## Department of Defense Fiscal Year (FY) 2018 Budget Estimates

May 2017



## **Army**

Justification Book of

Missile Procurement, Army

**UNCLASSIFIED** 

## MISSILE PROCUREMENT, ARMY

### **Appropriation Language**

For construction, procurement, production, modification, and modernization of missile equipment, including ordnance, ground handling equipment, spare parts, and accessories therefore; specialized equipment and training devices; expansion of public and private plants, including the land necessary therefore, for the foregoing purposes, and such lands and interests therein, may be acquired, and construction prosecuted thereon prior to approval of title; and procurement and installation of equipment, appliances, and machine tools in public and private plants; reserve plant and Government and contractor-owned equipment layaway; and other expenses necessary for the foregoing purposes, \$3,078,337 to remain available for obligation until September 30, 2020.

### **COST STATEMENT**

The following Justification Books were prepared at a cost of \$250,916: 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.

# Department of the Army FY 2018 President's Budget Exhibit P-1 FY 2018 President's Budget Total Obligational Authority (Dollars in Thousands)

03 May 2017

Appropriation	FY 2016 (Base & OCO)	FY 2017 with CR Adj Base	FY 2017 with CR Adj OCO	FY 2017 with CR Adj Total
Missile Procurement, Army	1,684,154	2,450,568	-133,040	2,317,528
Total Department of the Army	1,684,154	2,450,568	-133,040	2,317,528

# Department of the Army FY 2018 President's Budget Exhibit P-1 FY 2018 President's Budget Total Obligational Authority (Dollars in Thousands)

03 May 2017

Appropriation	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Missile Procurement, Army	2,519,054	559,283	3,078,337
Total Department of the Army	2,519,054	559,283	3,078,337

# Department of the Army FY 2018 President's Budget Exhibit P-1 FY 2018 President's Budget Total Obligational Authority (Dollars in Thousands)

03 May 2017

Appropriation: Missile Procurement, Army

Budget Activity	FY 2016 (Base & OCO)	FY 2017 with CR Adj Base	FY 2017 with CR Adj OCO	FY 2017 with CR Adj Total
02. Other Missiles	1,306,007	1,634,928	462,517	2,097,445
03. Modification of Missiles	334,404	697,136		697,136
04. Spares and Repair Parts	33,778	34,487		34,487
05. Support Equipment and Facilities	9,965	6,069	6	6,069
20. Undistributed		77,948	-595,557	-517,609
Total Missile Procurement, Army	1,684,154	2,450,568	-133,040	2,317,528

# Department of the Army FY 2018 President's Budget Exhibit P-1 FY 2018 President's Budget Total Obligational Authority (Dollars in Thousands)

03 May 2017

Appropriation: Missile Procurement, Army

Budget Activity	FY 2018 Base	FY 2018 OCO	FY 2018 Total
02. Other Missiles	1,770,256	531,283	2,301,539
03. Modification of Missiles	722,966	28,000	750,966
04. Spares and Repair Parts	18,915		18,915
05. Support Equipment and Facilities	6,917	(4)	6,917
20. Undistributed	K		
Total Missile Procurement, Army	2,519,054	559,283	3,078,337

# Department of the Army FY 2018 President's Budget Exhibit P-1 FY 2018 President's Budget Total Obligational Authority (Dollars in Thousands)

03 May 2017

Appropriation: 2032A Missile Procurement, Army

Line No Item Nomenclature	Ident Code		-		_		-	wit	Y 2017 h CR Adj Total ty Cost	S e C
Budget Activity 02: Other Missiles		2								
Surface-to-Air Missile System										
1 Lower Tier Air and Missile Defense (AMD)	A		130,275		126,470				126,470	U
2 MSE Missile		112	514,946	85	702,201			85	702,201	Ü
3 INDIRECT FIRE PROTECTION CAPABILITY INC 2-I Less: Advance Procurement (PY)	A									U U
							RESEARCH SERVICE	48		
4 INDIRECT FIRE PROTECTION CAPABILITY INC 2-I Advance Procurement (CY) C (FY 2017 for FY 2018) (M)					19,319 (19,319)				19,319 (19,319)	U
Air-To-Surface Missile System			i							
5 Hellfire Sys Summary	A	383	86,325	155	42,013	4055	228,330	4210	270,343	U
6 Joint Air-To-Ground Msls (JAGM) Less: Advance Procurement (PY)				324	(92,489) (-27,738)			324	(92,489) (-27,738)	
					64,751				64,751	
7 Joint Air-To-Ground Msls (JAGM) Advance Procurement (CY) C (FY 2016 for FY 2017) (M) C (FY 2017 for FY 2018) (M)			27,738 (27,738)		37,100 (37,100)				37,100 (37,100)	υ
Anti-Tank/Assault Missile Sys										
8 Javelin (Aaws-M) System Summary		850	168,163	900	177,708	83	15,567	983	193,275	U

# Department of the Army FY 2018 President's Budget Exhibit P-1 FY 2018 President's Budget Total Obligational Authority (Dollars in Thousands)

03 May 2017

Appropriation: 2032A Missile Procurement, Army

Line No Item Nomenclature		Ident Code		2018 Base Cost	FY 20 OCO Quantity		T	2018 Total	s e
					Quantity		Quantit	-	C _
Budget Activity 02: Other Missiles									
Surface-to-Air Missile System									
1 Lower Tier Air and Missile Defense (A	AMD)	A		140,826				140,826	U
2 MSE Missile			93	459,040			93	459,040	U
3 INDIRECT FIRE PROTECTION CAPABILITY I Less: Advance Procurement (PY)	INC 2-I	A	5	(77,061) (-19,319)				(77,061) (-19,319)	
			17	57,742				57,742	
4 INDIRECT FIRE PROTECTION CAPABILITY I Advance Procurement (CY) C (FY 2017 for FY 2018) (M)	INC 2-I								ŭ
Air-To-Surface Missile System									
5 Hellfire Sys Summary		А	998	94,790	2927 2	78,073	3925	372,863	U
6 Joint Air-To-Ground Msls (JAGM) Less: Advance Procurement (PY)				(215,532) (-37,100)			824	(215,532) (-37,100)	
			-	178,432	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			178,432	
7 Joint Air-To-Ground Msls (JAGM) Advance Procurement (CY) C (FY 2016 for FY 2017) (M) C (FY 2017 for FY 2018) (M)									U
Anti-Tank/Assault Missile Sys									
8 Javelin (Aaws-M) System Summary			525	110,123	47	8,112	572	118,235	U

## Department of the Army FY 2018 President's Budget Exhibit P-1 FY 2018 President's Budget Total Obligational Authority (Dollars in Thousands)

03 May 2017

Appropriation: 2032A Missile Procurement, Army

Line No Item Nomenclature	Ident Code		4		-	with			-	S e c
9 Tow 2 System Summary Less: Advance Procurement (PY)	А	1704	(107,509) (-19,984)	1133	(100,825)	815	(80,652)	1948	(181,477)	U
			87,525		100,825	27	80,652		181,477	
10 Tow 2 System Summary Advance Procurement (CY) C (FY 2017 for FY 2018) (M) C (FY 2018 for FY 2019) (M)					19,949 (19,949)				19,949 (19,949)	
11 Guided MLRS Rocket (GMLRS)		1866	251,060	2256	326,588	698	75,991	2954	402,579	ט
12 MLRS Reduced Range Practice Rockets (RRPR)		4026	39,975	1704	18,004			1704	18,004	U
13 High Mobility Artillery Rocket System (HIMARS									2:	U
14 LETHAL MINIATURE AERIAL MISSILE SYSTEM (LMAMS	A					655	61,977	655	61,977	
Total Other Missiles			1,306,007		1,634,928		462,517		2,097,445	ž.
Budget Activity 03: Modification of Missiles			x							
Modifications										
15 Patriot Mods			241,883	58	425,307			58	425,307	U
16 ATACMS MODS	A		20,119	17	165,943			17	165,943	U
17 GMLRS MOD	A		5,321		395	*			395	υ
18 Stinger Mods			2,216	275	6,578			275	6,578	U
19 Avenger Mods			6,171	16	35,979			16	35,979	U
20 Itas/Tow Mods			19,576		383				383	U
21 MLRS Mods			35,970		34,704				34,704	U

# Department of the Army FY 2018 President's Budget Exhibit P-1 FY 2018 President's Budget Total Obligational Authority (Dollars in Thousands)

03 May 2017

Appropriation: 2032A Missile Procurement, Army

Line	Ident	FY 2018 Base			2018 OCO		FY 2018 Total	
No Item Nomenclature	Code	Quanti	-	Quantit	-	Quanti	_	C -
9 Tow 2 System Summary Less: Advance Procurement (PY)	A	1156	(105,800) (-19,949)	49	(3,907)	1205	(109,707) (-19,949)	U
			85,851		3,907		89 <b>,</b> 758	
10 Tow 2 System Summary Advance Procurement (CY)			19,949				19,949	U
C (FY 2017 for FY 2018) (M) C (FY 2018 for FY 2019) (M)			(19,949)				(19,949)	
11 Guided MLRS Rocket (GMLRS)		4458	595,182	1542	191,522	6000	786,704	U
12 MLRS Reduced Range Practice Rockets (RRPR)		3306	28,321			3306	28,321	U
13 High Mobility Artillery Rocket System (HIMARS					41,000		41,000	Ū
14 LETHAL MINIATURE AERIAL MISSILE SYSTEM (LMAMS	А			120	8,669	120	8,669	U
Total Other Missiles			1,770,256		531,283		2,301,539	
Budget Activity 03: Modification of Missiles								
Modifications								5
15 Patriot Mods			329,073				329,073	U
16 ATACMS MODS	А		116,040				116,040	U
17 GMLRS MOD	А		531				531	U
18 Stinger Mods			63,090		28,000		91,090	υ
19 Avenger Mods			62,931				62,931	Ŭ
20 Itas/Tow Mods			3,500				3,500	U
21 MLRS Mods			138,235				138,235	U

# Department of the Army FY 2018 President's Budget Exhibit P-1 FY 2018 President's Budget Total Obligational Authority (Dollars in Thousands)

03 May 2017

Appropriation: 2032A Missile Procurement, Army

Line No Item Nomenclature	Ident Code	FY 2016 (Base & OCO) Quantity Cost	FY 2017 with CR Adj Base Quantity Cost		with CR Adj with CR Adj Base OCO wantity Cost Quantity Cost		FY 2017 with CR Adj Total Quantity Cost		S e c
22 Himars Modifications		3,148	363	27,847			363	27,847	
Total Modification of Missiles		334,404	390	697,136	***			697,136	Ē
Budget Activity 04: Spares and Repair Parts									
Spares and Repair Parts									
23 Spares and Repair Parts		33,778		34,487				34,487	
Total Spares and Repair Parts		33,778	E77	34,487				34,487	2
Budget Activity 05: Support Equipment and Facilities									
Support Equipment & Facilities									
24 Air Defense Targets		3,717		4,915				4,915	U
25 Items Less Than \$5.0m (Missiles)		1,544					- 11		U
26 Production Base Support		4,704		1,154				1,154	U
Total Support Equipment and Facilities		9,965	-	6,069				6,069	
Budget Activity 20: Undistributed									
Undistributed									
27 Adj to Match Continuing Resolution	A			77,948		95,557		517,609	-
Total Undistributed	*	502000000		77,948	-5	95,557	-	517,609	
Total Missile Procurement, Army		1,684,154		450,568		33,040		317,528	

## Department of the Army FY 2018 President's Budget Exhibit P-1 FY 2018 President's Budget Total Obligational Authority (Dollars in Thousands)

03 May 2017

Appropriation: 2032A Missile Procurement, Army

Line No Item Nomenclature	Ident Code	FY 20 Bas Quantity		FY 20 OCC Quantity		FY 20 Tota Quantity		s e c
22 Himars Modifications			9,566				9,566	Ü
Total Modification of Missiles			22,966		28,000		750,966	0
Budget Activity 04: Spares and Repair Parts					19			
Spares and Repair Parts								
23 Spares and Repair Parts	- 0		18,915				18,915	U
Total Spares and Repair Parts			18,915	(m) m) m)		-	18,915	
Budget Activity 05: Support Equipment and Faciliti	ies							
Support Equipment & Facilities								
24 Air Defense Targets			5,728				5,728	U
25 Items Less Than \$5.0m (Missiles)								U
26 Production Base Support			1,189				1,189	υ
Total Support Equipment and Facilities		200	6,917				6,917	
Budget Activity 20: Undistributed								
Undistributed							9	
27 Adj to Match Continuing Resolution	A							U
Total Undistributed		F-10-10-10-10-10-10-10-10-10-10-10-10-10-				W = W		
Total Missile Procurement, Army	R		 19,054		59,283	3,0	78,337	

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## Army • Budget Estimates FY 2018 • Procurement

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

Appropriation 2032A: Missile Procurement, Army

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2	02	10	C53101	MSE Missile	5
3	02	10	C61001	INDIRECT FIRE PROTECTION CAPABILITY INC 2-I	15
4	02	10	C61001	INDIRECT FIRE PROTECTION CAPABILITY INC 2-I, Advance Procurement	20
5	02	20	C70000	Hellfire Sys Summary	24
6	02	20	C70302	Joint Air-to-Ground MSLS (JAGM)	33
7	02	20	C70302	Joint Air-to-Ground MSLS (JAGM), Advance Procurement	41
8	02	30	CC0007	Javelin (AAWS-M) System Summary	45
9	02	30	C59300	TOW 2 System Summary	54
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11	02	30	C64400	Guided MLRS Rocket (GMLRS)	68
12	02	30	C65405	MLRS Reduced Range Practice Rockets (RRPR)	78
13	02	30	C02901	High Mobility Artillery Rocket System (HIMARS)	87
14	02	30	C88001	LETHAL MINIATURE AERIAL MISSILE SYSTEM (LMAMS)	92

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## Army • Budget Estimates FY 2018 • Procurement

### Appropriation 2032A: Missile Procurement, Army

Line #	ВА	BSA	Line Item Number	Line Item Title Pa	ge
15	03	10	C50700	Patriot Mods	94
16	03	10	CA6700	ATACMS MODS1	23
17	03	10	C57701	GMLRS MOD	28
18	03	10	C20000	Stinger Mods	30
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20	03	10	C61700	ITAS/TOW Mods1	49
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#### Appropriation 2032A: Missile Procurement, Army

Line #	ВА	BSA	Line Item Number	Line Item Title	Page
23	04	10	CA0250	Spares And Repair Parts	164

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## Army • Budget Estimates FY 2018 • Procurement

### Appropriation 2032A: Missile Procurement, Army

Line #	ВА	BSA	Line Item Number	Line Item Title	Page
24	05	10	C93000	Air Defense Targets	165
25	05	10	CL2000	Items Less Than \$5.0m (Missiles)	167
26	05	10	CA0100	Production Base Support	168

## Army • Budget Estimates FY 2018 • Procurement

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

Line Item Title	Line Item Number	Line #	ВА	BSA Page
ATACMS MODS	CA6700	16	03	10 123
AVENGER MODS	CE8710	19	03	10 135
Air Defense Targets	C93000	24	05	10 165
GMLRS MOD	C57701	17	03	10 128
Guided MLRS Rocket (GMLRS)	C64400	11	02	30 68
HIMARS Modifications	C67501	22	03	10 163
Hellfire Sys Summary	C70000	5	02	20 24
High Mobility Artillery Rocket System (HIMARS)	C02901	13	02	30 87
INDIRECT FIRE PROTECTION CAPABILITY INC 2-I	C61001	3	02	10 15
INDIRECT FIRE PROTECTION CAPABILITY INC 2-I, Advance Procurement	C61001	4	02	10 20
ITAS/TOW Mods	C61700	20	03	10 149
Items Less Than \$5.0m (Missiles)	CL2000	25	05	10 167
Javelin (AAWS-M) System Summary	CC0007	8	02	30 45
Joint Air-to-Ground MSLS (JAGM)	C70302	6	02	20 33
Joint Air-to-Ground MSLS (JAGM), Advance Procurement	C70302	7	02	20 41
LETHAL MINIATURE AERIAL MISSILE SYSTEM (LMAMS)	C88001	14	02	30 92
Lower Tier Air and Missile Defense (AMD)	C50016	1	02	10 1

