotal: Recurring</b>	<b>- / -</b>	<b>264 / 11.180</b>	<b>190 / 7.636</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>454 / 18.816</b>	
Non-Recurring													
Non-Recurring Production	- / -	- / 0.043	- / 0.040	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 0.083	
<b>Subtotal: Non-Recurring</b>	<b>- / -</b>	<b>- / 0.043</b>	<b>- / 0.040</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / 0.083</b>	
<b>Subtotal: Vehicle Internal Communication (VIC-5)</b>	<b>454 / 5.858</b>	<b>264 / 11.223</b>	<b>190 / 7.676</b>	<b>- / 0.000</b>	<b>- / -</b>	<b>- / 0.000</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>908 / 24.757</b>	
<b>Modification Item 3 of 6: Mode 5/Identification Friend or Foe</b>													

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<b>Exhibit P-3a, Individual Modification: PB 2020 Army</b>										<b>Date: March 2019</b>			
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 03 / 10				<b>P-1 Line Item Number / Title:</b> 2690CE8710 / AVENGER MODS						<b>Modification Number / Title:</b> CE8710 / Avenger Modification			
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A							<b>MDAP/MAIS Code:</b>						
<b>Models of Systems Affected:</b> Avenger Basic and Slew-to-Cue Systems				<b>Modification Type:</b> Operational				<b>Related RDT&amp;E PEs:</b>					
Financial Plan	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total	
	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>A Kits</b>													
Recurring													
Hardware	131 / 11.135	90 / 7.803	100 / 8.843	0 / 0.000	83 / 7.487	83 / 7.487	50 / 4.600	- / -	- / -	- / -	- / 0.000	454 / 39.868	
Spares	- / 1.634	- / 1.005	- / 2.011	- / 0.000	- / 1.131	- / 1.131	- / 0.629	- / -	- / -	- / -	- / 0.000	- / 16.410	
Engineering Services	- / 0.692	- / 0.754	- / 0.754	- / 0.000	- / 0.608	- / 0.608	- / 0.608	- / -	- / -	- / -	- / 0.000	- / 13.416	
Systems Engineering/Program Management	- / 2.014	- / 2.014	- / 2.014	- / 0.000	- / 1.205	- / 1.205	- / 1.205	- / -	- / -	- / -	- / 0.000	- / 18.452	
Fielding	- / 0.655	- / 0.450	- / 0.500	- / 0.000	- / 0.230	- / 0.230	- / 0.100	- / -	- / -	- / -	- / 0.000	- / 1.935	
<b>Subtotal: Recurring</b>	<b>131 / 16.130</b>	<b>90 / 12.026</b>	<b>100 / 14.122</b>	<b>- / -</b>	<b>83 / 10.661</b>	<b>83 / 10.661</b>	<b>50 / 7.142</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>454 / 60.081</b>	
Non-Recurring													
Non-Recurring Production	- / 13.991	- / 4.613	- / 5.644	- / 0.000	- / 3.446	- / 3.446	- / 1.685	- / -	- / -	- / -	- / 0.000	- / 29.379	
<b>Subtotal: Non-Recurring</b>	<b>- / 13.991</b>	<b>- / 4.613</b>	<b>- / 5.644</b>	<b>- / -</b>	<b>- / 3.446</b>	<b>- / 3.446</b>	<b>- / 1.685</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / 29.379</b>	
<b>Subtotal: Mode 5/Identification Friend or Foe</b>	<b>131 / 30.121</b>	<b>90 / 16.639</b>	<b>100 / 19.766</b>	<b>- / 0.000</b>	<b>83 / 14.107</b>	<b>83 / 14.107</b>	<b>50 / 8.827</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>454 / 89.460</b>	
<b>Modification Item 4 of 6: Avenger Fire Control Computer</b>													
A Kits													
Recurring													
Hardware	- / -	170 / 19.394	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	170 / 19.394	
Spares/Repair Parts	- / -	- / 2.396	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 12.396	
Engineering Services	- / -	- / 1.185	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 11.185	
Systems Engineering/Program Management	- / -	- / 2.326	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 12.326	
Fielding	- / -	- / 0.935	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 0.935	
<b>Subtotal: Recurring</b>	<b>- / -</b>	<b>170 / 26.236</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>170 / 26.236</b>	
Non-Recurring													
Non-Recurring Production	- / -	- / 1.910	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 1.910	
<b>Subtotal: Non-Recurring</b>	<b>- / -</b>	<b>- / 1.910</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / 1.910</b>	
<b>Subtotal: Avenger Fire Control Computer</b>	<b>- / -</b>	<b>170 / 28.146</b>	<b>- / -</b>	<b>- / 0.000</b>	<b>- / -</b>	<b>- / 0.000</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>170 / 28.146</b>	
<b>Modification Item 5 of 6: ECU/PPU Starter</b>													
A Kits													
Recurring													
Hardware	- / -	- / -	454 / 2.057	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	454 / 2.057	
Spares	- / -	- / -	- / 0.303	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 0.303	

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**Exhibit P-3a, Individual Modification: PB 2020 Army** **Date:** March 2019

**Appropriation / Budget Activity / Budget Sub Activity:** 2032A / 03 / 10 **P-1 Line Item Number / Title:** 2690CE8710 / AVENGER MODS **Modification Number / Title:** CE8710 / Avenger Modification

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

**Models of Systems Affected:** Avenger Basic and Slew-to-Cue Systems **Modification Type:** Operational **Related RDT&E PEs:**

Financial Plan	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
	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)
Engineering Services	- / -	- / -	- / 0.417	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 0.417
Systems Engineering/Program Management	- / -	- / -	- / 0.768	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 0.768
Fielding	- / -	- / -	- / 0.106	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 0.106
<i>Subtotal: Recurring</i>	- / -	- / -	454 / 3.651	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	454 / 3.651
<i>Subtotal: ECU/PPU Starter</i>	- / -	- / -	454 / 3.651	- / 0.000	- / -	- / 0.000	- / -	- / -	- / -	- / -	- / -	454 / 3.651
<b>Modification Item 6 of 6: Obsolescence Mitigation Kits</b>												
A Kits												
Recurring												
Obsolescence Mitigation Kits	- / -	209 / 6.923	- / -	- / -	- / -	- / -	80 / 5.131	165 / 11.394	- / -	- / -	- / 0.000	454 / 23.448
<i>Subtotal: Recurring</i>	- / -	209 / 6.923	- / -	- / -	- / -	- / -	80 / 5.131	165 / 11.394	- / -	- / -	- / -	454 / 23.448
<i>Subtotal: Obsolescence Mitigation Kits</i>	- / -	209 / 6.923	- / -	- / 0.000	- / -	- / 0.000	80 / 5.131	165 / 11.394	- / -	- / -	- / -	454 / 23.448
<i>Subtotal: Procurement, All Modification Items</i>	1,051 / 98.484	733 / 62.931	744 / 31.093	- / -	83 / 14.107	83 / 14.107	130 / 13.958	165 / 11.394	- / -	- / -	- / -	2,906 / 231.967
<b>Installation</b>												
<i>Subtotal: Installation</i>	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
<b>Total</b>												
<b>Total Cost (Procurement + Support + Installation)</b>	98.484	62.931	31.093	-	14.107	14.107	13.958	11.394	-	-	-	231.967

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<b>Exhibit P-3a, Individual Modification:</b> PB 2020 Army					<b>Date:</b> March 2019		
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 03 / 10			<b>P-1 Line Item Number / Title:</b> 2690CE8710 / AVENGER MODS			<b>Modification Number / Title:</b> CE8710 / Avenger Modification	
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A					<b>MDAP/MAIS Code:</b>		
<b>Modification Item 1 of 6:</b> Prior Modifications							
<b>Manufacturer Information</b>							
Manufacturer Name: Not Applicable				Manufacturer Location: Not Applicable			
Administrative Leadtime (in Months):				Production Leadtime (in Months):			
<b>Dates</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
Contract Dates							
Delivery Dates							
<b>Installation Information</b>							
<b>Method of Implementation (Organic):</b> Completed at Depot					<b>Installation Quantity:</b> 466		



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<b>Exhibit P-3a, Individual Modification:</b> PB 2020 Army						<b>Date:</b> March 2019	
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 03 / 10			<b>P-1 Line Item Number / Title:</b> 2690CE8710 / AVENGER MODS			<b>Modification Number / Title:</b> CE8710 / Avenger Modification	
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A					<b>MDAP/MAIS Code:</b>		
<b>Modification Item 2 of 6:</b> Vehicle Internal Communication (VIC-5)							
<b>Manufacturer Information</b>							
Manufacturer Name: Northrop Grumman				Manufacturer Location: Tobyhanna, PA			
Administrative Leadtime (in Months): 1				Production Leadtime (in Months): 9			
<b>Dates</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
Contract Dates	Jul 2018						
Delivery Dates	Sep 2019						
<b>Installation Information</b>							
<b>Method of Implementation (Organic):</b> Fielded by Depot with Phase II kit					<b>Installation Quantity:</b> 454		