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## Army • Budget Estimates FY 2018 • Procurement

Line Item Title	Line Item Number	Line #	ВА	BSA	Page
MLRS Mods	C67500	21	03	10	151
MLRS Reduced Range Practice Rockets (RRPR)	C65405	12	02	30	78
MSE Missile	C53101	2	02	10	5
Patriot Mods	C50700	15	03	10	94
Production Base Support	CA0100	26	05	10	168
Spares And Repair Parts	CA0250	23	04	10	164
Stinger Mods	C20000	18	03	10	130
TOW 2 System Summary	C59300	9	02	30	54
TOW 2 System Summary, Advance Procurement	C59300	10	02	30	64

Exhibit P-40, Budget Line Item Justification: FY 2018 Army

Date: May 2017

Appropriation / Budget Activity / Budget Sub Activity:

P-1 Line Item Number / Title:

2032A: Missile Procurement, Army / BA 02: Other Missiles / BSA 10: Surface-to-Air

C50016 / Lower Tier Air and Missile Defense (AMD)

Missile System

Program Elements for Code B Items: N/A

Other Related Program Elements: N/A

Line Item MDAP/MAIS Code: N/A

ID Code (A=Service Ready, B=Not Service Ready):

	Prior			FY 2018	FY 2018	FY 2018					То	
Resource Summary	Years	FY 2016	FY 2017	Base	oco	Total	FY 2019	FY 2020	FY 2021	FY 2022	Complete	Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	110.300	130.275	126.470	140.826	-	140.826	125.161	144.243	119.282	121.825	Continuing	Continuing
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	110.300	130.275	126.470	140.826	-	140.826	125.161	144.243	119.282	121.825	Continuing	Continuing
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	110.300	130.275	126.470	140.826	-	140.826	125.161	144.243	119.282	121.825	Continuing	Continuing
(The following	Resource Sumi	mary rows are fo	r informational p	urposes only. Th	e corresponding	g budget request	s are documente	ed elsewhere.)				
Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (\$ in Thousands)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	-	-	-	-	-	-	-	-	-	-	-	-

#### **Description:**

The Lower Tier Air and Missile Defense (AMD) supports the Field Surveillance Program (FSP), PAC-3 Missile Support Center (P3MSC), International Engineering Services Program (IESP), Integrated Logistics Support (ILS), US Unique 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 confirmed 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 sustain, maintain, 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, 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 disciples and activities.

Logistics Recurring includes all aspects of Integrated Logistics Support (ILS) management, e.g., maintenance support, facilities, personnel, training, testing, and fielding.

Exhibit P-40, Budget Line Item Justification: FY 2018 Army

**Date:** May 2017

Appropriation / Budget Activity / Budget Sub Activity:

P-1 Line Item Number / Title:

2032A: Missile Procurement, Army / BA 02: Other Missiles / BSA 10: Surface-to-Air

C50016 / Lower Tier Air and Missile Defense (AMD)

Missile System

Program Elements for Code B Items: N/A

Other Related Program Elements: N/A

Line Item MDAP/MAIS Code: N/A

ID Code (A=Service Ready, B=Not Service Ready):

Funding provides authority to procure, field and support materiel solutions to counter cybersecurity and electronic warfare shortcomings to all elements of the Patriot Air Defense Weapon System.

Secondar	ry Distribution	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	130.275	126.470	140.826	-	140.826	125.161	144.243	119.282	121.825
Total:	Quantity	-	-	-	-	-	-	-	-	-
Secondary Distribution	<b>Total Obligation Authority</b>	130.275	126.470	140.826	-	140.826	125.161	144.243	119.282	121.825

					UNCLAS	SIFIED				
Exhil	oit P-40, Budget Line Item Justification:	: FY 2018 Ar	my					Date: Ma	ay 2017	
<b>Appr</b> 2032	opriation / Budget Activity / Budget Sul A: Missile Procurement, Army / BA 02: Oth le System	b Activity:		SA 10: \$		<b>P-1 Line Item Nu</b> C50016 / Lower T		le Defense (AMD	)	
	(A=Service Ready, B=Not Service Ready):	Pro	ogra	m Eleme	ents for Code B Iten	ns: N/A	Other I	Related Program Ele	ements: N/A	
_	em MDAP/MAIS Code: N/A									
	Exhibits Schedule				Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/ MAIS Code	Quantity / Total Cost (Each) I (\$ M)	Quantity / Total Cost (Each) I (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	C50016 / Lower Tier Air and Missile Defense (AMD)				- /110.300	- / 130.275	- / 126.470	- / 140.826	- / -	- / 140.826
P-40	Total Gross/Weapon System Cost				- / 110.300	- / 130.275	- / 126.470	- /140.826	- 1 -	- / 140.826
*Title re	presents 1) the Number / Title for Items; 2) the Number / Tit	tle [DODIC] for An	nmun	ition; and/	or 3) the Number / Title	(Modification Type) for N	Modifications.			
Note: I	otals in this Exhibit P-40 set may not be exact or sum exact	ly due to rounding								
T direct	in the program were realigned in FY2015 from C53	TOT (INGL) IO TO								

Exhibit P-5, Cost	Analysis	s: FY 20	18 Army										I	Date: M	ay 2017			
<b>Appropriation / B</b> 2032A / 02 / 10	Budget Ad	ctivity /	Budget	Sub Act	ivity:			<b>Numbe</b> ver Tier A		lissile De	fense (A	MD)			/ Lower	<b>Fitle [DO</b> I Tier Air a		ile
ID Code (A=Service Read	dy, B=Not Servi	ce Ready):							М	DAP/MAIS	Code:							
F	Resource	Summ	ary		Р	Prior Yea	ars	FY 20	16	FY 2	2017	FY	2018 Bas	e F	Y 2018 (	ОСО	FY 2018	3 Total
Procurement Quantity (Uni	its in Each)						-		_		-			-		-		
Gross/Weapon System Co	ost (\$ in Million	s)					110.300		130.275		126.47	70	140	0.826		-		140.82
Less PY Advance Procure	ement (\$ in Mil	lions)					-		-		-			-		-		-
Net Procurement (P-1) (\$ i	in Millions)						110.300		130.275		126.47	70	140	0.826		-		140.82
Plus CY Advance Procure	ement (\$ in Mill	ions)					-		-		-			-		-		-
Total Obligation Authori	<b>ty</b> (\$ in Millions	)					110.300		130.275		126.47	70	140	.826		-		140.82
(Ti	he following F	Resource St	ummary row	s are for info	rmational pu	irposes only	. The corres	ponding budg	get request	s are docume	ented elsewi	here.)						
Initial Spares (\$ in Millions)							-		-		-			-		-		
Gross/Weapon System Ur	nit Cost (\$ in 7	housands)					-		-		-			-		-		-
Note: Cubtotale ex Totale i	in thin Eubibit	D.E. may no	t be event e		v dua ta rave	n din a												
Note: Subtotals or Totals i		rior Years		sum exacu	FY 2016	naing.		FY 2017		EV	2018 Bas		EV	′ 2018 OC	<u>``</u>	E	Y 2018 Tot	tal
Coat Flamenta	Unit Cost	Qty	Total Cost	Unit Cost	Qty	Total Cost	Unit Cost	Qty	Total Cost	Unit Cost	Qty	Total Cost	Unit Cost	Qty	Total Cost	Unit Cost	Qty	Total Cost
Cost Elements	(\$ K)	(Each)	(\$ M)	(\$ K)	(Each)	(\$ M)	(\$ K)	(Each)	(\$ M)	(\$ K)	(Each)	(\$ M)	(\$ K)	(Each)	(\$ M)	(\$ K)	(Each)	(\$ M)
Flyaway Cost  Recurring Cost																		
Field Surveillance Program	-	-	110.300	-	-	15.000	-	-	16.500	-	-	15.000	-	-	-	-	-	15.00
P3MSC	-	-	-	-	-	5.500	-	-	10.500	-	-	11.300	-	-	-	-	-	11.30
International Engr Services Program	-	-	-	-	-	72.000	-	-	59.500	-	-	61.361	-	-	-	-	-	61.36
System Engineering/ Project Management	-	-	-	-	-	9.200	-	-	9.600	-	-	14.300	-	-	-	-	-	14.30
Logistics Recurring	-	-	-	-	-	28.575	-	-	30.370	-	-	38.865	-	-	-	-	-	38.86
Subtotal: Recurring Cost	-	-	110.300	-	-	130.275	-	-	126.470	-	-	140.826		-	-	-	-	140.82
Subtotal: Flyaway Cost Gross/Weapon System	-	-	110.300	-	-	130.275	-	-	126.470 126.470	-	-	140.826		-	-	-	-	140.82
Cost			110.000			100.270			120.470			140.020						140.02
	Seco	ondary Di	stribution				FY	2016		FY 2017		FY 2 Ba			FY 2018 OCO		FY 20°	
Army		Qua	ntity					-			-		-			-		-
		Tota	l Obligation A	uthority				130.27	_		126.470		140.826	5		-		140.82
Total: Secondary Distribution			ntity I Obligation A					130.27			126.470		140.826			-		140.82

LI C50016 - Lower Tier Air and Missile Defense (AMD) Army

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P-1 Line #1

Exhibit P-40, Budget Line Item Justification: FY 2018 Army

Date: May 2017

Appropriation / Budget Activity / Budget Sub Activity:

P-1 Line Item Number / Title:

2032A: Missile Procurement, Army / BA 02: Other Missiles / BSA 10: Surface-to-Air

C53101 / MSE Missile

Missile System

Program Elements for Code B Items: N/A

Other Related Program Elements: 0604865A, 0603869A,

0604869A, 0605456A

Line Item MDAP/MAIS Code: N/A

ID Code (A=Service Ready, B=Not Service Ready):

Line Item MDAP/MAIS Code: N/A												
	Prior			FY 2018	FY 2018	FY 2018					То	
Resource Summary	Years	FY 2016	FY 2017	Base	oco	Total	FY 2019	FY 2020	FY 2021	FY 2022	Complete	Total
Procurement Quantity (Units in Each)	200	112	145	93	-	93	95	95	95	95	283	1,213
Gross/Weapon System Cost (\$ in Millions)	1,304.643	514.946	702.201	459.040	-	459.040	499.915	540.669	523.413	524.934	1,409.000	6,478.761
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	1,304.643	514.946	702.201	459.040	-	459.040	499.915	540.669	523.413	524.934	1,409.000	6,478.761
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	1,304.643	514.946	702.201	459.040	-	459.040	499.915	540.669	523.413	524.934	1,409.000	6,478.761
(The following	Resource Sumi	mary rows are fo	or informational p	urposes only. Th	e corresponding	budget request:	s are documente	d elsewhere.)				
Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (\$ in Thousands)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	6,523.215	4,597.732	4,842.766	4,935.914	-	4,935.914	5,262.263	5,691.253	5,509.611	5,525.621	4,978.799	5,341.106

#### **Description:**

The Missile Segment Enhancement (MSE) missile evolved from the PATRIOT Advanced Capability 3 (PAC-3) missile. The MSE is based on the PAC-3 Cost Reduction Initiative (CRI) missile design and improves on it for a higher performance, dual pulse, eleven-inch diameter Solid Rocket Motor (SRM) design, improved lethality enhancer, thermally hardened front end for longer fly out, upgraded batteries, enlarged fixed fins, more responsive control surfaces, and upgraded guidance software. These improvements provide a more agile, lethal interceptor missile and coupled with critical ground system improvements (Radar Digital Processor (RDP) and Software) to provide a substantial missile performance improvement while enhancing Insensitive Munitions (IM) compliance. A more IM compliant propellant for the SRM was developed for the MSE program as well as a less sensitive Lethality Enhancer. A single canister design provides enhanced warfighter and logistics flexibility, and facilitates IM compliance for greater warfighter safety. The MSE was developed to integrate with the PATRIOT system for the U.S. and international partners.

Seconda	ry Distribution	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022
Army	Quantity	112	145	93	-	93	95	95	95	95
	Total Obligation Authority	514.946	702.201	459.040	-	459.040	499.915	540.669	523.413	524.934
Total:	Quantity	112	145	93	-	93	95	95	95	95
Secondary Distribution	Total Obligation Authority	514.946	702.201	459.040	-	459.040	499.915	540.669	523.413	524.934

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Page 1 of 10 P-1 Line #2

					UNCLA	SSIFIED				
Exhib	oit P-40, Budget Line Item Justification: F	Y 2018 A	rmy					Date: M	ay 2017	
2032	opriation / Budget Activity / Budget Sub AA: Missile Procurement, Army / BA 02: Other e System		/ BS	SA 10:	Surface-to-Air	P-1 Line Item Nu C53101 / MSE Mi				
ID Cod	(A=Service Ready, B=Not Service Ready):	Pi	rogra	m Elem	ents for Code B Ite	ems: N/A		Related Program Ele 9A, 0605456A	ements: 0604865A, 0	603869A,
Line It	em MDAP/MAIS Code: N/A									
	Exhibits Schedule		·		Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/ MAIS Code	Quantity / Total Cost (Each) I (\$ M)	Quantity / Total Cost (Each) I (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) I (\$ M)
P-5	C53101 / MSE Missile	P-5a, P-21		492	200 / 1,304.643	112 / 514.946	145 / 702.201	93 / 459.040	- / -	93 / 459.040
P-40	Total Gross/Weapon System Cost			,	200 / 1,304.643	112 / 514.946	145 / 702.201	93 / 459.040	- 1 -	93 / 459.040
*Title re	presents 1) the Number / Title for Items; 2) the Number / Title [I	DODIC] for A	mmun	ition; and	/or 3) the Number / Tit	le (Modification Type) for I	Modifications.			
Note: To	otals in this Exhibit P-40 set may not be exact or sum exactly do	ue to roundin	g.							
*Unit p	Acquisition Objective (AAO) is 3376.  prices reflect an assessed yearly FMS procurement of Finitities will be procured at an optimized rate utilizing price foreign military sales (FMS) to increase the Army proc	ce advantag	e cre	ated thro	ough contract negot				•	

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LI C53101 - MSE Missile

Exhibit P-5, Cost Analysis: FY 2018 Army

Appropriation / Budget Activity / Budget Sub Activity:
2032A / 02 / 10

Date: May 2017

Item Number / Title [DODIC]:
C53101 / MSE Missile

C53101 / MSE Missile

MDAP/MAIS Code: 492

Resource Summary	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Procurement Quantity (Units in Each)	200	112	145	93	-	93
Gross/Weapon System Cost (\$ in Millions)	1,304.643	514.946	702.201	459.040	-	459.040
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	1,304.643	514.946	702.201	459.040	-	459.040
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	1,304.643	514.946	702.201	459.040	-	459.040
(The following Resource Summary rows are for information	onal purposes only. The cor	responding budget request	s are documented elsewhe	re.)		
Initial Spares (\$ in Millions)	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	6,523.215	4,597.732	4,842.766	4,935.914	-	4,935.914

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

ID Code (A=Service Ready, B=Not Service Ready):