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<b>Exhibit P-3a, Individual Modification:</b> PB 2020 Army					<b>Date:</b> March 2019		
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 03 / 10			<b>P-1 Line Item Number / Title:</b> 2690CE8710 / AVENGER MODS			<b>Modification Number / Title:</b> CE8710 / Avenger Modification	
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A				<b>MDAP/MAIS Code:</b>			
<b>Modification Item 3 of 6:</b> Mode 5/Identification Friend or Foe							
<b>Manufacturer Information</b>							
Manufacturer Name: Raytheon-Thales				Manufacturer Location: Thales, France			
Administrative Leadtime (in Months): 4				Production Leadtime (in Months): 12			
<b>Dates</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
Contract Dates	Mar 2019	Mar 2019	Jun 2020	Jun 2021			
Delivery Dates	May 2020	May 2020	Oct 2021	Oct 2022			
<b>Installation Information</b>							
<b>Method of Implementation (Organic):</b> Fielded by Depot with Phase II kit					<b>Installation Quantity:</b> 454		

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<b>Exhibit P-3a, Individual Modification:</b> PB 2020 Army					<b>Date:</b> March 2019		
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 03 / 10			<b>P-1 Line Item Number / Title:</b> 2690CE8710 / AVENGER MODS			<b>Modification Number / Title:</b> CE8710 / Avenger Modification	
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A					<b>MDAP/MAIS Code:</b>		
<b>Modification Item 4 of 6:</b> Avenger Fire Control Computer							
<b>Manufacturer Information</b>							
Manufacturer Name: Boeing				Manufacturer Location: Huntsville, AL			
Administrative Leadtime (in Months): 1				Production Leadtime (in Months): 9			
<b>Dates</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
Contract Dates	Oct 2018						
Delivery Dates	Dec 2019						
<b>Installation Information</b>							
<b>Method of Implementation (Organic):</b> Fielded by Depot with Phase II kit					<b>Installation Quantity:</b> 170		

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<b>Exhibit P-3a, Individual Modification:</b> PB 2020 Army					<b>Date:</b> March 2019		
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 03 / 10			<b>P-1 Line Item Number / Title:</b> 2690CE8710 / AVENGER MODS			<b>Modification Number / Title:</b> CE8710 / Avenger Modification	
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A					<b>MDAP/MAIS Code:</b>		
<b>Modification Item 5 of 6:</b> ECU/PPU Starter							
<b>Manufacturer Information</b>							
Manufacturer Name: Marvin Land Systems				Manufacturer Location: Inglewood, CA			
Administrative Leadtime (in Months): 4				Production Leadtime (in Months): 5			
<b>Dates</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
Contract Dates		Mar 2019					
Delivery Dates		Mar 2020					
<b>Installation Information</b>							
<b>Method of Implementation (Organic):</b> Fielded by Depot with Phase II Kit					<b>Installation Quantity:</b> 454		

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<b>Exhibit P-3a, Individual Modification:</b> PB 2020 Army					<b>Date:</b> March 2019		
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 03 / 10			<b>P-1 Line Item Number / Title:</b> 2690CE8710 / AVENGER MODS			<b>Modification Number / Title:</b> CE8710 / Avenger Modification	
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A				<b>MDAP/MAIS Code:</b>			
<b>Modification Item 6 of 6:</b> Obsolescence Mitigation Kits							
<b>Manufacturer Information</b>							
Manufacturer Name: TBD				Manufacturer Location: TBD			
Administrative Leadtime (in Months): 1				Production Leadtime (in Months): 6			
<b>Dates</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
Contract Dates	Mar 2019			Jul 2021	Jul 2022		
Delivery Dates	Sep 2019			Jul 2022	Jul 2023		
<b>Installation Information</b>							
<b>Method of Implementation (Organic):</b> Fielded by Depot					<b>Installation Quantity:</b> 454		

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**Exhibit P-40, Budget Line Item Justification: PB 2020 Army** **Date:** March 2019

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A: Missile Procurement, Army / BA 03: Modification of Missiles / BSA 10: Modifications	<b>P-1 Line Item Number / Title:</b> 3972C61700 / ITAS/TOW Mods
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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 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	1,789.334	3.500	3.173	-	3.469	3.469	5.672	-	-	-	-	1,805.148
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	1,789.334	3.500	3.173	-	3.469	3.469	5.672	-	-	-	-	1,805.148
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>1,789.334</b>	<b>3.500</b>	<b>3.173</b>	<b>-</b>	<b>3.469</b>	<b>3.469</b>	<b>5.672</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>1,805.148</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> )	-	134.615	132.208	-	138.760	138.760	153.297	-	-	-	-	16,117.393

**Description:**

FY 2020 funding totals include \$0.0M for Base and \$3.469M for Overseas Contingency Operations (OCO); of which \$3.469M and 25 quantity is realigned as part of the OCO for Base Requirements. FY 2020 OCO for Base Requirements is OCO funding for base budget requirements in support of the National Defense Strategy. The Budget requests these funds in OCO to comply with the base budget defense caps included in the Budget Control Act of 2011.

The Improved Target Acquisition System (ITAS) with Far Target Location (FTL) is a combat proven system that provides long-range, lethal anti-armor and precision assault fires capability for Active Component and Army National Guard Infantry Brigade Combat Teams (IBCT) and Stryker Brigade Combat Teams (SBCT) equipped with Modified ITAS (MITAS) across the spectrum of contemporary operational environments. ITAS with the TOW Missile provides the capability to defeat armored vehicles, bunkers, and buildings at extended ranges in all battlefield conditions. ITAS's superior surveillance capability also enables the Soldier to shape the battlefield by detecting targets at long range and either engaging with TOW missiles or other weapon systems to destroy those targets with its ability to generate a 10 digit grid coordinate of a target location. The ITAS completed fielding to the total Army in December 2012. The ITAS Image Enhancement (IE) Modification Kit reduces operator workload by optimizing the image presented to the gunner through electronic processing. Electronic focus, image stabilization, and other processing techniques ensure that the image presented is optimized for the environment without manual manipulation of the various adjustment settings. This reduces the operations required by the gunner to achieve a consistent high quality image, reduces the time required to identify and engage targets on the battlefield. ITAS continues to be the weapon of choice in precision combat engagements. The TOW Weapon System includes the ITAS launcher and TOW Missiles.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	-	-	-	-	-	-	-	-
	Total Obligation Authority	3.500	3.173	0.000	2.775	2.775	3.172	-	-
ANG	Quantity	-	-	-	-	-	-	-	-
	Total Obligation Authority	-	-	0.000	0.694	0.694	2.500	-	-
<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>Total Obligation Authority</b>	<b>3.500</b>	<b>3.173</b>	<b>-</b>	<b>3.469</b>	<b>3.469</b>	<b>5.672</b>	<b>-</b>	<b>-</b>

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<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A: Missile Procurement, Army / BA 03: Modification of Missiles / BSA 10: Modifications		<b>P-1 Line Item Number / Title:</b> 3972C61700 / ITAS/TOW Mods
<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		
<b>Justification:</b> FY2020 funding totals include \$0.0 million for Base funding and \$3.469 million for Overseas Contingency Operations. This supports procurement of 25 Common Processor Kits, required subcomponents, the fielding of the kits and subcomponents, and program management support for \$3.469 million realigned as part of the OCO for Base Requirements funding which reflects the Department's compliance with the Budget Control Acts of 2011. This funding supports the Modified ITAS (MITAS) in the Stryker Anti-Tank Guided Missile (Stryker ATGM) vehicle. This procurement will field a single configuration across the US Army ITAS and MITAS fleets.  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 2020 Army **Date:** March 2019

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A: Missile Procurement, Army / BA 03: Modification of Missiles / BSA 10: Modifications	<b>P-1 Line Item Number / Title:</b> 6552C67500 / MLRS Mods
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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> 0603778A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	468.803	138.235	478.998	-	387.019	387.019	384.859	277.928	207.388	34.518	Continuing	Continuing
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	468.803	138.235	478.998	-	387.019	387.019	384.859	277.928	207.388	34.518	Continuing	Continuing
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>468.803</b>	<b>138.235</b>	<b>478.998</b>	-	<b>387.019</b>	<b>387.019</b>	<b>384.859</b>	<b>277.928</b>	<b>207.388</b>	<b>34.518</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> )	-	7,679.722	6,942.000	-	9,923.564	9,923.564	10,690.528	7,940.800	7,976.462	8,629.500	Continuing	Continuing

**Description:**

FY 2020 funding totals include \$0.0M for Base and \$387.019M for Overseas Contingency Operations (OCO); of which \$39,019 and 4 quantity is realigned as part of the OCO for Base Requirements. FY 2020 OCO for Base Requirements is OCO funding for base budget requirements in support of the National Defense Strategy. The Budget requests these funds in OCO to comply with the base budget defense caps included in the Budget Control Act of 2011.

The M270A1 Multiple Launch Rocket System (MLRS) launcher is a full-spectrum, combat-proven, all-weather, 24/7 lethal and responsive, precision strike weapon system. MLRS provides critical missile precision strike, operational shaping fires, counterfire, and close support destructive and suppressive fires. MLRS is a tracked, indirect fire, rocket/missile launcher capable of firing two pods of precision rockets/missiles from the current and emerging Multiple Launch Rocket System (MLRS) Family of Munitions (MFOM), to include the Extended Range (ER) Guided Multiple Launch Rocket System (GMLRS), the Army Tactical Missile System (ATACMS), and the Precision Strike Missile (PrSM). These munitions are capable of engaging targets with precision at ranges in excess of 400 kilometers.

In FY2017, the Army directed the program office to modernize 160 obsolete, unserviceable MLRS M270A0s to M270A2s in an effort called MLRS Fleet Expansion. In addition to MLRS Fleet Expansion, the Army decided to extend the operational life of the existing M270A1 fleet until FY2050 or beyond, which drives the requirement to upgrade the current fleet of 225 M270A1 launchers to the M270A2 configuration. The end state is 385 MLRS launchers with Improved Armored Cabs (IAC), Bradley commonality improvements, and Common Fire Control System (CFCS). Upon application of the IAC Modification Kit to a M270A1, the launcher permanently becomes a M270A2.

Mod 1 (MLRS Fleet Expansion). The Fleet Expansion effort will modernize 160 MLRS M270A0s to M270A2s through a Public Private Partnership. The prime contractor and Red River Army Depot (RRAD) will rebuild and provide selective upgrades to include Bradley commonality improvements, IAC, and CFCS.

Mod 2 (MLRS Fleet Upgrade). The MLRS Fleet upgrade effort will follow the same rebuild process and selective upgrades as the Fleet Expansion effort, by upgrading the current fleet of M270A1 launchers to M270A2 with IAC, Bradley Commonality and CFCS. Upon application of the IAC Modification Kit to a M270A1, the launcher permanently becomes a M270A2. This upgrade effort will extend the operational life of these launchers to FY2050 and beyond.

Mod 3 (Improved Armored Cab). The Improved Armored Cab (IAC) Modification Kit provides crew survivability against Improvised Explosive Devices (IEDs) and small arms fire greater than or equal to the High Mobility Artillery Rocket System (HIMARS) Increased Crew Protection Cab (ICP). Additionally, IAC standardizes crew drill requirements between HIMARS and MLRS operators. Upon application of the IAC Modification Kit to a M270A1, the launcher permanently becomes a M270A2. Application of the IAC is performed by RRAD under a Public Private Partnership.



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<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A: Missile Procurement, Army / BA 03: Modification of Missiles / BSA 10: Modifications		<b>P-1 Line Item Number / Title:</b> 6552C67500 / MLRS Mods
<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> 0603778A
<b>Line Item MDAP/MAIS Code:</b> N/A		

The current Army Acquisition Objective is 225 MLRS launchers. The end state Army Acquisition Objective after Fleet Expansion will be 385 M270A2 MLRS launchers.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	138.235	478.998	0.000	378.628	378.628	375.495	266.842	207.388	34.518
ANG	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	-	-	0.000	8.391	8.391	9.364	11.086	-	-
<b>Total:</b>	<b>Quantity</b>	-	-	-	-	-	-	-	-	-
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>138.235</b>	<b>478.998</b>	<b>-</b>	<b>387.019</b>	<b>387.019</b>	<b>384.859</b>	<b>277.928</b>	<b>207.388</b>	<b>34.518</b>

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**Exhibit P-40, Budget Line Item Justification:** PB 2020 Army **Date:** March 2019

**Appropriation / Budget Activity / Budget Sub Activity:** 2032A: Missile Procurement, Army / BA 03: Modification of Missiles / BSA 10: Modifications **P-1 Line Item Number / Title:** 6552C67500 / MLRS Mods

**ID Code** (A=Service Ready, B=Not Service Ready): **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0603778A

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

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-3a	C67500 / Multiple Launch Rocket System (MLRS) Modifications (.)				- / 468.803	- / 138.235	- / 478.998	- / -	- / 387.019	- / 387.019
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 468.803</b>	<b>- / 138.235</b>	<b>- / 478.998</b>	<b>- / -</b>	<b>- / 387.019</b>	<b>- / 387.019</b>

Exhibits Schedule					FY 2021	FY 2022	FY 2023	FY 2024	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	C67500 / Multiple Launch Rocket System (MLRS) Modifications (.)				- / 384.859	- / 277.928	- / 207.388	- / 34.518	Continuing	Continuing
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 384.859</b>	<b>- / 277.928</b>	<b>- / 207.388</b>	<b>- / 34.518</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 2020 Enduring OCO procurement dollars in the amount of \$348.000 million supports MLRS Fleet Expansion (Mod 1) of 35 MLRS launchers from M270A0 configuration to M270A2 configuration. The FY2020 Enduring OCO procurement dollars also provides routine obsolescence mitigation of the M270A1 MLRS launcher design to retain the ability for long-term sustainment of the MLRS launcher fleet. Procures 51 Improved Armored Cabs (Mod 3).  
  
 The Army intends to convert any price advantage created through contract negotiations, other service procurement, and/or foreign military sales to start the MLRS Fleet Upgrade (Mod 2) of MLRS launchers from M270A1 configuration to M270A2 configuration, and/or address obsolescence, modernization, cost reduction, and production initiatives.  
  
 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-3a, Individual Modification: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 03 / 10	<b>P-1 Line Item Number / Title:</b> 6552C67500 / MLRS Mods	<b>Modification Number / Title:</b> C67500 / Multiple Launch Rocket System (MLRS) Modifications

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	468.803	138.235	478.998	-	387.019	387.019	384.859	277.928	207.388	34.518	Continuing	Continuing
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	468.803	138.235	478.998	-	387.019	387.019	384.859	277.928	207.388	34.518	Continuing	Continuing
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>468.803</b>	<b>138.235</b>	<b>478.998</b>	<b>-</b>	<b>387.019</b>	<b>387.019</b>	<b>384.859</b>	<b>277.928</b>	<b>207.388</b>	<b>34.518</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 (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	-	7,679.722	6,942.000	-	9,923.564	9,923.564	10,690.528	7,940.800	7,976.462	8,629.500	Continuing	Continuing

**Description:**

The M270A1 Multiple Launch Rocket System (MLRS) launcher is a full-spectrum, combat-proven, all-weather, 24/7 lethal and responsive, precision strike weapon system. MLRS provides critical missile precision strike, operational shaping fires, counterfire, and close support destructive and suppressive fires. MLRS is a tracked, indirect fire, rocket/missile launcher capable of firing two pods of precision rockets/missiles from the current and emerging Multiple Launch Rocket System (MLRS) Family of Munitions (MFOM), to include the Extended Range (ER) Guided Multiple Launch Rocket System (GMLRS), the Army Tactical Missile System (ATACMS), and the Precision Strike Missile (PrSM). These munitions are capable of engaging targets with precision at ranges in excess of 400 kilometers.

In FY2017, the Army directed the program office to modernize 160 obsolete, unserviceable MLRS M270A0s to M270A2s in an effort called MLRS Fleet Expansion. In addition to MLRS Fleet Expansion, the Army decided to extend the operational life of the existing M270A1 fleet until FY2050 or beyond, which drives the requirement to upgrade the current fleet of 225 M270A1 launchers to the M270A2 configuration. The end state is 385 MLRS launchers with Improved Armored Cabs (IAC), Bradley commonality improvements, and Common Fire Control System (CFCS). Upon application of the IAC Modification Kit to a M270A1, the launcher permanently becomes a M270A2.

Mod 1 (MLRS Fleet Expansion). The Fleet Expansion effort will modernize 160 MLRS M270A0s to M270A2s through a Public Private Partnership. The prime contractor and Red River Army Depot (RRAD) will rebuild and provide selective upgrades to include Bradley commonality improvements, IAC and CFCS.

Mod 2 (MLRS Fleet Upgrade). The MLRS Fleet upgrade effort will follow the same rebuild process and selective upgrades as the Fleet Expansion effort, by upgrading the current fleet of M270A1 launchers to M270A2 with IAC, Bradley Commonality and CFCS. Upon application of the IAC Modification Kit to a M270A1, the launcher permanently becomes a M270A2. This upgrade effort will extend the operational life of these launchers to FY2050 and beyond.

Mod 3 (Improved Armored Cab). The Improved Armored Cab (IAC) Modification Kit provides crew survivability against Improvised Explosive Devices (IEDs) and small arms fire greater than or equal to the High Mobility Artillery Rocket System (HIMARS) Increased Crew Protection Cab (ICP). Additionally, IAC standardizes crew drill requirements between HIMARS and MLRS operators. Upon application of the IAC Modification Kit to a M270A1, the launcher permanently becomes a M270A2. Application of the IAC is performed by RRAD under a Public Private Partnership.