	P	rior Years	;		FY 2016			FY 2017		FY	′ 2018 Bas	e	FY	2018 OC	0	FY	' 2018 Tota	al
Cost Elements	Unit Cost	Qty (Each)	Total Cost (\$ M)	Unit Cost	Qty (Each)	Total Cost (\$ M)	Unit Cost	Qty (Each)	Total Cost (\$ M)	Unit Cost	<b>Qty</b> (Each)	Total Cost (\$ M)	Unit Cost	Qty (Each)	Total Cost (\$ M)	Unit Cost	Qty (Each)	Total Cost (\$ M)
Flyaway Cost	'	'		'	'	'				'			'				'	
Recurring Cost	-																	
Missile Hardware <sup>(†)</sup>	4,539.535	200	907.907	3,940.179	112	441.300	4,263.917	145	618.268	4,303.355	93	400.212	-	-	-	4,303.355	93	400.21
Field Surveillance	-	-	28.500	-	-	2.900	-	-	5.427	-	-	3.400	-	-	-	-	-	3.40
PAC-3 Missile Support Center (P3MSC)	-	-	13.600	-	-	1.600	-	-	3.600	-	-	1.700	-	-	-	-	-	1.70
Obsolescence	-	-	38.505	-	-	16.700	-	-	10.833	-	-	15.928	-	-	-	-	-	15.92
Launcher Mod Kit (LMK)	-	-	19.200	-	-	5.900	-	-	23.400	-	-	14.600	-	-	-	-	-	14.60
Heater Kits	-	-	2.500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Msl Round Trainer / Empty Round Trainer	-	-	67.900	-	-	30.726	-	-	18.600	-	-	-	-	-	-	-	-	-
Initial Production Facilitization	-	-	88.313	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Government/Software Engineering	-	-	6.200	-	-	6.340	-	-	9.440	-	-	9.560	-	-	-	-	-	9.56
Sys Engrg/Proj Mgmt (SE/PM) Contractor	-	-	132.018	-	-	9.480	-	-	12.633	-	-	13.640	-	-	-	-	-	13.64
Subtotal: Recurring Cost	-	-	1,304.643	-	-	514.946	-	-	702.201	-	-	459.040	-	-	-	-	-	459.04
Subtotal: Flyaway Cost	-	-	1,304.643	-	-	514.946	-	-	702.201	-	-	459.040	-		-	-	-	459.04
Gross/Weapon System Cost	6,523.215	200	1,304.643	4,597.732	112	514.946	4,842.766	145	702.201	4,935.914	93	459.040	-	-	-	4,935.914	93	459.04

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LI C53101 - MSE Missile Army

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Exhibit P-5, Cost Analysis: FY 2018 Army		<b>Date:</b> May 2017
Appropriation / Budget Activity / Budget Sub Activity: 2032A / 02 / 10	P-1 Line Item Number / Title: C53101 / MSE Missile	Item Number / Title [DODIC]: C53101 / MSE Missile
ID Code	MDAD/MAIC Code: 400	

ID Code (A=Service Ready, B=Not Service Read	y) :		MDAP/MAIS Code	<b>9:</b> 492		
Secondary	/ Distribution	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Army	Quantity	112	145	93	-	93
	Total Obligation Authority	514.946	702.201	459.040	-	459.040
	Quantity	112	145	93	-	93
Secondary Distribution	Total Obligation Authority	514.946	702.201	459.040	-	459.040

<sup>(†)</sup> indicates the presence of a P-5a

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P-1 Line #2

Exhibit P-5a, Procurement History and Planning: FY 2018 A	Army	Date: May 2017
Appropriation / Budget Activity / Budget Sub Activity:	P-1 Line Item Number / Title:	Item Number / Title [DODIC]:
2032A / 02 / 10	C53101 / MSE Missile	C53101 / MSE Missile

Cost Elements	0 0 0	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost	Specs Avail Now?	Date Revision Available	RFP Issue Date
Missile Hardware <sup>(†)</sup>		2014	LMMFC / Dallas, TX	SS / FPIF	AMCOM, RSA, A L	Mar 2014	Sep 2015	92	4,303.360	Υ		Oct 2013
Missile Hardware <sup>(†)</sup>		2015	LMMFC / Dallas, TX	SS / FPIF	AMCOM, RSA, AL	Jul 2015	Feb 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	Jun 2019	145	4,263.920	Y		Dec 2015
Missile Hardware <sup>(†)</sup>		2018	LMMFC / Dallas, TX	SS / FPIF	AMCOM, RSA, AL	Dec 2017	Jun 2020	93	4,303.360	Y		Dec 2015

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

#### Remarks:

Delivery dates in excess of PLT of 17 months from Award is due to a mandated change in contract type from FFP to FPIF on an undefinitized contract action.

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Exi	hib	oit P	-21, Pro	oducti	ion Sc	hedu	le: F	/ 2018	3 Arm	าy														Date	e: Ma	y 201	7				
			<b>ation</b> / 1 2 / 10	Budge	et Acti	vity /	Budç	get Sı	ıb Ad	ctivity	<b>'</b> :			Item / MSE			Title:								<b>Num</b> 101 /				)IC]:		
				ements n Each)								Fiscal Y	ear 2014	ļ										Fiscal Y	ear 2015						ВА
					ACCEPT				Calendar Year 2014															Caler	dar Yea	2015				L	
O   F	M F R #	FY	SERVICE	PROC QTY	PRIOR TO 1 OCT 2013	BAL DUE AS OF 1 OCT	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	N N	n 1	A U G	S E P	0 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	J J	A U G	S E P	A N C E
Miss	sile F	Hardwa	ire		,																										
	1 2	2014	ARMY	92	0	92		_				Α -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	80
	1 2	2015	ARMY	108	0	108		_																				Α -	-	-	108
1	1 2	2016	ARMY	112	0	112		_																							112
	1 2	2017	ARMY	145	0	145		_																							145
	1 2	2018	ARMY	93	0	93																									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	N N	n A	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	N N	J U	A U G	S E P	

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LI C53101 - MSE Missile Army

Ex	thil	bit P	-21, Pr	oducti	ion Sc	hedu	le: F`	Y 201	8 Arm	ıy														Date	: May	/ 201	7				
			<b>ation /</b> 2 / 10	Budge	et Acti	vity /	Bud	get S	ub Ac	tivity	:		<b>Line</b> 3101 <i>i</i>		-		Title	i									<b>Title</b> Missil		IC]:		
				lements in Each)								Fiscal Y	ear 2016	,		,				,				Fiscal Yo	ear 2017						ВА
	м				ACCEPT				_					C	alendar	Year 20	16				,		,		Calen	dar Year	2017				L
0 C 0	F R	FY	SERVICE	PROC QTY	PRIOR TO 1 OCT 2015	BAL DUE AS OF 1 OCT	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	N C E
Mis	ssile	Hardwa	are		,																										
	1	2014	ARMY	92	12	80	4	-	-	-	-	-	16	18	20	22															0
	1	2015	ARMY	108	0	108	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	8	10	8	10	6	10	10	36
	1	2016	ARMY	112	0	112			Α -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	112
	1	2017	ARMY	145	0	145															Α -	-	-	-	-	-	-	-	-	-	145
	1	2018	ARMY	93	0	93																									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	N N	J 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	n T	A U G	S E P	

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Ex	thil	bit P	-21, Pro	oducti	on Sc	hedu	le: F	<b>Y</b> 201	8 Arm	у														Date	e: Ma	y 2017	7				
			<b>ation / I</b> 2 / 10	Budge	et Acti	vity /	Budç	get Si	ub Ac	tivity	:			Item / MSE			Title:									nber / MSE		-	IC]:		
Cost Elements (Units in Each) Fi										Fiscal Y	iscal Year 2018										Fiscal Year 2019										
					ACCEPT									C	alendar	Year 201	8								Calen	ndar Year	2019				J L
0 0 0	M F R #	FY	SERVICE	PROC QTY	PRIOR TO 1 OCT 2017	BAL DUE AS OF 1 OCT	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	N N	n 1	A U G	S E P	0 C T	N O V	D E C	JAN	F E B	M A R	A P R	M A Y	J U N	J J	A U G	S E P	N C E
Mis	ssile	Hardwa	are	I																											
	1	2014	ARMY	92	92	0																									0
	1	2015	ARMY	108	72	36	10	8	10	8																					0
	1	2016	ARMY	112	0	112	-	-	-	-	-	-	-	-	-	-	8	10	10	10	10	10	10	14	8	10	12				0
	1	2017	ARMY	145	0	145	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	13	13	11	95
	1	2018	ARMY	93	0	93			Α -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	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	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	A U G	S E P	

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Ex	hil	nibit P-21, Production Schedule: FY 2018 Army															Date: May 2017																
			iation / 1 02 / 10	Budge	et Acti	vity /	Budg	et Sı	ub Ac	tivity		P-1 Line Item Number / Title: C53101 / MSE Missile												Item Number / Title [DODIC]: C53101 / MSE Missile									
Cost Elements (Units in Each)												Fiscal Y	Fiscal Year 2020											Fiscal Year 2021									
					ACCEPT									C	alendar	Year 202	20								Calen	dar Year	2021				ļ		
0 0		FY	SERVICE	PROC QTY	PRIOR TO 1 OCT 2019	BAL DUE AS OF 1 OCT	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	N C E		
Mis	sile	Hardw	are																	<u> </u>													
	1	2014	ARMY	92	92	0																											
	1	2015	ARMY	108	108	0																											
	1	2016	ARMY	112	112	0																											
	1	2017	ARMY	145	50	95	13	11	13	13	11	11	12	11																			
	1	2018	ARMY	93	0	93	-	-	-	-	-	-	-	-	10	6	10	6	10	8	7	6	8	8	8	6							
	·						O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	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	A U G	S E P			

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Exhibit P-21, Production Schedule: FY 2018 Army		Date: May 2017
Appropriation / Budget Activity / Budget Sub Activity: 2032A / 02 / 10	P-1 Line Item Number / Title: C53101 / MSE Missile	Item Number / Title [DODIC]: C53101 / MSE Missile

		Produc	ction Rates (Each	/ Year)				Procurement Le	adtime (Months)			
MFR					Initial Reorder							
Ref #	Manufacturer Name - Location	MSR For 2018	1-8-5 For 2018	MAX For 2018	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	240	360	0	6	17	23	0	6	17	23

#### Remarks:

Army

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.

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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<sup>&</sup>quot;A" in the Delivery Schedule indicates the Contract Award Date.

Exhibit P-40, Budget Line Item Justification: FY 2018 Army

**Date:** May 2017

Appropriation / Budget Activity / Budget Sub Activity:

P-1 Line Item Number / Title:

2032A: Missile Procurement, Army / BA 02: Other Missiles / BSA 10: Surface-to-Air

C61001 / INDIRECT FIRE PROTECTION CAPABILITY INC 2-I

Missile System

Program Elements for Code B Items: N/A

Other Related Program Elements: N/A

Line Item MDAP/MAIS Code: N/A

ID Code (A=Service Ready, B=Not Service Ready):

Resource Summary	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	To Complete	Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-	-	12	20	36	Continuing	Continuing
Gross/Weapon System Cost (\$ in Millions)	-	-	19.319	57.742	-	57.742	157.406	368.211	415.425	292.100	Continuing	Continuing
Less PY Advance Procurement (\$ in Millions)	-	-	0.000	-	-	-	0.000	31.641	-	-	Continuing	Continuing
Net Procurement (P-1) (\$ in Millions)	-	-	19.319	57.742	-	57.742	157.406	336.570	415.425	292.100	Continuing	Continuing
Plus CY Advance Procurement (\$ in Millions)	-	-	19.319	-	-	-	31.641	-	-	-	Continuing	Continuing
Total Obligation Authority (\$ in Millions)	-	-	38.638	57.742	-	57.742	189.047	336.570	415.425	292.100	Continuing	Continuing
(The following	Resource Sumi	mary rows are fo	or informational p	urposes only. Th	ne corresponding	budget request	s are documente	ed elsewhere.)				1
Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (\$ in Thousands)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	-	-	-	-	-	-	-	30,684.250	20,771.250	8,113.889	Continuing	Continuing

## **Description:**

This program supports the overall integrated Air and Missile Defense (AMD) architecture and provides a robust intercept capability against Cruise Missiles (CM) and Unmanned Aircraft System (UAS).

The Indirect Fire Protection Capability Increment 2 - Intercept (IFPC Inc 2-I) is a ground-based weapon system that will be designed to acquire, track, engage, and defeat the UAS, CM, and RAM threats. The system will provide 360-degree protection and will simultaneously engage threats arriving from different azimuths. A block acquisition approach will be used to provide this capability. The IFPC Inc 2-I Block 1 system will consist of an existing interceptor and sensor and development of fire control software and a Multi-Mission Launcher (MML) to support the UAS and CM defeat mission. The IFPC Inc 2-I system will be compatible with the Army Integrated Air and Missile Defense (IAMD) Command and Control (C2) architecture. The IFPC Inc 2-I system will be transportable by Army common mobile platforms.

Secondar	ry Distribution	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022
Army	Quantity	-	-	-	-	-	-	12	20	36
	Total Obligation Authority	-	-	57.742	-	57.742	189.047	336.570	415.425	292.100
Total:	Quantity	-	-	-	-	-	-	12	20	36
Secondary Distribution	Total Obligation Authority	-	-	57.742	-	57.742	189.047	336.570	415.425	292.100

Exhibit P-40, Budget Line Item Justification: FY 2018 Army

**Date:** May 2017

Appropriation / Budget Activity / Budget Sub Activity:

P-1 Line Item Number / Title:

2032A: Missile Procurement, Army / BA 02: Other Missiles / BSA 10: Surface-to-Air

C61001 / INDIRECT FIRE PROTECTION CAPABILITY INC 2-I

Missile System

Program Elements for Code B Items: N/A

Other Related Program Elements: N/A

Line Item MDAP/MAIS Code: N/A

ID Code (A=Service Ready, B=Not Service Ready):

	Exhibits Schedule				Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/ MAIS Code	Quantity / Total Cost (Each) / (\$ M)					
P-5	C62001 / IFPC Inc 2-I Block 1 Missile				- / -	- / -	- / -	- / 57.742	- / -	- / 57.742
P-5	C62002 / IFPC INC 2-I BLOCK 1 SYSTEM			473	- / -	- / -	- / 19.319	- / -	- / -	- / -
P-40	Total Gross/Weapon System Cost				- 1 -	- 1 -	- / 19.319	- / 57.742	- 1 -	- / 57.742

<sup>\*</sup>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.

#### Justification:

FY 2018 Base procurement dollars in the amount of \$57.742 million supports the procurement of 126 AIM-9X Block II All-Up-Rounds (AUR), 3 Captured Air Training Missiles (CATM), and 15 Dummy Air Training Missiles (DATM) in support of the Multi-Mission Launcher (MML).