The current Army Acquisition Objective is 225 MLRS launchers. The end state Army Acquisition Objective after Fleet Expansion will be 385 M270A2 MLRS launchers.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	-	-	-	-	-	-	-	-	-
Quantity	-	-	-	-	-	-	-	-	-

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<b>Exhibit P-3a, Individual Modification:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 03 / 10	<b>P-1 Line Item Number / Title:</b> 6552C67500 / MLRS Mods	<b>Modification Number / Title:</b> C67500 / Multiple Launch Rocket System (MLRS) Modifications

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

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
	Total Obligation Authority	138.235	478.998	0.000	378.628	378.628	375.495	266.842	207.388	34.518
ANG	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	-	-	0.000	8.391	8.391	9.364	11.086	-	-
<b>Total:</b>	<b>Quantity</b>	-	-	-	-	-	-	-	-	-
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>138.235</b>	<b>478.998</b>	-	<b>387.019</b>	<b>387.019</b>	<b>384.859</b>	<b>277.928</b>	<b>207.388</b>	<b>34.518</b>

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<b>Exhibit P-3a, Individual Modification: PB 2020 Army</b>										<b>Date:</b> March 2019			
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 03 / 10					<b>P-1 Line Item Number / Title:</b> 6552C67500 / MLRS Mods					<b>Modification Number / Title:</b> C67500 / Multiple Launch Rocket System (MLRS) Modifications			
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :							<b>MDAP/MAIS Code:</b>						
<b>Models of Systems Affected:</b> M270A1				<b>Modification Type:</b> .				<b>Related RDT&amp;E PEs:</b>					
Financial Plan	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total	
	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 3: MLRS Fleet Expansion</b>													
A Kits													
Recurring													
Obsolescence Mitigation (inactive)	- / 468.803	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 468.803	
System Engineering Program Management	- / -	- / 14.418	- / 16.520	- / 0.000	- / 16.244	- / 16.244	- / 16.891	- / -	- / -	- / -	- / 0.000	- / 64.073	
Transmissions and Engines	- / -	- / 17.125	- / 4.618	- / 0.000	- / 25.526	- / 25.526	- / 24.101	- / 15.035	- / -	- / -	- / 0.000	- / 86.405	
Prime Contractor M270A2 Launcher	- / -	- / -	76 / 386.090	0 / 0.000	39 / 271.493	39 / 271.493	38 / 261.663	7 / 50.129	- / -	- / -	- / 0.000	160 / 969.375	
<b>Subtotal: Recurring</b>	<b>- / 468.803</b>	<b>- / 31.543</b>	<b>76 / 407.228</b>	<b>- / -</b>	<b>39 / 313.263</b>	<b>39 / 313.263</b>	<b>38 / 302.655</b>	<b>7 / 65.164</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>160 / 1,588.656</b>	
Non-Recurring													
Obsolescence Mitigation Bradley Chassis	- / -	- / 18.494	- / 15.216	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 33.710	
Obsolescence Mitigation Fire Control Sys	- / -	- / 14.195	- / 11.214	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 25.409	
Launcher Risk Reduction	- / -	- / 12.850	- / 4.235	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 17.085	
Government Testing	- / -	- / -	- / -	- / 0.000	- / 10.460	- / 10.460	- / 12.260	- / -	- / -	- / -	- / 0.000	- / 12.720	
Initial Spares	- / -	- / -	- / -	- / 0.000	- / 28.939	- / 28.939	- / 20.256	- / 5.310	- / -	- / -	- / 0.000	- / 54.505	
<b>Subtotal: Non-Recurring</b>	<b>- / -</b>	<b>- / 45.539</b>	<b>- / 30.665</b>	<b>- / -</b>	<b>- / 29.399</b>	<b>- / 29.399</b>	<b>- / 22.516</b>	<b>- / 5.310</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / 133.429</b>	
<b>Subtotal: MLRS Fleet Expansion</b>	<b>- / 468.803</b>	<b>- / 77.082</b>	<b>76 / 437.893</b>	<b>- / 0.000</b>	<b>39 / 342.662</b>	<b>39 / 342.662</b>	<b>38 / 325.171</b>	<b>7 / 70.474</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>160 / 1,722.085</b>	
<b>Modification Item 2 of 3: MLRS Fleet Upgrade</b>													
A Kits													
Recurring													
System Engineering Program Management	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 14.235	- / 14.567	- / 3.758	Continuing	Continuing	
Transmissions and Engines	- / -	- / -	- / -	- / -	- / -	- / -	- / 16.235	- / 17.579	- / 12.496	- / -	Continuing	Continuing	
Prime Contractor M270A2 Launcher	- / -	- / -	- / -	- / -	- / -	- / -	- / -	20 / 146.144	23 / 178.451	3 / 30.760	Continuing	Continuing	
<b>Subtotal: Recurring</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / 16.235</b>	<b>20 / 177.958</b>	<b>23 / 205.514</b>	<b>3 / 34.518</b>	<b>Continuing</b>	<b>Continuing</b>	
Non-Recurring													
Government Testing	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 1.025	- / 0.354	- / -	Continuing	Continuing	
Training	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 2.580	- / 1.520	- / -	Continuing	Continuing	
<b>Subtotal: Non-Recurring</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / 3.605</b>	<b>- / 1.874</b>	<b>- / -</b>	<b>Continuing</b>	<b>Continuing</b>	
<b>Subtotal: MLRS Fleet Upgrade</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / 0.000</b>	<b>- / -</b>	<b>- / 0.000</b>	<b>- / 16.235</b>	<b>20 / 181.563</b>	<b>23 / 207.388</b>	<b>3 / 34.518</b>	<b>Continuing</b>	<b>Continuing</b>	
<b>Modification Item 3 of 3: Improved Armored Cab (IAC)</b>													
A Kits													

**UNCLASSIFIED**

<b>Exhibit P-3a, Individual Modification:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 03 / 10	<b>P-1 Line Item Number / Title:</b> 6552C67500 / MLRS Mods	<b>Modification Number / Title:</b> C67500 / Multiple Launch Rocket System (MLRS) Modifications

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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<b>Models of Systems Affected:</b> M270A1	<b>Modification Type:</b> .	<b>Related RDT&amp;E PEs:</b>
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Financial Plan	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
	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)
Recurring												
Production	- / -	51 / 61.153	51 / 41.105	0 / 0.000	51 / 44.357	51 / 44.357	51 / 43.453	27 / 25.891	- / -	- / -	Continuing	Continuing
Subtotal: Recurring	- / -	51 / 61.153	51 / 41.105	- / -	51 / 44.357	51 / 44.357	51 / 43.453	27 / 25.891	- / -	- / -	Continuing	Continuing
Subtotal: Improved Armored Cab (IAC)	- / -	51 / 61.153	51 / 41.105	- / 0.000	51 / 44.357	51 / 44.357	51 / 43.453	27 / 25.891	- / -	- / -	Continuing	Continuing
Subtotal: Procurement, All Modification Items	- / 468.803	51 / 138.235	127 / 478.998	- / -	90 / 387.019	90 / 387.019	89 / 384.859	54 / 277.928	23 / 207.388	3 / 34.518	Continuing	Continuing

<b>Installation</b>												
Subtotal: Installation	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -

<b>Total</b>												
<b>Total Cost (Procurement + Support + Installation)</b>	<b>468.803</b>	<b>138.235</b>	<b>478.998</b>	<b>-</b>	<b>387.019</b>	<b>387.019</b>	<b>384.859</b>	<b>277.928</b>	<b>207.388</b>	<b>34.518</b>	<b>Continuing</b>	<b>Continuing</b>

**UNCLASSIFIED**

<b>Exhibit P-3a, Individual Modification:</b> PB 2020 Army					<b>Date:</b> March 2019		
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 03 / 10			<b>P-1 Line Item Number / Title:</b> 6552C67500 / MLRS Mods			<b>Modification Number / Title:</b> C67500 / Multiple Launch Rocket System (MLRS) Modifications	
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :					<b>MDAP/MAIS Code:</b>		
<b>Modification Item 1 of 3:</b> MLRS Fleet Expansion							
<b>Manufacturer Information</b>							
Manufacturer Name: TBD				Manufacturer Location: TBD			
Administrative Leadtime (in Months): 3				Production Leadtime (in Months): 28			
<b>Dates</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
Contract Dates		Apr 2019	Apr 2020	Apr 2021	Apr 2022		
Delivery Dates		Dec 2021	Nov 2022	Nov 2023	Nov 2024		
<b>Installation Information</b>							
<b>Method of Implementation (Organic):</b> Field Artillery Launchers Product Office					<b>Installation Quantity:</b> 0		

**UNCLASSIFIED**

<b>Exhibit P-3a, Individual Modification:</b> PB 2020 Army					<b>Date:</b> March 2019		
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 03 / 10			<b>P-1 Line Item Number / Title:</b> 6552C67500 / MLRS Mods			<b>Modification Number / Title:</b> C67500 / Multiple Launch Rocket System (MLRS) Modifications	
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :					<b>MDAP/MAIS Code:</b>		
<b>Modification Item 2 of 3:</b> MLRS Fleet Upgrade							
<b>Manufacturer Information</b>							
Manufacturer Name: TBD				Manufacturer Location: TBD			
Administrative Leadtime (in Months): 3				Production Leadtime (in Months): 28			
<b>Dates</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
Contract Dates					Apr 2022	Apr 2023	Apr 2024
Delivery Dates					Jan 2025	Jan 2026	Jan 2027
<b>Installation Information</b>							
<b>Method of Implementation (Organic):</b> Field Artillery Launchers Product Office					<b>Installation Quantity:</b> 0		