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

							O.	IOLAU		,								
Exhibit P-5, Cost	Analysis	s: FY 20	18 Army	,										Date: M	ay 2017			
<b>Appropriation / B</b> 2032A / 02 / 10					ivity:	I	<b>Line Item</b> 001 / IND				ON CAPA	ABILITY				Fitle [DO nc 2-I Blo	DIC]: ock 1 Miss	sile
ID Code (A=Service Read	ly, B=Not Serv	ice Ready):							М	DAP/MAIS	S Code:							
	Resource		arv			Prior Ye	ars	FY 20	016	FY	2017	FY	2018 Bas	se F	Y 2018 (	осо	FY 2018 Tota	
Procurement Quantity (Uni							-		_		_			-		-		_
Gross/Weapon System Co		ns)					-						5	7.742		-		57.742
Less PY Advance Procure	· ·						-							-		-		-
Net Procurement (P-1) (\$ i	· · · · · · · · · · · · · · · · · · ·						-						57.74			-		57.742
Plus CY Advance Procure		llions)					-		-		_			-		-		-
Total Obligation Authorit	t <b>y</b> (\$ in Millions	s)					-		-				5	7.742		-		57.742
(TI	he following i	Resource Si	ummary row	s are for info	rmational p	urposes onl	ly. The corresponding budget requ		dget reques	ests are documented elsewher		here.)				·		
Initial Spares (\$ in Millions)							-	·	-		-			-		-		-
Gross/Weapon System Ur	nit Cost (\$ in	Thousands)					-		_		_			-		-		-
Note: Subtotals or Totals i	n this Exhibit	t P-5 may no	ot be exact of	or sum exactl	ly due to rou	unding.												
	F	Prior Years	S		FY 2016			FY 2017		F	1 2018 Bas	e	F'	Y 2018 O	o	F	Y 2018 Total	
Cost Elements	Unit Cost	Qty (Each)	Total Cost (\$ M)	Unit Cost	Qty (Each)	Total Cost (\$ M)	Unit Cost	Qty (Each)	Total Cost (\$ M)	Unit Cost	Qty (Each)	Total Cost	Unit Cost	Qty (Each)	Total Cost (\$ M)	Unit Cost	Qty (Each)	Total Cost
Flyaway Cost	(0.19	(Edon)	(\$ 111)	(\$75)	(Eddin)	(\$ 11.7)	(\$79	(Luon)	(\$ 111)	(\$19	(Luon)	(\$ 111)	(\$75)	(Luon)	(0 111)	(\$79	(Eddi)	(ψ 141)
Non Recurring Cost																		
Hardware Cost - AIM-9X Block II All Up Round (AUR)	-	-	-	-	-	-	-	-	-	439.524	126	55.380	-	-	-	439.524	126	55.380
Other Flyaway	-	-	-	-	-	-	-	-	-	-	-	0.985	-	-	-	-	-	0.98
Subtotal: Non Recurring Cost	-	-	-	-	-	-	-	-	-	-	-	56.365	-	-	-	-	-	56.36
Subtotal: Flyaway Cost	-	-	-	-	-	-	-	-	-	-	-	56.365	-	-	-	-	-	56.36
Logistics Cost																		
Recurring Cost			ı					1	1				1	1				
Training - AIM-9X Block II Captured Air Training Missile (CATM)	-	-	-	-	-	-	-	-	-	-	-	0.672	-	-	-	-	-	0.672
Training - AIM-9X Block II Dummy Air Training Missile (DATM)	-	-	-	-	-	-	-	-	-	-	-	0.705	-	-	-	-	-	0.70
Subtotal: Recurring Cost	-	-	-	-	-	-	-	-	-	-	-	1.377	-	-	-	-	-	1.37
Subtotal: Logistics Cost	-	-	-	-	-	-	-	-	-	-	-	1.377	-	-	-	-	-	1.37
Gross/Weapon System Cost	-	-	-	-	-	-	-	-	-	-	-	57.742	-	-	-	-	-	57.742

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Exhibit P-5, Cost Analysis: FY 2018 Army		Date: May 2017
Appropriation / Budget Activity / Budget Sub Activity: 2032A / 02 / 10	P-1 Line Item Number / Title: C61001 / INDIRECT FIRE PROTECTION CAPABILITY INC 2-	Item Number / Title [DODIC]:
2032A102110	I	COZOOT / II F G IIIC Z-I DIOCK T WISSING

ID Code (A=Service Ready, B=Not Service Read	y):		MDAP/MAIS Code	MDAP/MAIS Code:							
Secondar	y Distribution	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total					
Army	Quantity	-	-	-	-	-					
	Total Obligation Authority	-	-	57.742	-	57.742					
Total:	Quantity	-	-	•	-	-					
Secondary Distribution	Total Obligation Authority	-	-	57.742	-	57.742					

Exhibit P-5, Cost Analysis: FY 2018 Army

Appropriation / Budget Activity / Budget Sub Activity:
2032A / 02 / 10

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

ID Code (A=Service Ready, B=Not Service Ready):		N	DAP/MAIS Code: 473	3		
Resource Summary	Prior Years	FY 2016	FY 2017	<b>FY 2018 Base</b>	FY 2018 OCO	FY 2018 Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	-	-	19.319	-	-	-
Less PY Advance Procurement (\$ in Millions)	-	-	0.000	-	-	-
Net Procurement (P-1) (\$ in Millions)	-	-	19.319	-	-	-
Plus CY Advance Procurement (\$ in Millions)	-	-	19.319	-	-	-
Total Obligation Authority (\$ in Millions)	-	-	38.638	-	-	-
(The following Resource Summary rows are for information	onal purposes only. The cort	responding budget reques	ts are documented elsewher	re.)		
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.

	F	Prior Years	S		FY 2016			FY 2017		FY	/ 2018 Ba	se	FY 2018 OCO			FY 2018 Total		
Cost Elements	Unit Cost	Qty (Each)	Total Cost (\$ M)	Unit Cost	Qty (Each)	Total Cost (\$ M)	Unit Cost	Qty (Each)	Total Cost (\$ M)									
Hardware Cost																		
Non Recurring Cost																		
Adv Procurement - PY	-	-	-	-	-	-	-	-	19.319	-	-	-	-	-	-	-	-	-
Subtotal: Non Recurring Cost	-	-	-	-	-	-	-	-	19.319	-	-	-	-	-	-	-	-	-
Subtotal: Hardware Cost	-	-	-	-	-	-	-	-	19.319	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost	-	-	-	-	-	-	-	-	19.319	-	-	-	-	-	-	-	-	-

Exhibit P-40, Advance Procurement Budget Line Item Justification: FY 2018 Army

**Date:** May 2017

Appropriation / Budget Activity / Budget Sub Activity:

P-1 Line Item Number / Title:

2032A: Missile Procurement, Army / BA 02: Other Missiles / BSA 10: Surface-to-Air

C61001 / INDIRECT FIRE PROTECTION CAPABILITY INC 2-I

Missile System

Other Related Program Elements: N/A

Line Item MDAP/MAIS Code: N/A

Program Elements for Code B Items: N/A

Resource Summary	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	To Complete	Total
Gross/Weapon System Cost (\$ in Millions)	-	-	19.319	-	-	-	31.641	-	-	-	Continuing	Continuing
Net Procurement (P-1) (\$ in Millions)	-	-	19.319	-	-	-	31.641	-	-	-	Continuing	Continuing
Total Obligation Authority (\$ in Millions)	-	-	19.319	-	-	-	31.641	-	-	-	Continuing	Continuing

#### **Description:**

This program supports the overall integrated Air and Missile Defense (AMD) architecture and provides a robust intercept capability against Cruise Missiles (CM) and Unmanned Aircraft System (UAS).

The Indirect Fire Protection Capability Increment 2 - Intercept (IFPC Inc 2-I) is a ground-based weapon system that will be designed to acquire, track, engage, and defeat the UAS, CM, and RAM threats. The system will provide 360-degree protection and will simultaneously engage threats arriving from different azimuths. A block acquisition approach will be used to provide this capability. The IFPC Inc 2-I Block 1 system will consist of an existing interceptor and sensor and development of fire control software and a Multi-Mission Launcher (MML) to support the UAS and CM defeat mission. The IFPC Inc 2-I system will be compatible with the Army Integrated Air and Missile Defense (IAMD) Command and Control (C2) architecture. The IFPC Inc 2-I system will be transportable by Army common mobile platforms.

This budget line funds the acquisition of advance procurement items required to support the production of the IFPC Inc 2-I system.

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Exhibit P-40, Advance Procurement Budget Line Item Justification: FY 2018 Army

**Date:** May 2017

Appropriation / Budget Activity / Budget Sub Activity:

P-1 Line Item Number / Title:

2032A: Missile Procurement, Army / BA 02: Other Missiles / BSA 10: Surface-to-Air

C61001 / INDIRECT FIRE PROTECTION CAPABILITY INC 2-I

Missile System

Other Related Program Elements: N/A

Line Item MDAP/MAIS Code: N/A

Program Elements for Code B Items: N/A

	Exhibits Schedule	·		Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Exhibit Type	Title*	ID CD	MDAP/ MAIS Code	Quantity / Total Co	Quantity / Total Cost (Each) I (\$ M)	Quantity / Total Cost (Each) / (\$ M)			
P-10	C62002 / IFPC INC 2-I BLOCK 1 SYSTEM			- / -	- / -	- / 19.319	- / -	- / -	- / -
P-40	Total Gross/Weapon System Cost			- 1 -	- 1 -	- / 19.319	- 1 -	- 1 -	- 1 -

<sup>\*</sup>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:

This budget line funds the acquisition of advance procurement items required to support the production of the IFPC Inc 2-I system.

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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Exhibit P-10, Advance Procurement	Requirements Analysi	is ( <i>page 1 - E</i>	Budget Funding Justi	<b>Date:</b> May 2017					
Appropriation / Budget Activity / Bud 2032A / 02 / 10	dget Sub Activity:		em Number / Title: NDIRECT FIRE PROTE	P-5 Number / Title: C62002 / IFPC INC SYSTEM	2-I BLOCK 1				
MDAP/MAIS Code: 473	'		,			,			
First System (2018) Award Date: February 2019	First System (2018) Compl July 2020	etion Date:		Interval Between Syste 12 Months	stems:				
IFPC INC 2-I BLOCK 1 SYSTEM	Production L		Prior Years (Each)	FY 2016 (Each)	FY 2017 (Each)	FY 2018 (Each)			
Quantity			-	-	-				
Cost Elements	When Rec		Prior Years (\$ M)	FY 2016 (\$ M)	FY 2017 (\$ M)	FY 2018 (\$ M)			
GFE	1	,	,		,				
Rail Assembly		0	-	-	10.665				
Weapon Control Unit (WCU)		0	-	-	2.700				
Weapon Interface Unit (WIU)		0	-	-	0.783				
SEPM		0	-	-	3.620				
Common Power Supply		0	-	-	0.450				
_aunch Control Unit (LCU)		0	-	-	0.450				
eTALIN		0	-	-	0.651				
Total: GFE			-	-	19.319				
Total Advance Procurement/Obligation Autho	rity		-	-	19.319				

Exhibit P-10, Advance Procurement Requirements Analysis	s (page 2 - Budget Funding Justification): FY 2018 Army	Date: May 2017
		P-5 Number / Title:
2032A / 02 / 10	C61001 / INDIRECT FIRE PROTECTION CAPABILITY INC 2-	SYSTEM

				FY 2	2018		
Cost Elements	QPA (Each)	Production Leadtime (Months)	Unit Cost	Contract Forecast Date	<b>2018 Qty</b> (Each)	For FY	Total Cost Request (\$ M)
GFE							
Rail Assembly	15						-
Weapon Control Unit (WCU)	15						-
Weapon Interface Unit (WIU)	1						-
SEPM	1						-
Common Power Supply	1						-
Launch Control Unit (LCU)	1						-
eTALIN	1						-
Total: GFE							-
Total Advance Procurement/Obligation Authority							-

## Description:

N/A

Exhibit P-40, Budget Line Item Justification: FY 2018 Army

**Date:** May 2017

Appropriation / Budget Activity / Budget Sub Activity:

P-1 Line Item Number / Title:

2032A: Missile Procurement, Army / BA 02: Other Missiles / BSA 20: Air-To-Surface C70000 / Hellfire Sys Summary

Missile System

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

	Prior			FY 2018	FY 2018	FY 2018					То	
Resource Summary	Years	FY 2016	FY 2017	Base	oco	Total	FY 2019	FY 2020	FY 2021	FY 2022	Complete	Total
Procurement Quantity (Units in Each)	76,301	383	4,210	998	2,927	3,925	100	1,480	-	-	-	86,399
Gross/Weapon System Cost (\$ in Millions)	5,512.661	86.325	497.843	94.790	278.073	372.863	13.838	133.213	3.600	-	-	6,620.343
Less PY Advance Procurement (\$ in Millions)	44.275	-	-	-	-	-	-	-	-	-	-	44.275
Net Procurement (P-1) (\$ in Millions)	5,468.386	86.325	497.843	94.790	278.073	372.863	13.838	133.213	3.600	-	-	6,576.068
Plus CY Advance Procurement (\$ in Millions)	44.275	-	-	-	-	-	-	-	-	-	-	44.275
Total Obligation Authority (\$ in Millions)	5,512.661	86.325	497.843	94.790	278.073	372.863	13.838	133.213	3.600	-	-	6,620.343
(The following	Resource Sumi	mary rows are fo	r informational p	urposes only. Th	ne corresponding	budget request	s are documente	d elsewhere.)				
Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (\$ in Thousands)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	72.249	225.392	118.252	94.980	95.003	94.997	138.380	90.009	-	-	-	76.625

## Description:

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, OH-58 Kiowa Warrior, 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 will replace 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, safety, insensitive munitions, reliability, weapon integration activities, test sets, engineering changes, facilitization, and production issues. This missile is compatible on all current force UAS and rotary wing platforms.

Secondar	v Distribution	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022
Goodiidai	y Biotinbution	1 1 2010	20.,	Buoo		- TOTAL	20.0			
Army	Quantity	383	4,210	998	2,927	3,925	100	1,480	-	-
	Total Obligation Authority	86.325	497.843	94.790	278.073	372.863	13.838	133.213	3.600	-
Total:	Quantity	383	4,210	998	2,927	3,925	100	1,480	-	-
Secondary Distribution	Total Obligation Authority	86.325	497.843	94.790	278.073	372.863	13.838	133.213	3.600	-

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**Date:** May 2017 Exhibit P-40, Budget Line Item Justification: FY 2018 Army Appropriation / Budget Activity / Budget Sub Activity: P-1 Line Item Number / Title:

2032A: Missile Procurement, Army / BA 02: Other Missiles / BSA 20: Air-To-Surface C70000 / Hellfire Sys Summary

Missile System

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

Line Item MDAP/MAIS Code: N/A

	Exhibits Schedule				Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/ MAIS Code	Quantity / Total Cost (Each) / (\$ M)					
P-5	C70100 / LASER HELLFIRE MSL (BASIC/IHW/HFII)	P-5a, P-21		355	76,301 / 5,512.661	383 / 86.325	4,210 / 497.843	998 / 94.790	2,927 / 278.073	3,925 / 372.863
P-40	Total Gross/Weapon System Cost				76,301 / 5,512.661	383 / 86.325	4,210 / 497.843	998 / 94.790	2,927 / 278.073	3,925 / 372.863

<sup>\*</sup>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 2018 Base procurement dollars in the amount of \$94.790 million support the procurement of 998 HELLFIRE II missiles, Production Engineering Support, Project Management Administration and Engineering Services funding to include obsolescence and facilitization.

FY 2018 OCO procurement dollars in the amount of \$278.073 million supports the procurement of 2,927 HELLFIRE II missiles in order to replace and replenish missiles expended in wartime operations. OCO funding also covers Production Engineering Support, Project Management Administration, Engineering Services and fielding.

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.