**UNCLASSIFIED**

<b>Exhibit P-3a, Individual Modification:</b> PB 2020 Army					<b>Date:</b> March 2019		
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 03 / 10			<b>P-1 Line Item Number / Title:</b> 6552C67500 / MLRS Mods			<b>Modification Number / Title:</b> C67500 / Multiple Launch Rocket System (MLRS) Modifications	
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :					<b>MDAP/MAIS Code:</b>		
<b>Modification Item 3 of 3:</b> Improved Armored Cab (IAC)							
<b>Manufacturer Information</b>							
Manufacturer Name: Loc Performance Products, LLC					Manufacturer Location: Plymouth, MI		
Administrative Leadtime ( <i>in Months</i> ): 3					Production Leadtime ( <i>in Months</i> ): 21		
<b>Dates</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
Contract Dates	Aug 2018	May 2019	May 2020	May 2021	May 2022		
Delivery Dates	Mar 2020	Mar 2021	Mar 2022	Mar 2023	Mar 2024		
<b>Installation Information</b>							
<b>Method of Implementation (Organic):</b> Depot					<b>Installation Quantity:</b> 0		

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**Exhibit P-40, Budget Line Item Justification:** PB 2020 Army **Date:** March 2019

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A: Missile Procurement, Army / BA 03: Modification of Missiles / BSA 10: Modifications	<b>P-1 Line Item Number / Title:</b> 6580C67501 / HIMARS Modifications
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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> 0210600A, 0603778A, 0210608A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	225.505	9.566	10.196	-	12.483	12.483	6.089	7.300	9.711	17.421	Continuing	Continuing
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	225.505	9.566	10.196	-	12.483	12.483	6.089	7.300	9.711	17.421	Continuing	Continuing
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>225.505</b>	<b>9.566</b>	<b>10.196</b>	-	<b>12.483</b>	<b>12.483</b>	<b>6.089</b>	<b>7.300</b>	<b>9.711</b>	<b>17.421</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> )	-	281.353	175.793	-	312.075	312.075	276.773	331.818	323.700	290.350	Continuing	Continuing

**Description:**

FY 2020 funding totals include \$0.0M for Base and \$12.483M for Overseas Contingency Operations (OCO); of which \$12.483M is realigned as part of the OCO for Base Requirements. FY 2020 OCO for Base Requirements is OCO funding for base budget requirements in support of the National Defense Strategy. The Budget requests these funds in OCO to comply with the base budget defense caps included in the Budget Control Act of 2011.

The M142 High Mobility Artillery Rocket System (HIMARS) launcher is a full spectrum, combat proven, all weather, 24/7 lethal and responsive, precision strike weapon system. HIMARS provides critical missile precision strike, operational shaping fires, counter-fire, and close support destructive and suppressive fires. HIMARS is a C-130 or C-17 transportable, wheeled, indirect fire, rocket/missile launcher capable of firing one pod of precision rockets/missiles from the Multiple Launch Rocket System (MLRS) Family of Munitions (MFOM), to include the Extended Range (ER) Guided Multiple Launch Rocket System (GMLRS), the Army Tactical Missile System (ATACMS), and the Precision Strike Missile (PrSM). These munitions are capable of engaging targets with precision at ranges in excess of 400 kilometers.

Mod 1 (M142 Mods). Modifications are needed to address safety, operational-related, chassis, and Command, Control, Communications, Computer, and Intelligence (C4I) obsolescence issues within the HIMARS fleet. Additionally, procures system-specific training devices required to support the HIMARS Vehicle Maintainer training course.

Army Acquisition Objective (AAO) is 363 HIMARS launchers. The end state Army Acquisition Objective after HIMARS Fleet Expansion will be 419 HIMARS launchers.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	-	-	-	-	-	-	-	-
	Total Obligation Authority	4.256	4.444	0.000	6.879	6.879	3.875	4.553	5.536
ANG	Quantity	-	-	-	-	-	-	-	-
	Total Obligation Authority	5.310	5.752	0.000	5.604	5.604	2.214	2.747	4.175
<b>Total:</b>	<b>Quantity</b>	-	-	-	-	-	-	-	-

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**Exhibit P-40, Budget Line Item Justification:** PB 2020 Army **Date:** March 2019

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A: Missile Procurement, Army / BA 03: Modification of Missiles / BSA 10: Modifications	<b>P-1 Line Item Number / Title:</b> 6580C67501 / HIMARS Modifications
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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> 0210600A, 0603778A, 0210608A
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**Line Item MDAP/MAIS Code:** N/A

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Secondary Distribution	Total Obligation Authority	9.566	10.196	-	12.483	12.483	6.089	7.300	9.711	17.421

**UNCLASSIFIED**

**Exhibit P-40, Budget Line Item Justification:** PB 2020 Army **Date:** March 2019

**Appropriation / Budget Activity / Budget Sub Activity:**  
2032A: Missile Procurement, Army / BA 03: Modification of Missiles / BSA 10: Modifications

**P-1 Line Item Number / Title:**  
6580C67501 / HIMARS Modifications

**ID Code** (A=Service Ready, B=Not Service Ready): **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0210600A, 0603778A, 0210608A

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

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-3a	C67501 / HIMARS Modifications (Operational, Reliability, Safety, Crew Survivability)				- / 225.505	- / 9.566	- / 10.196	- / -	- / 12.483	- / 12.483
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 225.505</b>	<b>- / 9.566</b>	<b>- / 10.196</b>	<b>- / -</b>	<b>- / 12.483</b>	<b>- / 12.483</b>

Exhibits Schedule					FY 2021	FY 2022	FY 2023	FY 2024	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	C67501 / HIMARS Modifications (Operational, Reliability, Safety, Crew Survivability)				- / 6.089	- / 7.300	- / 9.711	- / 17.421	Continuing	Continuing
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 6.089</b>	<b>- / 7.300</b>	<b>- / 9.711</b>	<b>- / 17.421</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:**  
FY2020 OCO procurement dollars in the amount of \$12.483 million support obsolescence mitigation and other design modifications of the M142 High Mobility Artillery Rocket System (HIMARS) fleet. HIMARS Modifications funding will include, but are not limited to, the following: updating the FMTV carrier and the Launcher-Loader Module drawing packages and Technical Data Packages through the prime contractor and the government product office; updating the Interactive Electronic Technical Manuals for Soldiers to perform operator maintenance; upgrading the Diagnostic Trainers and HIMARS Mock-up Trainer due to obsolescence. Software updates and Information Assurance requirements will be conducted to support fielding of Software Version 8.x. System engineering efforts will be conducted to sustain the system and to assess and conduct modifications such as long range communications, wireless vehicular intercom system, carrier, Launcher-Loader Module, and Fire Control System obsolescence.

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 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 03 / 10	<b>P-1 Line Item Number / Title:</b> 6580C67501 / HIMARS Modifications	<b>Modification Number / Title:</b> C67501 / HIMARS Modifications

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	225.505	9.566	10.196	-	12.483	12.483	6.089	7.300	9.711	17.421	Continuing	Continuing
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	225.505	9.566	10.196	-	12.483	12.483	6.089	7.300	9.711	17.421	Continuing	Continuing
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>225.505</b>	<b>9.566</b>	<b>10.196</b>	-	<b>12.483</b>	<b>12.483</b>	<b>6.089</b>	<b>7.300</b>	<b>9.711</b>	<b>17.421</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> )	-	281.353	175.793	-	312.075	312.075	276.773	331.818	323.700	290.350	Continuing	Continuing

**Description:**

The M142 High Mobility Artillery Rocket System (HIMARS) launcher is a full-spectrum, combat-proven, all-weather, 24/7 lethal and responsive, precision strike weapon system. HIMARS provides critical missile precision strike, operational shaping fires, counter-fire, and close support destructive and suppressive fires. HIMARS is a C-130 or C-17 transportable, wheeled, indirect fire, rocket/misile launcher capable of firing one pod of precision rockets/missiles from the Multiple Launch Rocket System (MLRS) Family of Munitions (MFOM), to include the Extended Range (ER) Guided Multiple Launch Rocket System (GMLRS), the Army Tactical Missile System (ATACMS), and the Precision Strike Missile (PrSM). These munitions are capable of engaging targets with precision at ranges in excess of 400 kilometers.

Mod 1 (M142 Mods). Modifications are needed to address safety, operational-related, chassis, and Command, Control, Communications, Computer, and Intelligence (C4I) obsolescence issues within the HIMARS fleet. Additionally, procures system-specific training devices required to support the HIMARS Vehicle Maintainer training course.

Army Acquisition Objective (AAO) is 363 HIMARS launchers. The end state Army Acquisition Objective after HIMARS Fleet Expansion will be 419 HIMARS launchers.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	4.256	4.444	0.000	6.879	6.879	3.875	4.553	5.536	9.930
ANG	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	5.310	5.752	0.000	5.604	5.604	2.214	2.747	4.175	7.491
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	-	-	-	-	-	-	-	-	-
	<b>Total Obligation Authority</b>	<b>9.566</b>	<b>10.196</b>	-	<b>12.483</b>	<b>12.483</b>	<b>6.089</b>	<b>7.300</b>	<b>9.711</b>	<b>17.421</b>

**UNCLASSIFIED**

<b>Exhibit P-3a, Individual Modification: PB 2020 Army</b>										<b>Date: March 2019</b>			
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 03 / 10					<b>P-1 Line Item Number / Title:</b> 6580C67501 / HIMARS Modifications					<b>Modification Number / Title:</b> C67501 / HIMARS Modifications			
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :							<b>MDAP/MAIS Code:</b>						
<b>Models of Systems Affected:</b> M142 High Mobility Artillery Rocket System				<b>Modification Type:</b> Operational, Reliability, Safety, Crew Survivability				<b>Related RDT&amp;E PEs:</b>					
Financial Plan	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total	
	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>													
<i>Modification Item 1 of 1: M142 Mods</i>													
A Kits													
Non-Recurring													
Program Management	- / -	- / 1.300	- / 1.326	- / 0.000	- / 1.353	- / 1.353	- / 1.381	- / 1.409	- / 1.437	- / 1.465	Continuing	Continuing	
Systems Engineering	- / -	- / 2.425	- / 2.474	- / 0.000	- / 2.350	- / 2.350	- / 1.800	- / 2.446	- / 2.495	- / 2.544	Continuing	Continuing	
Test & Evaluation (Acceptance Testing)	- / -	- / 1.200	- / 1.224	- / 0.000	- / 1.249	- / 1.249	- / 1.274	- / 1.300	- / 1.326	- / 1.352	Continuing	Continuing	
Training	- / -	- / 0.661	- / 0.675	- / 0.000	- / 0.689	- / 0.689	- / 0.703	- / 0.718	- / 0.732	- / 0.746	Continuing	Continuing	
Peculiar Support Equipment	- / -	- / 0.175	- / 0.179	- / 0.000	- / 0.183	- / 0.183	- / 0.187	- / 0.191	- / 0.195	- / 0.199	Continuing	Continuing	
Industrial Facilities	- / -	- / 0.700	- / 0.714	- / 0.000	- / 0.729	- / 0.729	- / 0.744	- / 0.759	- / 0.774	- / 0.789	Continuing	Continuing	
Obsolescence Mitigation	- / 225.505	- / 3.105	- / 3.604	- / 0.000	- / 5.930	- / 5.930	- / -	- / 10.477	- / 2.752	- / 10.326	Continuing	Continuing	
<i>Subtotal: Non-Recurring</i>	- / 225.505	- / 9.566	- / 10.196	- / -	- / 12.483	- / 12.483	- / 6.089	- / 7.300	- / 9.711	- / 17.421	Continuing	Continuing	
<i>Subtotal: M142 Mods</i>	- / 225.505	- / 9.566	- / 10.196	- / 0.000	- / 12.483	- / 12.483	- / 6.089	- / 7.300	- / 9.711	- / 17.421	Continuing	Continuing	
<i>Subtotal: Procurement, All Modification Items</i>	- / 225.505	- / 9.566	- / 10.196	- / -	- / 12.483	- / 12.483	- / 6.089	- / 7.300	- / 9.711	- / 17.421	Continuing	Continuing	
<b>Installation</b>													
<i>Subtotal: Installation</i>	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	
<b>Total</b>													
<b>Total Cost (Procurement + Support + Installation)</b>	<b>225.505</b>	<b>9.566</b>	<b>10.196</b>	<b>-</b>	<b>12.483</b>	<b>12.483</b>	<b>6.089</b>	<b>7.300</b>	<b>9.711</b>	<b>17.421</b>	<b>Continuing</b>	<b>Continuing</b>	

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<b>Exhibit P-3a, Individual Modification:</b> PB 2020 Army					<b>Date:</b> March 2019		
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 03 / 10			<b>P-1 Line Item Number / Title:</b> 6580C67501 / HIMARS Modifications			<b>Modification Number / Title:</b> C67501 / HIMARS Modifications	
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :					<b>MDAP/MAIS Code:</b>		
<b>Modification Item 1 of 1:</b> M142 Mods							
<b>Manufacturer Information</b>							
Manufacturer Name: Precision Fires Rocket & Missile Systems Project Office				Manufacturer Location: Redstone Arsenal, AL			
Administrative Leadtime (in Months):				Production Leadtime (in Months):			
<b>Dates</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
Contract Dates							
Delivery Dates							
<b>Installation Information</b>							
<b>Method of Implementation (Organic):</b> Field Artillery Launchers Product Office					<b>Installation Quantity:</b> 0		

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**Exhibit P-40, Budget Line Item Justification:** PB 2020 Army **Date:** March 2019

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A: Missile Procurement, Army / BA 04: Spares and Repair Parts / BSA 10: Spares And Repair Parts	<b>P-1 Line Item Number / Title:</b> 1242CA0250 / Spares And Repair Parts
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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 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	311.727	17.915	27.737	-	26.444	26.444	5.096	16.185	6.387	6.560	Continuing	Continuing
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	311.727	17.915	27.737	-	26.444	26.444	5.096	16.185	6.387	6.560	Continuing	Continuing
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>311.727</b>	<b>17.915</b>	<b>27.737</b>	<b>-</b>	<b>26.444</b>	<b>26.444</b>	<b>5.096</b>	<b>16.185</b>	<b>6.387</b>	<b>6.560</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:**

FY 2020 funding totals include \$0.0M for Base and \$26.444M for Overseas Contingency Operations (OCO); of which \$26.444M is realigned as part of the OCO for Base Requirements. FY 2020 OCO for Base Requirements is OCO funding for base budget requirements in support of the National Defense Strategy. The Budget requests these funds in OCO to comply with the base budget defense caps included in the Budget Control Act of 2011.

Provides for the procurement of spares to support initial fielding of new or modified end items.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	17.915	27.737	0.000	26.444	26.444	5.096	16.185	6.387	6.560
<b>Total:</b>									
<b>Secondary Distribution</b>									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	17.915	27.737	-	26.444	26.444	5.096	16.185	6.387	6.560



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**Exhibit P-40, Budget Line Item Justification:** PB 2020 Army **Date:** March 2019

**Appropriation / Budget Activity / Budget Sub Activity:** 2032A: Missile Procurement, Army / BA 04: Spares and Repair Parts / BSA 10: Spares And Repair Parts **P-1 Line Item Number / Title:** 1242CA0250 / Spares And Repair Parts

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

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

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	CA0267 / PATRIOT MODIFICATION INITIAL SPARES				- / 311.727	- / 17.915	- / 27.737	- / -	- / 26.444	- / 26.444
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 311.727</b>	<b>- / 17.915</b>	<b>- / 27.737</b>	<b>- / -</b>	<b>- / 26.444</b>	<b>- / 26.444</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:**  
 FY2020 procurement dollars in the amount of \$26.444 million support the continuing acquisition of Patriot Modification Initial Spares. The funds in this account procure depot level repairable (DLR) secondary items from Supply Management, Army activities of the Army Working Capital Fund and commercial life cycle support vendors. To provide initial support, funds are required in the same year that end items are fielded.

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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**Exhibit P-40a, Budget Item Justification For Aggregated Items:** PB 2020 Army **Date:** March 2019

**Appropriation / Budget Activity / Budget Sub Activity:** 2032A / 04 / 10 **P-1 Line Item Number / Title:** 1242CA0250 / Spares And Repair Parts **Aggregated Items Title:** Various

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
<b>PATRIOT MODIFICATION INITIAL SPARES</b>																				
CA0267 / PATRIOT MODIFICATION INITIAL SPARES			-	-	311.727	-	-	17.915	-	-	27.737	-	-	-	-	-	26.444	-	-	26.444
<i>Secondary Distribution</i>																				
Army			-	-	-	-	-	17.915	-	-	27.737	-	-	0.000	-	-	26.444	-	-	26.444
<b>Subtotal: PATRIOT MODIFICATION INITIAL SPARES</b>			-	-	<b>311.727</b>	-	-	<b>17.915</b>	-	-	<b>27.737</b>	-	-	-	-	-	<b>26.444</b>	-	-	<b>26.444</b>
<b>Total</b>			-	-	<b>311.727</b>	-	-	<b>17.915</b>	-	-	<b>27.737</b>	-	-	-	-	-	<b>26.444</b>	-	-	<b>26.444</b>

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

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**Exhibit P-40, Budget Line Item Justification:** PB 2020 Army **Date:** March 2019

**Appropriation / Budget Activity / Budget Sub Activity:** 2032A: Missile Procurement, Army / BA 05: Support Equipment and Facilities / BSA 10: Support Equipment & Facilities **P-1 Line Item Number / Title:** 1242C93000 / Air Defense Targets

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

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

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	394	394	394	-	394	394	394	394	394	394	-	3,152
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	435.358	5.728	6.417	-	10.593	10.593	6.807	6.749	6.884	7.002	-	485.538
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	435.358	5.728	6.417	-	10.593	10.593	6.807	6.749	6.884	7.002	-	485.538
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>435.358</b>	<b>5.728</b>	<b>6.417</b>	<b>-</b>	<b>10.593</b>	<b>10.593</b>	<b>6.807</b>	<b>6.749</b>	<b>6.884</b>	<b>7.002</b>	<b>-</b>	<b>485.538</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> )	1,104.970	14.538	16.287	-	26.886	26.886	17.277	17.129	17.472	17.772	-	154.041

**Description:**

FY 2020 funding totals include \$0.0M for Base and \$10.593M for Overseas Contingency Operations (OCO); of which \$10.593M and 394 quantity is realigned as part of the OCO for Base Requirements. FY 2020 OCO for Base Requirements is OCO funding for base budget requirements in support of the National Defense Strategy. The Budget requests these funds in OCO to comply with the base budget defense caps included in the Budget Control Act of 2011.