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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							U	NCLAS	SIFIED	)								
Exhibit P-5, Cost	Analysis	: FY 20	18 Army										I	Date: Ma	ay 2017			
Appropriation / B 2032A / 02 / 20	udget Ac	ctivity /	Budget S	Sub Act	ivity:	1		Number						tem Nu C70100 (BASIC/I	/ LASEF	RHELLF	DDIC]: TIRE MSL	
ID Code (A=Service Read	ly, B=Not Service	ce Ready):							М	DAP/MAIS	6 Code: 35	55	1					
F	Resource	Summa	ary			Prior Yea	irs	FY 20	16	FY	2017	FY	2018 Bas	e F	Y 2018 C	ОСО	FY 2018	Total
Procurement Quantity (Uni	ts in Each)						76,301		383		4,21	)		998		2,927		3,925
Gross/Weapon System Co	ost (\$ in Millions	s)				5,	512.661		86.325		497.84	3	94	.790		278.073		372.863
Less PY Advance Procure	ment (\$ in Mill	ions)					44.275		-		-			-		-		-
Net Procurement (P-1) (\$ i	n Millions)					5,	468.386		86.325		497.84	3	94	.790		278.073		372.863
Plus CY Advance Procure	ment (\$ in Milli	ions)					44.275		-		-			-		-		-
Total Obligation Authorit	y (\$ in Millions)	)				5,	512.661		86.325		497.84	3	94	.790		278.073		372.863
(TI	ne following F	Resource Su	ımmary rows	are for info	rmational p	urposes only	The corres	ponding budg	get request	s are docum	ented elsewh	ere.)						
Initial Spares (\$ in Millions)							-		-		-			-		-		-
Gross/Weapon System Ur	nit Cost (\$ in T	housands)					72.249		225.392		118.25	2	94	.980		95.003		94.997
Note: Subtotals or Totals i	n this Exhibit	P-5 may no	ot be exact o	sum exactl	y due to rou	nding.											-1-	
	Р	rior Years	s		FY 2016			FY 2017		F	/ 2018 Base	•	FY	2018 OC	0	F	Y 2018 Tot	al
Cost Elements	Unit Cost	Qty (Each)	Total Cost (\$ M)	Unit Cost	Qty (Each)	Total Cost	Unit Cost	Qty (Each)	Total Cost (\$ M)	Unit Cost	Qty (Each)	Total Cost	Unit Cost	Qty (Each)	Total Cost (\$ M)	Unit Cost	Qty (Each)	Total Cost
Flyaway Cost	(+19	(====)	(+)	(+ - 7	(====)	(+)	(+ - 9	(====)	(+)	(+ - 7	(====)	(+)	(+1)	(=====	(+)	(+1)	(====)	(+)
Recurring Cost																		
All-up Rounds <sup>(†)</sup>	73.463	63,396	4,657.235	122.000	383	46.726	101.000	4,210	425.210	81.984	998	81.820	82.002	2,927	240.021	81.998	3,925	321.841
Acceptance Testing	-	-	84.166	-	-	0.136	-	-	1.235	-	-	0.076	-	-	0.556	-	-	0.632
Production Engineering Support	-	-	398.877	-	-	8.461	-	-	39.795	-	-	3.457	-	-	17.370	-	-	20.827
Subtotal: Recurring Cost	-	-	5,140.303	-	-	55.323	-	-	466.240	-	-	85.353	-	-	257.946	-	-	343.301
Subtotal: Flyaway Cost	-	-	5,140.303	-	-	55.323	-	-	466.240	-	-	85.353	-	-	257.946	-	-	343.301
Support Cost			186.800	- 1		24.583	_		10.438	_	-	2.478	- 1	_	7.262	l -		9.740
Engineering Services Project Mgt Admin	-	-	137.321	-	-	5.660	-	-	14.264	-	-	6.527	-	-	9.752	-	-	16.279
Fielding	-	-	48.237	-		0.759	-	-	6.901	-	-	0.432	-	-	3.112	-	_	3.544
Subtotal: Support Cost	-	-	372.358	-	-	31.002	-	-	31.603	-	-	9.437	-	-	20.126	-	-	29.563
Gross/Weapon System Cost	72.249	76,301	5,512.661	225.392	383	86.325	118.252	4,210	497.843	94.980	998	94.790	95.003	2,927	278.073	94.997	3,925	372.863
	Seco	ondary Di	stribution				FY	2016		FY 2017		FY 2 Bas		F	Y 2018 OCO		FY 201 Total	
Army		Qua	ntity					38			4,210		998	3		2,927		3,925
Total:			l Obligation Au	ithority				86.32 <b>38</b>			497.843 <b>4,210</b>		94.790 <b>998</b>	_		278.073 <b>2,927</b>		372.863 <b>3,925</b>
																*		

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Exhibit P-5, Cost Analysis: FY 2018 Army		Date: May 2017
Appropriation / Budget Activity / Budget Sub Activity: 2032A / 02 / 20	C70000 / Hellfire Sys Summary	Item Number / Title [DODIC]: C70100 / LASER HELLFIRE MSL (BASIC/IHW/HFII)

ID Code (A=Service Ready, B=Not Service Ready) : MDAP/MAIS Code: 355

Seconda	ry Distribution	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Secondary Distribution	Total Obligation Authority	86.325	497.843	94.790	278.073	372.863

<sup>(†)</sup> indicates the presence of a P-5a

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Army

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Exhibit P-5a, Procurement History and Planning: FY 2018 A	Army	Date: May 2017
Appropriation / Budget Activity / Budget Sub Activity: 2032A / 02 / 20		Item Number / Title [DODIC]: C70100 / LASER HELLFIRE MSL (BASIC/IHW/HFII)

	00			Method/Type or		Award	Date of First	Qty	Unit Cost	Specs Avail	Date Revision	RFP Issue
Cost Elements	0	FY	Contractor and Location	Funding Vehicle	Location of PCO	Date	Delivery	(Each)	(\$ K)	Now?	Available	Date
All-up Rounds <sup>(†)</sup>		2016	HELLFIRE Sys Limited Liability / Orlando	C/FFP	AMCOM, Redstone Arsenal, AL	Feb 2017	Mar 2019	113	175.000	Υ		Dec 2013
All-up Rounds <sup>(†)</sup>		2016	HF Sys Limited Liability / Orlando	C / FFP	AMCOM, Redstone Arsenal, AL	Feb 2017	Mar 2019	270	121.000	Υ		Dec 2013
All-up Rounds <sup>(†)</sup>		2017	HELLFIRE Sys Limited Liability / Orlando	C / FFP	AMCOM, Redstone Arsenal, AL	Sep 2017	Oct 2019	155	107.000	Υ		Dec 2013
All-up Rounds <sup>(†)</sup>		2017	HF Sys Limited Liability / Orlando	C / FFP	AMCOM, Redstone Arsenal, AL	Sep 2017	Oct 2019	4,055	101.000	Υ		Dec 2013
All-up Rounds <sup>(†)</sup>		2018	HELLFIRE Sys Limited Liability / Orlando	C / FFP	AMCOM, Redstone Arsenal, AL	Sep 2018	Oct 2020	998	81.980	Υ		Dec 2016
All-up Rounds <sup>(†)</sup>		2018	HF Sys Limited Liability / Orlando	C / FFP	AMCOM, Redstone Arsenal, AL	Sep 2018	Oct 2020	2,927	82.000	Y		Dec 2016

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

#### Remarks:

Firm Fixed Price (FFP)

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. All procurement of Hellfire II AGM-114R missiles are reflected on the P21.

See Exhibit P-5 for Unit Cost. 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.

All-up Rounds	Cost Ele (Units in	ements Each)	ACCEPT	vity /	Budg	et Su	ıb Ac	tivity	:	<b>D</b> 4												Date	. ivia	,	<i>'</i>			
O F C R FY S	(Units in	Each)									<b>Line</b> 0000 /											C70	Num 100 / SIC/IH	LASE	R HE	[DOD	DIC]: RE M	SL
O F C R FY S										Fiscal Y	ear 2017									_		Fiscal Y	ear 2018					
		PROC QTY	PRIOR TO 1 OCT 2016	BAL DUE AS OF 1 OCT	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	Year 201 J U L	17 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	A U G	S E P
D: 1/ D:																												
Prior Years Deliv	iveries: 63396	3																										
1 2016 A		113	0						Α -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1 2016 F	FMS <sup>(‡)</sup>	1,332	0	1,332	_				Α -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1 2016 A	AF <sup>(‡)</sup>	5,567	0	5,567					Α -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1 2016 T	Total	7,012	0	7,012					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2 2016 A	ARMY	270	0	270					Α -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1 2017 A	ARMY	155	0	155												Α -	-	-	-	-	-	-	-	-	-	-	-	-
1 2017 F	FMS <sup>(‡)</sup>	1,000	0	1,000												A -	-	-	-	-	-	-	-	-	-	-	-	-
1 2017 A	AF <sup>(‡)</sup>	1,613	0	1,613												Α -	-	-	-	-	-	-	-	-	-	-	-	-
1 2017 T	Total	2,768	0	2,768											-	-	-	-	-	-	-	-	-	-	-	-	-	-
2 2017 A	ARMY	4,055	0	4,055												Α -	-	-	-	-	-	-	-	-	-	-	-	-
1 2018 A	ARMY	998	0	998																								Α -
2 2018 A	ARMY	2,927	0	2,927																								A -
					O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	N J	n T	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	T U J	A U G	S E P

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Cos	st Elements sits in Each)  PROC QTY		BAL DUE AS OF 1 OCT	0 C	et Su	b Act	ivity:		C70	<b>Line I</b> 000 /											Itom	Num	ber /	Title	[DOD		SL
(Ur.    M   M     O   F     C   R     O   #   FY   SERVIC	PROC QTY	PRIOR TO 1 OCT	DUE AS OF	С	N				2032A / 02 / 20												LASE	R HE					
O	PROC CE QTY	PRIOR TO 1 OCT	DUE AS OF	С	N	(Units in Each)         Fiscal Year 2019           ACCEPT         Calendar Year 2019														ı	Fiscal Ye					-	
Prior Years Deliveries: 6	3396			Т	0 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
1 2016 ARMY	3396				,																						
1   2016   FMS <sup>(‡)</sup>	113	0		-	-	-	-	-	10	10	10	10	10	9	9	9	9	9	9	9	-	-	-	-	-	-	-
	1,332	0	1,332	-	-	-	-	-	111	111	111	111	111	111	111	-	-	-	-	-	-	-	-	-	-	-	-
1 2016 AF <sup>(‡)</sup>	5,567	0	5,567	-	-	-	-	-	463	464	464	464	464	464	464	464	464	464	464	464	-	-	-	-	-	-	-
1 2016 Total	7,012	0	7,012	-	-	-	-	-	584	585	585	585	585	584	584	473	473	473	473	473	-	-	-	-	-	-	-
2 2016 ARMY	270	0	270	-	-	-	-	-	23	23	23	23	23	23	22	22	22	22	22	22							
1 2017 ARMY	155	0		-	-	-	-	-	-	-	-	-	-	-	-	13	13	13	13	13	13	13	13	13	13	13	12
1 2017 FMS <sup>(‡)</sup>	1,000	0	1,000	-	-	-	-	-	-	-	-	-	-	-	-	83	83	83	83	83	83	83	83	84	84	84	84
1 2017 AF <sup>(‡)</sup>	1,613	0	1,613	-	-	-	-	-	-	-	-	-	-	-	-	135	135	135	135	135	134	134	134	134	134	134	134
1 2017 Total	2,768	0	2,768	-	-	-	-	-	-	-	-	-	-	-	-	231	231	231	231	231	230	230	230	231	231	231	230
2 2017 ARMY	4,055	0	4,055	-	-	-	-	-	-	-	-	-	-	-	-	338	338	338	338	338	338	338	338	338	338	338	337
1 2018 ARMY	998	0		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2 2018 ARMY	2,927	0	2,927	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	N N J	J 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	N U	J L	A U G	S E P

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P-1 Line #5

P-1   Line   Item Number / Title   C70000 / Hellfire Sys Summary   Size   C70100 / LASER HELLFIRE MSL (BASIC/IHW/HFII)	Exh	ibit	t P-21, Pr	oducti	on Sc	hedul	e: FY	2018	3 Army	/														Date	: Ma	y 201	7				
Company   Comp				Budge	t Acti	vity /	Budg	et Su	ıb Act	tivity:														C70	100 <i>l</i>	LASE	R H			SL	
M												iscal Ye	ar 2021											Fiscal Y							4
Nerror Years Deliveries: 63396    1   2016   RRMY   113   11	O F				PRIOR TO 1 OCT	DUE AS OF	С	0	D E		F E		P	М	Ŋ	J	A U	E	0	0	E		E	Α	A P	м	J	U	U	E	
Prior Years Deliveries: 63396  1 2016 ARMY 113 113 10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0				QTY	2020	1 OCT	Т	V	С	N	В	R	R	Y	N		G	Р	Т	V	С	N	В	R	R	Y	N	<u> </u>	G	Р	
1 2016 ARMY 113 113 0				26																											
1 2016 FMS (4) 1,332 777 555 111 111 111 111 111 111 111 111					113	0																		-							7
1 2016 AF (*) 5,567 5,567 0	— <u> </u>	-																													
1 2016 Total 7,012 6,457 555 111 111 111 111 111	_	_																													
2 2016 ARMY 270 270 0 1 2017 ARMY 155 155 0 1 2017 FMS (*) 1,000 1,000 0 1 2017 FMS (*) 1,613 1,613 0 1 2017 Total 2,768 2,768 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0	_	-															1									1		T			+
1 2017 ARMY 155 155 0 0 1 2017 FMS (t) 1,000 1,000 0 0 0 0 0 0 0 0 0 0 0 0 0 0		-		-			111	111	111	111	111	-	-	-	_	-	-	_	-	_	_	-	_		_		_		-	-	+
1 2017 FMS (\$\frac{1}{1}\$ 1,000 1,000 0 0 1 1 2017 AF (\$\frac{1}{1}\$ 1,613 1,613 0 1 1 2017 Total 2,768 2,768 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0	_	-																													
1 2017 AF (‡) 1,613 1,613 0    1 2017 Total 2,768 2,768 0		-				-																									
1 2017 Total 2,768 2,768 0	_	-																													$\vdash$
2 2017 ARMY 4,055 4,055 0	_	ļ		_										_			l _			_	l .	l _				l _	l .	Τ.	_		+
1 2018 ARMY 998 0 998 84 84 84 83 83 83 83 83 83 83 83 83 83 83 83 83	_	_		-			-	-	-	-	-	-	-	-	-	-	-	-	-	-	_	_	-	_	-	_	_	<u> </u>	-	-	+
2 2018 ARMY 2,927 0 2,927 244 244 244 244 244 244 244 244 244 2	_	-		_			84	84	83	83	83	83	83	83	83	83	83	83													$\vdash$
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 E A E A P A U U U E C N B R R Y N L G P T V C N B R R Y N L G P							0	N	D		F		Α			J	_	S	0	N	D				Α	М					$\top$
							C		E	A N	E B	A R		A Y				E	С	O V	E	A N	E B	A R	P R	A	U		U G	E P	

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Exhibit P-21, Production Schedule: FY 2018 Army	· · · · · · · · · · · · · · · · · · ·						
Appropriation / Budget Activity / Budget Sub Activity: 2032A / 02 / 20	P-1 Line Item Number / Title: C70000 / Hellfire Sys Summary	Item Number / Title [DODIC]: C70100 / LASER HELLFIRE MSL					
		(BASIC/IHW/HFII)					

		Produc	ction Rates (Each	/ Year)				Procurement Lea	adtime (Months)			
MFR						In	itial			Reo	rder	
Ref #	Manufacturer Name - Location	MSR For 2018	1-8-5 For 2018	MAX For 2018	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	1,200	3,600	8,500	5	12	24	36	5	12	24	36
2	HF Sys Limited Liability - Orlando	1,200	3,600	8,500	5	12	24	36	5	12	24	36

#### Remarks

Yearly Minimum Sustainment Rate (MSR) = 1200 missiles. Yearly Economical Production Rate (1-8-5) = 3600 missiles. Yearly Maximum Production Rate (MPR) = 8500 missiles.

**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 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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<sup>(‡)</sup> 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.