Air Defense Artillery (ADA) Targets program procures target hardware and associated training services to include scoring, payload, and ground support equipment to enable Air Defense Artillery Soldiers and units to conduct required training. This training consists of Department of the Army Pamphlet (DA PAM) 350-38 (Standards in Training Commission) required gunnery tables and aerial target tracking, training, and scoring. Target systems are also available to support collective training exercises and Force Development Testing and Experimentation (FDT&E) investigations of engagement techniques for small unmanned aircraft systems.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	394	394	0	394	394	394	394	394	394
	Total Obligation Authority	5.728	6.417	0.000	10.593	10.593	6.807	6.749	6.884	7.002
<b>Total:</b>	<b>Quantity</b>	<b>394</b>	<b>394</b>	<b>0</b>	<b>394</b>	<b>394</b>	<b>394</b>	<b>394</b>	<b>394</b>	<b>394</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>5.728</b>	<b>6.417</b>	<b>-</b>	<b>10.593</b>	<b>10.593</b>	<b>6.807</b>	<b>6.749</b>	<b>6.884</b>	<b>7.002</b>

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**Exhibit P-40, Budget Line Item Justification:** PB 2020 Army **Date:** March 2019

**Appropriation / Budget Activity / Budget Sub Activity:** 2032A: Missile Procurement, Army / BA 05: Support Equipment and Facilities / BSA 10: Support Equipment & Facilities **P-1 Line Item Number / Title:** 1242C93000 / Air Defense Targets

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

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

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	C93000 / Air Defense Targets	P-5a			394 / 435.358	394 / 5.728	394 / 6.417	- / -	394 / 10.593	394 / 10.593
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>394 / 435.358</b>	<b>394 / 5.728</b>	<b>394 / 6.417</b>	<b>- / -</b>	<b>394 / 10.593</b>	<b>394 / 10.593</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 2020 Base procurement dollars in the amount of \$10.593 million supports Air Defense Artillery Targets and scoring, payload, and ground support equipment for training required in DA PAM 350-38, Standards in Training Commission (STRAC). These items support gunnery tables, aerial target tracking (Captive Flight Trainer (CFT) and Tracking Head Trainer (THT) 5.56) training, Missile Live Fire training when missiles are allocated in accordance with (IAW) the Missile Distribution Plan, and U.S. Army Avenger systems worldwide. Training requirements are generated by Department of the Army Major Field Commands, Training Centers, Division Level Commands, and real world mission rehearsals. These field requirements have been reviewed and validated against ongoing force restructuring and are consistent with the approved training doctrine. These targets are necessary to meet Army Regulation 220-1 (Unit Status Reporting) training requirements, training strategies and gunnery standards, and soldier qualification in support of unit readiness. Funding is also resourced for the implementation of Microsoft Windows 10 operating system (OS) upgrades on all Ground Control Stations as directed by Deputy Secretary Of Defense memo to strengthen the Department's cyber security posture.

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 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 05 / 10	<b>P-1 Line Item Number / Title:</b> 1242C93000 / Air Defense Targets	<b>Item Number / Title [DODIC]:</b> C93000 / Air Defense Targets

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity (Units in Each)	394	394	394	-	394	394
Gross/Weapon System Cost (\$ in Millions)	435.358	5.728	6.417	-	10.593	10.593
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	435.358	5.728	6.417	-	10.593	10.593
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>435.358</b>	<b>5.728</b>	<b>6.417</b>	<b>-</b>	<b>10.593</b>	<b>10.593</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)	1,104.970	14.538	16.287	-	26.886	26.886

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Flyaway Cost																		
Recurring Cost																		
Remotely Piloted Vehicle Target (RPVT) <sup>(†)</sup>	1,095.387	395	432.678	5.992	394	2.361	6.756	394	2.662	-	-	-	6.962	394	2.743	6.962	394	2.743
Infrared Kit Payload <sup>(†)</sup>	0.269	394	0.106	0.284	394	0.112	0.322	394	0.127	-	-	-	0.332	394	0.131	0.332	394	0.131
Launcher <sup>(†)</sup>	27.333	3	0.082	27.250	4	0.109	30.000	4	0.120	-	-	-	31.000	5	0.155	31.000	5	0.155
Manual Navigation GCS <sup>(†)</sup>	-	-	-	10.429	14	0.146	11.857	14	0.166	-	-	-	12.214	14	0.171	12.214	14	0.171
BVR Navigation GCS <sup>(†)</sup>	-	-	-	27.000	4	0.108	30.750	4	0.123	-	-	-	31.750	4	0.127	31.750	4	0.127
BVR Payload <sup>(†)</sup>	12.063	32	0.386	12.063	16	0.193	13.700	20	0.274	-	-	-	14.100	20	0.282	14.100	20	0.282
Acoustic Scoring Payload <sup>(†)</sup>	13.385	26	0.348	13.792	24	0.331	13.393	28	0.375	-	-	-	13.786	28	0.386	13.786	28	0.386
Acoustic Scoring GCS <sup>(†)</sup>	-	-	-	43.000	8	0.344	47.778	9	0.430	-	-	-	49.222	9	0.443	49.222	9	0.443
Radar Scoring Payload <sup>(†)</sup>	-	-	-	16.900	20	0.338	18.750	20	0.375	-	-	-	19.300	20	0.386	19.300	20	0.386
Radar Scoring GCS <sup>(†)</sup>	-	-	-	-	-	-	17.000	1	0.017	-	-	-	18.000	1	0.018	18.000	1	0.018
RPVT Lighting Kit Payload <sup>(†)</sup>	0.294	34	0.010	0.273	22	0.006	0.323	31	0.010	-	-	-	0.323	31	0.010	0.323	31	0.010
Program Management Support	1,579.000	1	1.579	1,597.000	1	1.597	1,646.000	1	1.646	-	-	-	1,815.000	1	1.815	1,815.000	1	1.815

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**Exhibit P-5, Cost Analysis: PB 2020 Army** **Date:** March 2019

**Appropriation / Budget Activity / Budget Sub Activity:** 2032A / 05 / 10 **P-1 Line Item Number / Title:** 1242C93000 / Air Defense Targets **Item Number / Title [DODIC]:** C93000 / Air Defense Targets

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

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Smoke Generator Payload <sup>(†)</sup>	0.400	15	0.006	0.421	19	0.008	0.474	19	0.009	-	-	-	-	-	-	-	-	-
Over the Horizon BVR Payload <sup>(†)</sup>	27.167	6	0.163	19.000	4	0.076	20.750	4	0.083	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	435.358	-	-	5.729	-	-	6.417	-	-	0.000	-	-	6.667	-	-	6.667
<i>Subtotal: Flyaway Cost</i>	-	-	435.358	-	-	5.729	-	-	6.417	-	-	0.000	-	-	6.667	-	-	6.667
<b>Software Cost</b>																		
<b>Recurring Cost</b>																		
Technical Refresh - Windows OS Update	-	-	-	-	-	-	-	-	-	-	-	-	3,926.000	1	3.926	3,926.000	1	3.926
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	0.000	-	-	3.926	-	-	3.926
<i>Subtotal: Software Cost</i>	-	-	-	-	-	-	-	-	-	-	-	0.000	-	-	3.926	-	-	3.926
<b>Gross/Weapon System Cost</b>	<b>1,104.970</b>	<b>394</b>	<b>435.358</b>	<b>14.538</b>	<b>394</b>	<b>5.728</b>	<b>16.287</b>	<b>394</b>	<b>6.417</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>26.886</b>	<b>394</b>	<b>10.593</b>	<b>26.886</b>	<b>394</b>	<b>10.593</b>

**Remarks:**

FY 2020 increase in unit cost for Windows Operating System upgrade, which is necessary to maintain the system's authority to operate.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	394	394	0	394	394
	Total Obligation Authority	5.728	6.417	0.000	10.593	10.593
<b>Total:</b>	<b>Quantity</b>	<b>394</b>	<b>394</b>	<b>-</b>	<b>394</b>	<b>394</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>5.728</b>	<b>6.417</b>	<b>-</b>	<b>10.593</b>	<b>10.593</b>

(†) indicates the presence of a P-5a

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**Exhibit P-5a, Procurement History and Planning: PB 2020 Army** **Date:** March 2019