Exhibit P-40, Budget Line Item Justification: FY 2018 Army

**Date:** May 2017

Appropriation / Budget Activity / Budget Sub Activity:

P-1 Line Item Number / Title:

2032A: Missile Procurement, Army / BA 02: Other Missiles / BSA 20: Air-To-Surface | C70302 / Joint Air-to-Ground MSLS (JAGM)

Missile System

Program Elements for Code B Items: N/A

Other Related Program Elements: 0605450A

Line Item MDAP/MAIS Code: N/A

ID Code (A=Service Ready, B=Not Service Ready):

	Prior			FY 2018	FY 2018	FY 2018					То	
Resource Summary	Years	FY 2016	FY 2017	Base	oco	Total	FY 2019	FY 2020	FY 2021	FY 2022	Complete	Total
Procurement Quantity (Units in Each)	-	-	324	824	-	824	958	800	1,280	838	15,279	20,303
Gross/Weapon System Cost (\$ in Millions)	-	0.000	92.489	215.532	-	215.532	253.118	211.806	292.770	186.931	3,287.665	4,540.311
Less PY Advance Procurement (\$ in Millions)	-	0.000	27.738	37.100	-	37.100	-	-	-	-	-	64.838
Net Procurement (P-1) (\$ in Millions)	-	0.000	64.751	178.432	-	178.432	253.118	211.806	292.770	186.931	3,287.665	4,475.473
Plus CY Advance Procurement (\$ in Millions)	-	27.738	37.100	-	-	-	-	-	-	-	-	64.838
Total Obligation Authority (\$ in Millions)	-	27.738	101.851	178.432	-	178.432	253.118	211.806	292.770	186.931	3,287.665	4,540.311
(The following	Resource Sum	mary rows are fo	r informational p	urposes only. Th	e corresponding	g budget request	s are documente	d elsewhere.)				
Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	- [	-
Flyaway Unit Cost (\$ in Thousands)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	-	-	285.460	261.568	-	261.568	264.215	264.758	228.727	223.068	215.175	223.628

## **Description:**

The Joint Air-to-Ground Missile (JAGM) program is an Army led, Acquisition Category (ACAT) 1C Major Defense Acquisition Program (MDAP) with joint interest with the U.S. Marine Corps (USMC) and U.S. Navy. 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.

Secondar	y Distribution	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022
Army	Quantity	-	324	824	-	824	958	800	1,280	838
	Total Obligation Authority	27.738	101.851	178.432	-	178.432	253.118	211.806	292.770	186.931
Total:	Quantity	-	324	824	-	824	958	800	1,280	838
Secondary Distribution	Total Obligation Authority	27.738	101.851	178.432	-	178.432	253.118	211.806	292.770	186.931

Exhibit P-40, Budget Line Item Justification: FY 2018 Army **Date:** May 2017

Appropriation / Budget Activity / Budget Sub Activity:

P-1 Line Item Number / Title:

2032A: Missile Procurement, Army / BA 02: Other Missiles / BSA 20: Air-To-Surface | C70302 / Joint Air-to-Ground MSLS (JAGM) Missile System

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: N/A

	Exhibits Schedule				Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/ MAIS Code	Quantity / Total Cost (Each) / (\$ M)					
P-5	C70302 / Joint Air-to-Ground MSLS (JAGM)	P-5a, P-21		355	- / -	- / 0.000	324 / 92.489	824 / 215.532	- / -	824 / 215.532
P-40	Total Gross/Weapon System Cost		- 1 -	- / 0.000	324 / 92.489	824 / 215.532	- 1 -	824 / 215.532		

<sup>\*</sup>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 2018 Base procurement dollars in the amount of \$215.532 million supports the procurement of 824 missiles.

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.

Exhibit P-5, Cost Analysis: FY 2018 Army

Appropriation / Budget Activity / Budget Sub Activity:
2032A / 02 / 20

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

Item Number / Title [DODIC]:
C70302 / Joint Air-to-Ground MSLS (JAGM)

ID Code (A=Service Ready, B=Not Service Ready):		N.	DAP/MAIS Code: 355	, ,		
Resource Summary	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Procurement Quantity (Units in Each)	-	-	324	824	-	824
Gross/Weapon System Cost (\$ in Millions)	-	0.00	92.489	215.532	-	215.532
Less PY Advance Procurement (\$ in Millions)	-	0.00	27.738	37.100	-	37.100
Net Procurement (P-1) (\$ in Millions)	-	0.00	64.751	178.432	-	178.432
Plus CY Advance Procurement (\$ in Millions)	-	27.73	37.100	-	-	-
Total Obligation Authority (\$ in Millions)	-	27.73	101.851	178.432	-	178.432
(The following Resource Summary rows are for information	onal purposes only. The cor	responding budget reque	ts are documented elsewher	re.)		
Initial Spares (\$ in Millions)	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	-	-	285.460	261.568	-	261.568

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

	P	rior Years	5		FY 2016			FY 2017		FY	' 2018 Bas	e	FY	' 2018 OC	0	FY	' 2018 Tota	.al
Cost Elements	Unit Cost	Qty (Each)	Total Cost (\$ M)															
Flyaway Cost				'				'			'					'	'	
Recurring Cost																		
All Up Rounds (AUR) <sup>(†)</sup>	-	-	-	-	-	-	149.451	324	48.422	174.506	824	143.793	-	-	-	174.506	824	143.7
Guidance Section Long Lead Items	-	-	-	-	-	-	-	-	24.800	-	-	-	-	-	-	-	-	
HELLFIRE Backend Long Lead Items	-	-	-	-	-	-	-	-	2.938	-	-	37.100	-	-	-	-	-	37.1
Subtotal: Recurring Cost	-	-	-	-	-	-	- [	-	76.160	-	-	180.893	-	-	-	-	-	180.8
Subtotal: Flyaway Cost	-	-	-	-	-	-	-	-	76.160	-	-	180.893	-	-	-	-	-	180.8
Support - Program Managem	ent Cost																	
Government Management	-	-	-	-	-	-	-	-	9.036	-	-	15.430	-	-	-	-	-	15.4
Contractor Management	-	-	-	-	-	-	-	-	-	-	-	3.209	-	-	-	-	-	3.2
Subtotal: Support - Program Management Cost	-	-	-	-	-	-	-	-	9.036	-	-	18.639	-	-	-	-	-	18.6
Support - System Engineering	g Cost																	
System Engineering	-	-	-	-	-	-	-	-	7.293	-	-	16.000	-	-	-	-	-	16.0
Subtotal: Support - System Engineering Cost	-	-	-	-	-	-	-	-	7.293	-	-	16.000	-	-	-	-	-	16.0
Gross/Weapon System Cost	-	-	-	-	-	0.000	285.460	324	92.489	261.568	824	215.532	-	-	-	261.568	824	215.5

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LI C70302 - Joint Air-to-Ground MSLS (JAGM) Army

P-1 Line #6

Exhibit P-5, Cost Analysis: FY 2018 Army								
Appropriation / Budget Activity / Budget Sub Activity: 2032A / 02 / 20	P-1 Line Item Number / Title: C70302 / Joint Air-to-Ground MSLS (JAGM)	Item Number / Title [DODIC]: C70302 / Joint Air-to-Ground MSLS (JAGM)						

ID Code (A=Service Ready, B=Not Service Re	ady):		MDAP/MAIS Code	<b>9:</b> 355		
Second	ary Distribution	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Army	Quantity	-	324	824	-	824
	Total Obligation Authority	27.738	101.851	178.432	-	178.432
otal:	Quantity	-	324	824	-	824
Secondary Distribution	Total Obligation Authority	27.738	101.851	178.432	-	178.432

<sup>(†)</sup> indicates the presence of a P-5a

Exhibit P-5a, Procurement History and Planning: FY 2018 A	Army	Date: May 2017
Appropriation / Budget Activity / Budget Sub Activity: 2032A / 02 / 20	P-1 Line Item Number / Title: C70302 / Joint Air-to-Ground MSLS (JAGM)	Item Number / Title [DODIC]: C70302 / Joint Air-to-Ground MSLS (JAGM)

Cost Elements	0 0	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost	Specs Avail Now?	Date Revision Available	RFP Issue Date
All Up Rounds (AUR) <sup>(†)</sup>		2017	Lockheed Martin / Orlando	C / FPIF	Redstone Arsenal, AL	May 2018	Jul 2018	324	149.451	Y		Feb 2015
All Up Rounds (AUR) <sup>(†)</sup>		2018	Lockheed Martin / Orlando	C / FPIF	Redstone Arsenal, AL	May 2018	Apr 2019	824	174.510	Y		Feb 2015

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

#### Remarks:

FY 2017:

- EMD LRIP 1 Option Award date changed from September 2017 to May 2018 due to the delay of JAGM Milestone C from 4QFY 2017 to 3QFY 2018 as a result of hardware delays.

#### FY 2018:

- EMD LRIP 2 Option Award procures 824 FY 2018 missiles. The initial 496 LRIP 2 missiles will be procured with the support of FY 2017 advance procurement (AP) for long lead items. The remaining 328 LRIP 2 missiles will be procured without the use of AP for long lead items.

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E	chi	bit F	9-21, Pro	oduct	ion Sc	hedu	le: F`	Y 201	8 Arm	ıy														Date	e: May	/ 201	7				
	•	•	i <b>ation</b> / 1 02 / 20	Budge	et Acti	vity /	Bud	get Sı	ub Ac	tivity	:	1	1 <b>Line</b> 0302 .						(JAG	M)					<b>Num</b> 302 / 3 GM)					SLS	
				lements in Each)								Fiscal Y	rear 2018	1	,									Fiscal Y	ear 2019						В
					ACCEPT									C	alendar	Year 201	18								Calen	dar Year	2019				L
0 C 0	M F R	FY	SERVICE	PROC QTY	PRIOR TO 1 OCT 2017	BAL DUE AS OF 1 OCT	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	N C E
All	Up F	Rounds	(AUR)					,	,		,		,	,		,											,				
	1	2017	ARMY	324	0	324								Α -	-	15	25	35	35	35	39	40	50	50							0
	1	2018	ARMY	824	0	824							_	Α -	-	-	-	-	-	-	-	-	-	-	50	50	50	50	50	50	524
	1	2018	NAVY (‡)	104	0	104								Α -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	104
	1	2018	Total	928	0	928								-	-	-	-	-	-	-	-	-	-	-	50	50	50	50	50	50	628
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	N N	n n	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	n n	A U G	S E P	

Exh	nib	it P	-21, Pro	oducti	on Sc	hedul	e: FY	2018	3 Arm	y														Date	e: Ma	y 201	7				
		-	<b>ation</b> / 1 2 / 20	Budge	et Acti	vity /	Budg	et Su	ıb Act	tivity:		1 -		Item I Joint				ISLS (	(JAG	M)					302 <i>I</i>				DIC]: und M	SLS	
				ements n Each)								Fiscal Ye	ar 2020	·										Fiscal Y	ear 2021						
			ACCEPT PRIOR BAL								Ca	lendar `	Year 202	0								Caler	ndar Yea	r 2021				]			
D F	٠.	FY	SERVICE	PROC QTY	TO 1 OCT 2019	DUE AS OF 1 OCT	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	N U	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	
II U	p Ro	ounds	(AUR)		ı																					-			1		
1	2	017	ARMY	324	324	0																									
1	2	018	ARMY	824	300	524	-	-	46	50	50	50	28	28	28	28	27	27	27	27	27	27	27	27							L
1	2	018	NAVY (‡)	104	0	104	50	50	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-							
1	2	018	Total	928	300	628	50	50	50	50	50	50	28	28	28	28	27	27	27	27	27	27	27	27	-	-	-	-	-	-	I
							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 1	A U G	S E P	0 C	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 J	A U G	S E P	

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Exhibit P-21, Production Schedule: FY 2018 Army		Date: May 2017
Appropriation / Budget Activity / Budget Sub Activity: 2032A / 02 / 20	P-1 Line Item Number / Title: C70302 / Joint Air-to-Ground MSLS (JAGM)	Item Number / Title [DODIC]: C70302 / Joint Air-to-Ground MSLS (JAGM)

		Produc	ction Rates (Each	/ Year)			, .	Procurement Lea	adtime (Months)			
MFF					Initial Reorder							
Ref	Manufacturer Name - Location	MSR For 2018	1-8-5 For 2018	MAX For 2018	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	220	600	600	5	12	24	36	5	12	24	36

#### Remarks:

In order to eliminate the need for advance procurement beyond LRIP 2, FY 2018 missile procurement (824 All Up Rounds) will be procured on two separate contact actions, both to be awarded in 3rd Quarter, FY 2018. The LRIP 2 Option Award procures 824 FY 2018 missiles. The initial 496 LRIP 2 missiles will be procured with the support of FY 2017 advance procurement (AP) for long lead items. The remaining 328 LRIP 2 missiles will be procured without the use of AP for long lead items. The LRIP 2 contract actions will be awarded as contract modifications to the existing contact, so the delivery period will be 24 months instead of 12. This will be a one-time deviation from the 12-month funded delivery period, defined as "a 12-month period that begins when the contractor delivers the first item of a fiscal year procurement" to eliminate the need for AP. Eliminating AP allows the program to: transition to a regular procurement cycle, mitigate the risk of a production gap between LRIP and FRP, aligns the Army and Navy production plans, and supports the combining of the HELLFIRE and JAGM procurements into a single contract by FY 2022.

**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 999,999,999 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).

<sup>(‡)</sup> 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.

Exhibit P-40, Advance Procurement Budget Line Item Justification: FY 2018 Army

**Date:** May 2017

Appropriation / Budget Activity / Budget Sub Activity:

P-1 Line Item Number / Title:

2032A: Missile Procurement, Army / BA 02: Other Missiles / BSA 20: Air-To-Surface C70302 / Joint Air-to-Ground MSLS (JAGM)

Missile System

Other Related Program Elements: 0605450A

Line Item MDAP/MAIS Code: N/A

Program Elements for Code B Items: N/A

Resource Summary	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	To Complete	Total
Gross/Weapon System Cost (\$ in Millions)	-	27.738	37.100	-	-	-	-	-	-	-	-	64.838
Net Procurement (P-1) (\$ in Millions)	-	27.738	37.100	-	-	-	-	-	-	-	-	64.838
Total Obligation Authority (\$ in Millions)	-	27.738	37.100	-	-	-	-	-	-	-	-	64.838

#### **Description:**

The Joint Air-to-Ground Missile (JAGM) program is an Army led, Acquisition Category (ACAT) 1C Major Defense Acquisition Program (MDAP) with joint interest with the U.S. Marine Corps (USMC) and U.S. Navy. 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.

Exhibit P-40, Advance Procurement Budget Line Item Justification: FY 2018 Arm	ny	<b>Date</b> : May 2017
Appropriation / Budget Activity / Budget Sub Activity:	P-1 Line Item Number / Title:	
2032A: Missile Procurement, Army / BA 02: Other Missiles / BSA 20: Air-To-Surface	C70302 / Joint Air-to-Ground MSLS (JAGN	<b>1</b> )
Missile System		
Program Elements for Code B Items: N/A	Other Related Program Elements: 0605450A	

Line Item MDAP/MAIS Code: N/A

	Exhibits Schedule			Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Exhibit Type	Title*	ID CD	MDAP/ MAIS Code	Quantity / Total Cost (Each) / (\$ M)					
P-10	C70302 / Joint Air-to-Ground MSLS (JAGM)			- / -	- / 27.738	324 / 37.100	824 / -	- / -	824 / -
P-40	Total Gross/Weapon System Cost			- 1 -	- / 27.738	324 / 37.100	824 / -	- 1 -	824 / -

<sup>\*</sup>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:

The LRIP 2 Option Award procures 824 FY 2018 missiles. The initial 496 LRIP 2 missiles will be procured with the support of FY 2017 advance procurement (AP) for long lead items. The remaining 328 LRIP 2 missiles will be procured without the use of AP for long lead items.

Exhibit P-10, Advance Procurement Re	equirements Analysis	(page 1 - E	Budget Funding Justif	ication): FY 2018 Army	<b>Date:</b> May 2017	
Appropriation / Budget Activity / Budg 2032A / 02 / 20	et Sub Activity:		em Number / Title: oint Air-to-Ground MSL	S (JAGM)	P-5 Number / Title C70302 / Joint Air- (JAGM)	
MDAP/MAIS Code: 355						
	rst System (2018) Comple arch 2018	tion Date:		Interval Between Sys 0 Months	stems:	
Joint Air-to-Ground MSLS (JAGM)	Production Le	adtime	Prior Years (Each)	FY 2016 (Each)	FY 2017 (Each)	FY 2018 (Each)
Quantity			-	-	324	824
Cost Elements	When Requ (Months)	iired	Prior Years (\$ M)	FY 2016 (\$ M)	FY 2017 (\$ M)	FY 2018 (\$ M)
Other						
Guidance Section LL Items (LRIP 1)		23	-	24.800	0.000	-
HELLFIRE Backend LL Items (LRIP 1)		23	-	2.938	0.000	-
Guidance Section LL Items (LRIP 2)		23	-	-	0.000	-
HELLFIRE Backend LL Items (LRIP 2)		23	-	-	37.100	-
Total: Other			-	27.738	37.100	-
Total Advance Procurement/Obligation Authority	у		-	27.738	37.100	-

Exhibit P-10, Advance Procurement Requirements Analysis	s (page 2 - Budget Funding Justification): FY 2018 Army	Date: May 2017
Appropriation / Budget Activity / Budget Sub Activity: 2032A / 02 / 20		P-5 Number / Title: C70302 / Joint Air-to-Ground MSLS (JAGM)

				FY 2	2018		
Cost Elements	QPA (Each)	Production Leadtime (Months)	Unit Cost	Contract Forecast Date	2018 Qty (Each)	For FY	Total Cost Request (\$ M)
Other							
Guidance Section LL Items (LRIP 1)	-						-
HELLFIRE Backend LL Items (LRIP 1)	-						-
Guidance Section LL Items (LRIP 2)	-						-
HELLFIRE Backend LL Items (LRIP 2)	-						-
Total: Other							-
Total Advance Procurement/Obligation Authority							-

### Description:

No Advance Procurement is required beyond the FY 2017. FY 2017 funding supports LRIP 2 procurement in FY 2018.

Exhibit P-40, Budget Line Item Justification: FY 2018 Army

**Date:** May 2017

Appropriation / Budget Activity / Budget Sub Activity:

P-1 Line Item Number / Title:

2032A: Missile Procurement, Army / BA 02: Other Missiles / BSA 30: Anti-Tank/

CC0007 / Javelin (AAWS-M) System Summary

Assault Missile Svs

Program Elements for Code B Items: N/A

Other Related Program Elements: 0604611A

Line Item MDAP/MAIS Code: N/A

ID Code (A=Service Ready, B=Not Service Ready): A

	Prior			FY 2018	FY 2018	FY 2018					То		
Resource Summary	Years	FY 2016	FY 2017	Base	oco	Total	FY 2019	FY 2020	FY 2021	FY 2022	Complete	Total	
Procurement Quantity (Units in Each)	27,954	850	983	525	47	572	450	616	486	593	Continuing	Continuing	
Gross/Weapon System Cost (\$ in Millions)	4,486.050	168.163	193.275	110.123	8.112	118.235	99.237	106.826	119.463	152.684	Continuing	Continuing	
Less PY Advance Procurement (\$ in Millions)	100.622	-	-	-	-	-	-	=	-	-	Continuing	Continuing	
Net Procurement (P-1) (\$ in Millions)	4,385.428	168.163	193.275	110.123	8.112	118.235	99.237	106.826	119.463	152.684	Continuing	Continuing	
Plus CY Advance Procurement (\$ in Millions)	100.622	-	-	-	-	-	-	-	-	-	Continuing	Continuing	
Total Obligation Authority (\$ in Millions)	4,486.050	168.163	193.275	110.123	8.112	118.235	99.237	106.826	119.463	152.684	Continuing	Continuing	
(The following	Resource Sumi	mary rows are fo	r informational p	urposes only. Th	e corresponding	budget request	s are documente	d elsewhere.)					
Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-	
Flyaway Unit Cost (\$ in Thousands)	-	-	-	-	-	-	-	-	-	-	-	-	
Gross/Weapon System Unit Cost (\$ in Thousands)	160.480	197.839	196.618	209.758	172.596	206.705	220.527	173.419	245.809	257.477	Continuing	Continuing	

### Description:

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

				FY 2018	FY 2018	FY 2018				
Secondary Distribution		FY 2016	FY 2017	Base	oco	Total	FY 2019	FY 2020	FY 2021	FY 2022
Army	Quantity	850	983	525	47	572	450	616	486	593
	Total Obligation Authority	168.163	193.275	110.123	8.112	118.235	99.237	106.826	89.463	107.684
Total:	Quantity	Quantity 850		525	47	572	450	616	486	593
Secondary Distribution	Total Obligation Authority	168.163	193.275	110.123	8.112	118.235	99.237	106.826	89.463	107.684

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Exhibit P-40, Budget Line Item Justification: FY 2018 Army

**Date:** May 2017

Appropriation / Budget Activity / Budget Sub Activity:

2032A: Missile Procurement, Army / BA 02: Other Missiles / BSA 30: Anti-Tank/

Assault Missile Svs

P-1 Line Item Number / Title: CC0007 / 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: N/A

	Exhibits Schedule		Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total		
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/ MAIS Code	Quantity / Total Cost (Each) / (\$ M)					
P-5	H06102 / JAVELIN (AAWS-M)	P-5a, P-21		280	27,954 / 4,486.050	850 / 168.163	983 / 193.275	525 / 110.123	47 / 8.112	572 / 118.235
P-40	Total Gross/Weapon System Cost				27,954 / 4,486.050	850 / 168.163	983 / 193.275	525 / 110.123	47 / 8.112	572 / 118.235

<sup>\*</sup>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 2018 Base procurement dollars in the amount of \$110.123 million support the procurement of 525 Missiles.

FY 2018 OCO procurement dollars in the amount of \$8.112 million to support the COCOM requirement for unit equipment sets to deter potential adversaries and support the European Reassurance Initiative. The procurement includes 47 missiles.

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

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.

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 and/or implement a cost reduction Engineering Change Proposal (ECP) for G-Model missile.

Beginning in FY20, G-Model missiles will be produced.

Other procurement funding (SSN H06103 Javelin Lightweight Command Launch Unit (CLU)) will begin in FY21 for procurement of Lightweight CLUs for the Javelin program.

- FY 2021 Base procurement dollars (SSN H06103) in the amount of \$30.000M support the procurement of 59 Lightweight CLUs.
- FY 2022 Base procurement dollars (SSN H06103) in the amount of \$45.000M support the procurement of 88 Lightweight CLUs.

Exhibit P-5, Cost Analysis: FY 2018 Army

Appropriation / Budget Activity / Budget Sub Activity:

2032A / 02 / 30

P-1 Line Item Number / Title:

CC0007 / Javelin (AAWS-M) System Summary

Date: May 2017

Item Number / Title [DODIC]:
H06102 / JAVELIN (AAWS-M)

MDAP/MAIS Code: 280

196.618

209.758

172.596

Resource Summary	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Procurement Quantity (Units in Each)	27,954	850	983	525	47	572
Gross/Weapon System Cost (\$ in Millions)	4,486.050	168.163	193.275	110.123	8.112	118.235
Less PY Advance Procurement (\$ in Millions)	100.622	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	4,385.428	168.163	193.275	110.123	8.112	118.235
Plus CY Advance Procurement (\$ in Millions)	100.622	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	4,486.050	168.163	193.275	110.123	8.112	118.235
(The following Resource Summary rows are following Resource Summary rows are followed by the followed by the following Resource Summary rows are followed by the follo	r informational purposes only. The con	responding budget request	s are documented elsewher	re.)	f	
Initial Spares (\$ in Millions)	-	-	-	-	-	-

197.839

160.480

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

ID Code (A=Service Ready, B=Not Service Ready):

Gross/Weapon System Unit Cost (\$ in Thousands)

Prior Years			FY 2016			FY 2017		FY	′ 2018 Bas	e	FY	FY 2018 OCO			FY 2018 Total			
Cost Elements	Unit Cost	Qty (Each)	Total Cost (\$ M)	Unit Cost	<b>Qty</b> (Each)	Total Cost (\$ M)	Unit Cost	Qty (Each)	Total Cost (\$ M)									
Flyaway Cost	·	'		· · · · · · · · · · · · · · · · · · ·			'	'				'	<u>'</u>	'		'	'	
Recurring Cost																	-	
All Up Round <sup>(†)</sup>	97.421	27,954	2,723.307	175.596	850	149.257	176.373	983	173.375	170.669	525	89.601	170.660	47	8.021	170.668	572	97.62
Engineering Services	-	-	142.450	-	-	6.653	-	-	7.377	-	-	7.732	-	-	-	-	-	7.73
Engineering Change Orders	-	-	11.315	-	-	0.059	-	-	0.069	-	-	0.090	-	-	0.007	-	-	0.0
Acceptance Testing	-	-	56.214	-	-	0.964	-	-	0.983	-	-	1.002	-	-	0.060	-	-	1.0
Production Engineering	-	-	104.105	-	-	4.469	-	-	4.558	-	-	4.649	-	-	-	-	-	4.64
Publications/Technical Data	-	-	2.596	-	-	0.060	-	-	0.075	-	-	0.075	-	-	-	-	-	0.0
Subtotal: Recurring Cost	-	-	3,039.987	-	-	161.462	-	-	186.437	-	-	103.149	-	-	8.088	-	-	111.2
Subtotal: Flyaway Cost	-	-	3,039.987	-	-	161.462	-	-	186.437	-	-	103.149	-	-	8.088	-	-	111.2
Support - Program Managem	ent Cost																	
Government Management	-	-	1,425.823	-	-	6.701	-	-	6.838	-	-	6.974	-	-	0.024	-	-	6.99
Subtotal: Support - Program Management Cost	-	-	1,425.823	-	-	6.701	-	-	6.838	-	-	6.974	-	-	0.024	-	-	6.9
Support Cost		'			'		'	'				'		'			'	
Fielding	-	-	20.240	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Support Cost	-	-	20.240	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Gross/Weapon System Cost	160.480	27,954	4,486.050	197.839	850	168.163	196.618	983	193.275	209.758	525	110.123	172.596	47	8.112	206.705	572	118.23

**UNCLASSIFIED** 

206.705

Exhibit P-5, Cost Analysis: FY 2018 Army		<b>Date</b> : May 2017
Appropriation / Budget Activity / Budget Sub Activity: 2032A / 02 / 30	P-1 Line Item Number / Title: CC0007 / Javelin (AAWS-M) System Summary	Item Number / Title [DODIC]: H06102 / JAVELIN (AAWS-M)
ID Code (1.0.)	MDAD/MAIC Code: 200	·

ID Code (A=Service Ready, B=Not Service F	eady):	MDAP/MAIS Code	MDAP/MAIS Code: 280						
Second	lary Distribution	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total			
Army	Quantity	850	983	525	47	572			
	Total Obligation Authority	168.163	193.275	110.123	8.112	118.235			
Secondary Distribution	Quantity	850	983	525	47	572			
	Total Obligation Authority	168.163	193.275	110.123	8.112	118.235			

<sup>(†)</sup> indicates the presence of a P-5a

Exhibit P-5a, Procurement History and Planning: FY 2018 A	Army	Date: May 2017
Appropriation / Budget Activity / Budget Sub Activity:	P-1 Line Item Number / Title:	Item Number / Title [DODIC]:
2032A / 02 / 30	CC0007 / Javelin (AAWS-M) System Summary	H06102 / JAVELIN (AAWS-M)

Cost Elements	0 0	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost	Specs Avail Now?	Revision	RFP Issue Date
All Up Round <sup>(†)</sup>		2016	JJV All Up Round <i>I</i> Tucson AZ Orlando FL	SS / FFP	AMCOM, Redstone Arsenal, AL	Apr 2016	Feb 2018	850	175.600	Y		Jul 2012
All Up Round <sup>(†)</sup>		2017	JJV All Up Round <i>I</i> Tucson AZ Orlando FL	SS / FFP	AMCOM, Redstone Arsenal, AL	Jun 2017	Apr 2019	983	176.370	Y		Feb 2016
All Up Round <sup>(†)</sup>		2018	JJV All Up Round / Tucson AZ Orlando FL	SS / FFP	AMCOM, Redstone Arsenal, AL	Apr 2018	Feb 2020	572	170.670	Y		Mar 2017

<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 at least 850 missiles per year.

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		P-21, Pro							-																y 201					
		riation / 02 / 30	Budge	t Acti	vity /	Budg	jet Su	ıb Ac	tivity	:		<b>Line</b> 0007						n Sum	nmary								I <b>DO</b> I WAA			
			ements n Each)	ACCEPT							Fiscal Y	ear 2016		\_l	V 004	10							Fiscal Y		-dV	.0047				E
N O F O #	: }	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2015		0 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	Year 201 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	L A N
	p Round					<u> </u>	•						•				•	•	-		.,		• • •						•	
		Deliveries: 279	i4																											
1	2016	6 ARMY	850	0	850							Α -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8
1	2016	6 MC <sup>(‡)</sup>	327	0	327							A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
1	2016	6 Total	1,177	0	1,177							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,1
1	2017		983	0	983																					Α -	-	-	-	9
_ 1	2017	7 FMS <sup>(‡)</sup>	443	0	443																					Α -	-	-	-	4
1	2017	7 MC <sup>(‡)</sup>	9	0	9																					Α -	-	-	-	
1	2017	7 Total	1,435	0	1,435																					-	-	-	-	1,4
1	2018		572	0	572																									5
1	2018	B FMS <sup>(‡)</sup>	276	0	276																									2
1	2018	MC (‡)	9	0	9																									
1	2018	3 Total	857	0	857																									8
						O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	N N J	J J	A U G	S E P	O C T	A 0 A	DEC	J A N	F E B	M A R	A P R	M A Y	J U	n n	A U G	S E P	

xhi	bit F	P-21, Pro	oduct	on Sc	hedu	ıle: F	<b>/</b> 201	8 Arm	У										_				Date	e: May	2017	7				
		iation / 1 02 / 30	Budge	et Acti	vity /	Budg	get Si	ub Ac	tivity	:		<b>Line</b> 0007 /					ystem	Sum	ımary	,				<b>Num</b> 102 / 、						
		Cost E (Units i	ements n Each)								Fiscal Y	ear 2018											Fiscal Ye	ear 2019						
м				ACCEPT PRIOR	BAL								Ca	lendar Y	'ear 201	8								Calen	dar Year	2019				
F R #	FY	SERVICE	PROC QTY	TO 1 OCT 2017	DUE AS OF 1 OCT		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 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	
	Round																													
_		ARMY	850	0	850		_	_	-	85	85	85	85	85	85	85	85	85	85		_							-		_
$\vdash$		MC (‡)	327	0	327	+	_	_	-	- 65	-	- 00	-	-		- 65	-	-	- 65	- 82	82	82	- 81							$\vdash$
L.		Total	1,177	0	1,177		_	_	-	85	85	85	85	85	85	85	85	85	85	82	82	82	81	- [	- 1	-	- 1	_	_	$\vdash$
1	2017	ARMY	983	0	983	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	145	145	145	145	145	145	+
1	2017	FMS (‡)	443	0	443	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	T
1	2017	MC <sup>(‡)</sup>	9	0	9	-	-	-	-	-	_	-	-	-	-	-	-	-	_	-	-	-	-	-	-	-	-	-	_	t
1	2017	Total	1,435	0	1,435		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	145	145	145	145	145	145	t
1	2018	ARMY	572	0	572	!						A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	T
1	2018	FMS (‡)	276	0	276	;						A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1	2018	MC <sup>(‡)</sup>	9	0	9							A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Г
1	2018	Total	857	0	857							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
						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	N N	n n	A U G	S E P	