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 05 / 10	<b>P-1 Line Item Number / Title:</b> 1242C93000 / Air Defense Targets	<b>Item Number / Title [DODIC]:</b> C93000 / Air Defense Targets
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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
Remotely Piloted Vehicle Target (RPVT)		2018	Griffon Aerospace Inc. / Madison, AL	C / FFP	AMCOM	Mar 2018	Jun 2018	394	5.992	Y		
Remotely Piloted Vehicle Target (RPVT)		2019	Griffon Aerospace Inc. / Madison, AL	C / FFP	AMCOM	Mar 2019	Jun 2019	394	6.756	Y		
Remotely Piloted Vehicle Target (RPVT)	✓	2020	Griffon Aerospace Inc. / Madison, AL	C / FFP	AMCOM	Mar 2020	Jun 2020	394	6.962	Y		
Infrared Kit Payload		2018	Griffon Aerospace Inc. / Madison, AL	C / FFP	AMCOM	Mar 2018	Jun 2018	394	0.284	Y		
Infrared Kit Payload		2019	Griffon Aerospace Inc. / Madison, AL	C / FFP	AMCOM	Mar 2019	Jun 2019	394	0.322	Y		
Infrared Kit Payload	✓	2020	Griffon Aerospace Inc. / Madison, AL	C / FFP	AMCOM	Mar 2020	Jun 2020	394	0.332	Y		
Launcher		2018	Griffon Aerospace Inc. / Madison, AL	C / FFP	AMCOM	Mar 2018	Jun 2018	4	27.250	Y		
Launcher		2019	Griffon Aerospace Inc. / Madison, AL	C / FFP	AMCOM	Mar 2019	Jun 2019	4	30.000	Y		
Launcher	✓	2020	Griffon Aerospace Inc. / Madison, AL	C / FFP	AMCOM	Mar 2020	Jun 2020	5	31.000	Y		
Manual Navigation GCS		2018	Griffon Aerospace Inc. / Madison, AL	C / FFP	AMCOM	Mar 2018	Jun 2018	14	10.429	Y		
Manual Navigation GCS		2019	Griffon Aerospace Inc. / Madison, AL	C / FFP	AMCOM	Mar 2019	Jun 2019	14	11.857	Y		
Manual Navigation GCS	✓	2020	Griffon Aerospace Inc. / Madison, AL	C / FFP	AMCOM	Mar 2020	Jun 2020	14	12.214	Y		
BVR Navigation GCS		2018	Griffon Aerospace Inc. / Madison, AL	C / FFP	AMCOM	Mar 2018	Jun 2018	4	27.000	Y		
BVR Navigation GCS		2019	Griffon Aerospace Inc. / Madison, AL	C / FFP	AMCOM	Mar 2019	Jun 2019	4	30.750	Y		
BVR Navigation GCS	✓	2020	Griffon Aerospace Inc. / Madison, AL	C / FFP	AMCOM	Mar 2020	Jun 2020	4	31.750	Y		
BVR Payload		2018	Griffon Aerospace Inc. / Madison, AL	C / FFP	AMCOM	Mar 2018	Jun 2018	16	12.063	Y		
BVR Payload		2019	Griffon Aerospace Inc. / Madison, AL	C / FFP	AMCOM	Mar 2019	Jun 2019	20	13.700	Y		
BVR Payload	✓	2020	Griffon Aerospace Inc. / Madison, AL	C / FFP	AMCOM	Mar 2020	Jun 2020	20	14.100	Y		
Acoustic Scoring Payload		2018	Griffon Aerospace Inc. / Madison, AL	C / FFP	AMCOM	Mar 2018	Jun 2018	24	13.792	Y		
Acoustic Scoring Payload		2019	Griffon Aerospace Inc. / Madison, AL	C / FFP	AMCOM	Mar 2019	Jun 2019	28	13.393	Y		
Acoustic Scoring Payload	✓	2020	Griffon Aerospace Inc. / Madison, AL	C / FFP	AMCOM	Mar 2020	Jun 2020	28	13.786	Y		
Acoustic Scoring GCS		2018	Griffon Aerospace Inc. / Madison, AL	C / FFP	AMCOM	Mar 2018	Jun 2018	8	43.000	Y		
Acoustic Scoring GCS		2019	Griffon Aerospace Inc. / Madison, AL	C / FFP	AMCOM	Mar 2019	Jun 2019	9	47.778	Y		
Acoustic Scoring GCS	✓	2020	Griffon Aerospace Inc. / Madison, AL	C / FFP	AMCOM	Mar 2020	Jun 2020	9	49.222	Y		
Radar Scoring Payload		2018	Griffon Aerospace Inc. / Madison, AL	C / FFP	AMCOM	Mar 2018	Jun 2018	20	16.900	Y		
Radar Scoring Payload		2019	Griffon Aerospace Inc. / Madison, AL	C / FFP	AMCOM	Mar 2019	Jun 2019	20	18.750	Y		
Radar Scoring Payload	✓	2020	Griffon Aerospace Inc. / Madison, AL	C / FFP	AMCOM	Mar 2020	Jun 2020	20	19.300	Y		
Radar Scoring GCS		2019	Griffon Aerospace Inc. / Madison, AL	C / FFP	AMCOM	Mar 2019	Jun 2019	1	17.000	Y		
Radar Scoring GCS	✓	2020	Griffon Aerospace Inc. / Madison, AL	C / FFP	AMCOM	Mar 2020	Jun 2020	1	18.000	Y		
RPVT Lighting Kit Payload		2018	Griffon Aerospace Inc. / Madison, AL	C / FFP	AMCOM	Mar 2018	Jun 2018	22	0.273	Y		
RPVT Lighting Kit Payload		2019	Griffon Aerospace Inc. / Madison, AL	C / FFP	AMCOM	Mar 2019	Jun 2019	31	0.323	Y		
RPVT Lighting Kit Payload	✓	2020	Griffon Aerospace Inc. / Madison, AL	C / FFP	AMCOM	Mar 2020	Jun 2020	31	0.323	Y		

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**Exhibit P-5a, Procurement History and Planning: PB 2020 Army** **Date:** March 2019

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A / 05 / 10	<b>P-1 Line Item Number / Title:</b> 1242C93000 / Air Defense Targets	<b>Item Number / Title [DODIC]:</b> C93000 / Air Defense Targets
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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
Smoke Generator Payload		2018	Griffon Aerospace Inc. / Madison, AL	C / FFP	AMCOM	Mar 2018	Jun 2018	19	0.421	Y		
Smoke Generator Payload		2019	Griffon Aerospace Inc. / Madison, AL	C / FFP	AMCOM	Mar 2019	Jun 2019	19	0.474	Y		
Over the Horizon BVR Payload		2018	Griffon Aerospace Inc. / Madison, AL	C / FFP	AMCOM	Mar 2018	Jun 2018	4	19.000	Y		
Over the Horizon BVR Payload		2019	Griffon Aerospace Inc. / Madison, AL	C / FFP	AMCOM	Mar 2019	Jun 2019	4	20.750	Y		



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**Exhibit P-40, Budget Line Item Justification:** PB 2020 Army **Date:** March 2019

**Appropriation / Budget Activity / Budget Sub Activity:**  
2032A: Missile Procurement, Army / BA 05: Support Equipment and Facilities / BSA 10: Support Equipment & Facilities

**P-1 Line Item Number / Title:**  
4662CA0100 / Production Base Support

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

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

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	370.027	1.189	1.202	-	-	-	-	-	-	-	-	372.418
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	370.027	1.189	1.202	-	-	-	-	-	-	-	-	372.418
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>370.027</b>	<b>1.189</b>	<b>1.202</b>	-	-	-	-	-	-	-	-	<b>372.418</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 the Army Test and Evaluation Command (ATEC) to establish, modernize, expand or replace test facilities used in production testing of missiles and missile components. It sustains Army production test capabilities through upgrade and replacement of instrumentation and equipment that are 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 the White Sands Test Center (WSTC), White Sands Missile Range, New Mexico and Redstone Test Center (RTC), Huntsville, Alabama.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	1.189	1.202	-	-	-	-	-	-	-
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	-	-	-	-	-	-	-	-	-
	<b>Total Obligation Authority</b>	<b>1.189</b>	<b>1.202</b>	-	-	-	-	-	-	-

**Justification:**

ATEC: FY 2019 Base procurement dollars in the amount of \$1.202 million support the following: At White Sands Test Center (WSTC), upgrades warhead test equipment for Missile Flight Environmental Simulator System (MFESS) Safe and Arm (S&A) Device centrifuge to enhance the existing mechanical and software capabilities of the centrifuge certification equipment located in Building 28271 at the Hazardous Test Area Facility. Also acquires new acquisition and analysis equipment, filters, amplifiers, and transducers to replace and upgrade the aging sensors and data acquisition equipment for missile and rocket system testing. At Redstone Test Center (RTC), replaces obsolete and failing vertical shock machines used to perform missile shock tests by producing shock pulses within tolerances of MIL-STD-810; maintains the capability to evaluate hardware under anticipated shock environments in an efficient manner. The majority of the instrumentation being upgraded or replaced is obsolete and has met or exceeded its economic useful life (EUL). This instrumentation is required to ensure complete and accurate test data are collected and safety and environmental hazards are minimized. Benefits of this project include increased test efficiencies and decreased costs and risks to Army Program Managers.

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<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2032A: Missile Procurement, Army / BA 05: Support Equipment and Facilities / BSA 10: Support Equipment & Facilities		<b>P-1 Line Item Number / Title:</b> 4662CA0100 / Production Base Support
<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		
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.		