_		oit P	P-21, Pro	oducti	on Sc	hedul	e: FY	′ 2018	3 Arm	y												_		Date	: Ma	y 2017	7				
	pr	opri	iation / 1								:		<b>Line</b> 1						Sum	nmary						nber / JAVE					
				ements n Each)							ı	iscal Ye	ear 2020										ı	iscal Y	ear 2021						
					ACCEPT	DAL				-				Ca	alendar '	Year 202	20								Caler	dar Year	2021				
0 0	R	FY	SERVICE	PROC QTY	PRIOR TO 1 OCT 2019	BAL DUE AS OF 1 OCT	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U	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	
_		Round									I																				
Pric	or Ye	ars De	eliveries: 2795	54																											
	1		ARMY	850	850	0																									L
	1	2016	MC <sup>(‡)</sup>	327	327	0																									
	1	2016	Total	1,177	1,177	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1	2017	ARMY	983	870	113	113	-	-	-																					L
	1	2017	FMS (‡)	443	0	443	23	143	143	134																					1
	1	2017	MC <sup>(‡)</sup>	9	0	9	9	-	-	-																					
$\dashv$	1	2017	Total	1,435	870	565	145	143	143	134	-	-	-	-	-	-	-	-	-	- [	-	-	-	-	-	-	-	-	-	-	
$\dashv$	1 :	2018	ARMY	572	0	572	-	-	-	-	72	72	72	72	71	71	71	71	-	-	-	-									
	1	2018	FMS (‡)	276	0	276	-	-	-	-	-	-	-	-	-	-	-	-	62	72	71	71									
$\forall$	1 :	2018	MC <sup>(‡)</sup>	9	0	9	-	-	-	-	-	-	-	-	-	_	-	-	9	-	-	-									
$\dashv$			Total	857	0		_	_	-	-	72	72	72	72	71	71	71	71	71	72	71	71	_	-	_		_	_	_	_	$\vdash$
	-   -		1				0	N	D	J	F	м	Α	М	J	J	Α	S	0	N	D	J	F	М	Α	М	J	J	Α	s	
							C T	o v	E C	A N	E B	A R	P R	A Y	U N	U L	U G	Ē	C T	O V	E C	A N	E B	A R	P R	A	U N	U L	U G	E P	
						L								-				-			-										1

LI CC0007 - Javelin (AAWS-M) System Summary Army

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Exhibit P-21, Production Schedule: FY 2018 Army		Date: May 2017
Appropriation / Budget Activity / Budget Sub Activity:	P-1 Line Item Number / Title:	Item Number / Title [DODIC]:
2032A / 02 / 30	CC0007 / Javelin (AAWS-M) System Summary	H06102 / JAVELIN (AAWS-M)

		Produc	ction Rates (Each	/ Year)				Procurement Le	adtime (Months)			
MFR						Ini	tial			Red	rder	
Ref #	Manufacturer Name - Location	MSR For 2018	1-8-5 For 2018	MAX For 2018	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:

Estimated unit price for FY15 and out are based on combined U.S. Army, other services and FMS procurements of at least 850 missiles per year.FY17-18 Army quantity includes Base and OCO missiles.

**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 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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<sup>(‡)</sup> 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.

Exhibit P-40, Budget Line Item Justification: FY 2018 Army

**Date:** May 2017

Appropriation / Budget Activity / Budget Sub Activity:

P-1 Line Item Number / Title:

2032A: Missile Procurement, Army / BA 02: Other Missiles / BSA 30: Anti-Tank/

C59300 / TOW 2 System Summary

Assault Missile Sys

Program Elements for Code B Items: N/A

Other Related Program Elements: N/A

Line Item MDAP/MAIS Code: N/A

ID Code (A=Service Ready, B=Not Service Ready):

Line item MDAI /MAIO Oode: N/A												
	Prior			FY 2018	FY 2018	FY 2018					То	
Resource Summary	Years	FY 2016	FY 2017	Base	oco	Total	FY 2019	FY 2020	FY 2021	FY 2022	Complete	Total
Procurement Quantity (Units in Each)	167,547	1,704	1,948	1,156	49	1,205	1,159	1,156	1,443	1,296	Continuing	Continuing
Gross/Weapon System Cost (\$ in Millions)	3,121.932	107.509	181.477	105.800	3.907	109.707	106.905	109.502	136.173	125.161	Continuing	Continuing
Less PY Advance Procurement (\$ in Millions)	157.223	19.984	0.000	19.949	-	19.949	19.949	19.949	10.500	-	Continuing	Continuing
Net Procurement (P-1) (\$ in Millions)	2,964.709	87.525	181.477	85.851	3.907	89.758	86.956	89.553	125.673	125.161	Continuing	Continuing
Plus CY Advance Procurement (\$ in Millions)	177.207	-	19.949	19.949	-	19.949	19.949	10.500	-	-	Continuing	Continuing
Total Obligation Authority (\$ in Millions)	3,141.916	87.525	201.426	105.800	3.907	109.707	106.905	100.053	125.673	125.161	Continuing	Continuing
(The following	Resource Sumi	mary rows are fo	or informational p	urposes only. Th	e corresponding	budget requests	s are documente	d elsewhere.)				
Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (\$ in Thousands)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	18.633	63.092	93.161	91.522	79.735	91.043	92.239	94.725	94.368	96.575	Continuing	Continuing

## **Description:**

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

TOW missiles are launched from a variety of combat systems in the active Army and Army National Guard including the Improved Target Acquisition System (ITAS), all infantry and cavalry variants of Bradley Fighting Vehicle Systems (BFVS), the Stryker Anti-Tank Guided Missile (ATGM) Light Armored Vehicle (LAV), and the M220A2 TOW 2 launcher. The USMC employs the TOW missile from its ITAS launchers, ATGM, and AH-1W Cobra helicopters. The TOW missile provides the warfighter with a highly lethal, cost effective, interoperable, multi-purpose weapon.

				FY 2018	FY 2018	FY 2018				
Secondar	ry Distribution	FY 2016	FY 2017	Base	осо	Total	FY 2019	FY 2020	FY 2021	FY 2022
Army	Quantity	1,704	1,948	1,156	49	1,205	1,159	1,156	1,443	1,296
	Total Obligation Authority	87.525	201.426	105.800	3.907	109.707	106.905	100.053	125.673	125.161
Total:	Quantity	1,704	1,948	1,156	49	1,205	1,159	1,156	1,443	1,296
Secondary Distribution	Total Obligation Authority	87.525	201.426	105.800	3.907	109.707	106.905	100.053	125.673	125.161

Exhibit P-40, Budget Line Item Justification: FY 2018 Army

Appropriation / Budget Activity / Budget Sub Activity:

P-1 Line Item Number / Title:

2032A: Missile Procurement, Army / BA 02: Other Missiles / BSA 30: Anti-Tank/

C59300 / TOW 2 System Summary

Assault Missile Sys

Program Elements for Code B Items: N/A

Other Related Program Elements: N/A

**Date:** May 2017

Line Item MDAP/MAIS Code: N/A

ID Code (A=Service Ready, B=Not Service Ready):

	Exhibits Schedule				Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/ MAIS Code	Quantity / Total Cost (Each) / (\$ M)					
P-5	C59403 / TOW Family of Missiles	P-5a, P-21			167,547 / 3,121.932	1,704 / 107.509	1,948 / 181.477	1,156 / 105.800	49 / 3.907	1,205 / 109.707
P-40	Total Gross/Weapon System Cost				167,547 / 3,121.932	1,704 / 107.509	1,948 / 181.477	1,156 / 105.800	49 / 3.907	1,205 / 109.707

<sup>\*</sup>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 2018 Base procurement dollars in the amount of \$105.8 million supports the second year of a five-year (FY17-21) multi-year contract.

FY 2018 OCO includes \$3.907 million to procure 49 missiles to support COCOM requirement for unit equipment sets to deter potential adversaries and support the European Reassurance Initiative.

In accordance with Section 1815 of the FY08 National Defense Authorization Act, 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.

#### NOTES:

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.

							•	ICLAS.	J									
Exhibit P-5, Cost	Analysis	: FY 20	18 Army										1	Date: Ma	ay 2017			
<b>Appropriation / B</b> 2032A / 02 / 30	udget A	ctivity /	Budget	Sub Acti	vity:		ine Item 300 / TOV								mber / T / TOW F		DIC]: Missiles	
ID Code (A=Service Read	ly, B=Not Servi	ce Ready):							М	DAP/MAIS	Code:		l					
	Resource		arv			Prior Yea	ars	FY 20	16	FY 2	2017	FY 2	2018 Bas	e F	Y 2018 C	СО	FY 2018	Total
Procurement Quantity (Uni							167,547		1,704		1,94			,156		49		1,20
Gross/Weapon System Co		s)					,121.932		107.509		181.47	_		.800		3.907		109.70
Less PY Advance Procure	ement (\$ in Mil.	lions)					157.223		19.984		0.00	10	19	.949		-		19.94
Net Procurement (P-1) (\$ i	n Millions)					2	,964.709		87.525		181.47	7	85	.851		3.907		89.75
Plus CY Advance Procure	ment (\$ in Mill	ions)					177.207		-		19.94	.9	19	.949		-		19.94
Total Obligation Authori	<b>y</b> (\$ in Millions	)				3	,141.916		87.525		201.42	:6	105	.800		3.907		109.70
(Ti	he following F	Resource Su	ımmary row	s are for info	rmational p	urposes only	. The corres	ponding budg	get request	s are docume	ented elsewl	nere.)						
Initial Spares (\$ in Millions)							-		-		-			-		-		
Gross/Weapon System Ur	nit Cost (\$ in 7	housands)					18.633		63.092		93.16	51	91	.522		79.735		91.04
Note: Subtotals or Totals i	n this Exhibit	P-5 may no	t be exact o	r sum exactly	y due to rou	ınding.	· · · · · · · · · · · · · · · · · · ·											
	P	rior Years	<b>3</b>		FY 2016			FY 2017		FY	2018 Bas	е	FY	2018 OC	0	F	Y 2018 Tota	al
Cost Elements	Unit Cost	Qty (Each)	Total Cost (\$ M)	Unit Cost	Qty (Each)	Total Cost (\$ M)	Unit Cost	Qty (Each)	Total Cost (\$ M)	Unit Cost	Qty (Each)	Total Cost (\$ M)	Unit Cost	Qty (Each)	Total Cost (\$ M)	Unit Cost	Qty (Each)	Total Cost (\$ M)
Flyaway Cost	, ,	, ,	, ,	, , ,			, , ,	, ,	,,,,		, ,		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	, ,	, , ,	,,,	, ,	
Recurring Cost																		
Missile Contract <sup>(†)</sup>	18.269	167,547	3,060.916	67.698	1,704	115.357	72.981	1,948	142.167	79.966	1,156	92.441	79.735	49	3.907	79.957	1,205	96.34
Less: Prior Year Adv Proc	-	-	-157.223	-	-	-19.984	-	-	-	-	-	-19.949	-	-	-	-	-	-19.94
PLUS P-1 CY Adv. Proc.	-	-	177.207	-	-	-	-	-	19.949	-	-	19.949	-	-	-	-	-	19.94
Subtotal: Recurring Cost	-	-	3,080.900	-	-	95.373	-	-	162.116	-	-	92.441	-	-	3.907	-	-	96.34
Subtotal: Flyaway Cost	-	-	3,080.900	-	-	95.373	-	-	162.116	-	-	92.441	-	-	3.907	-	-	96.34
Support Cost			44.007			0.000			7.007			0.004						0.00
Engineering Services Project Mgt Admin	-	-	14.867 22.726	-	-	2.393 8.219	-	-	7.037 7.942	-	-	2.301 8.130	-	-	-	-	-	2.30 8.13
Acceptance Testing	_	-	3.439	-		1.524	-	-	4.382	-	-	2.928	-	-			-	2.92
Subtotal: Support Cost	-	-	41.032	-	_	12.136	-	-	19.361	-	-	13.359	-	-	-	_	_	13.35
Gross/Weapon System Cost	18.633	167,547	3,121.932	63.092	1,704	107.509	93.161	1,948	181.477	91.522	1,156	105.800	79.735	49	3.907	91.043	1,205	109.70
												FY 2	018	F	Y 2018		FY 201	
	Sec	ondary Di					FY 2	2016		FY 2017		Bas			осо		Total	
Army		Quai						1,70	_		1,948		1,156			49		1,20
Total:			l Obligation A	uthority				87.52		:	201.426 <b>1,948</b>		105.800			3.907		109.70
		⊥Oua	ntity					1,70	1/1		1 0/10		1,156	i 1		49		1,20

LI C59300 - TOW 2 System Summary Army

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Exhibit P-5, Cost Analysis: FY 2018 Army		Date: May 2017
Appropriation / Budget Activity / Budget Sub Activity: 2032A / 02 / 30	P-1 Line Item Number / Title: C59300 / TOW 2 System Summary	Item Number / Title [DODIC]: C59403 / TOW Family of Missiles
	•	· · · · · · · · · · · · · · · · · · ·

ID Code (A=Service Ready, B=Not Service Read	y) :		MDAP/MAIS Code	<b>e</b> :		
Secondary	y Distribution	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Secondary Distribution	Total Obligation Authority	87.525	201.426	105.800	3.907	109.707

<sup>(†)</sup> indicates the presence of a P-5a

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Exhibit P-5a, Procurement History and Planning: FY 2018 A	Army	Date: May 2017
Appropriation / Budget Activity / Budget Sub Activity:	P-1 Line Item Number / Title:	Item Number / Title [DODIC]:
2032A / 02 / 30	C59300 / TOW 2 System Summary	C59403 / TOW Family of Missiles

	O			Method/Type or		Award	Date of First	Qty	Unit Cost	Specs Avail	Date Revision	RFP Issue
Cost Elements	0	FY	Contractor and Location	Funding Vehicle	Location of PCO	Date	Delivery	(Each)	(\$ K)	Now?	Available	Date
Missile Contract <sup>(†)</sup>		2014	Raytheon / Tucson	SS / FPIF	AMCOM, Redstone Arsenal, AL	Nov 2013	Nov 2015	988	79.980	Y		
Missile Contract <sup>(†)</sup>		2015	Raytheon / Tucson	SS / FPIF	AMCOM, Redstone Arsenal, AL	Dec 2014	Jul 2016	1,008	79.980	Y		
Missile Contract <sup>(†)</sup>		2016	Raytheon / Tucson	SS / FPIF	AMCOM, Redstone Arsenal, AL	Dec 2015	Jul 2017	1,704	67.700	Y		
Missile Contract <sup>(†)</sup>		2017	Raytheon / Tucson	SS / FPIF	AMCOM, Redstone Arsenal, AL	Jun 2017	Jan 2019	1,948	72.980	Y		
Missile Contract <sup>(†)</sup>		2018	Raytheon / Tucson	SS / FPIF	AMCOM, Redstone Arsenal, AL	Dec 2017	Jul 2019	1,205	79.960	Y		

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

#### Remarks

FY 2018 Base procurement dollars in the amount of \$105.8 million supports the second year of a five-year (FY17-21) multi-year contract.

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

AMCOM Aviation Missile Command FPIF Fixed Price Incentive Fee

MY Multi-Year

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Exl	hil	bit F	P-21, Pro	oducti	on Sc	hedul	le: F`	Y 2018	8 Arm	ıy														Date	e: Ma	y 201	7				
			iation / 02 / 30	Budge	t Acti	vity /	Bud	get Sı	ıb Ac	tivity	:				<b>Num</b> V 2 S													[DOI		es	
				lements Thousands)	1							Fiscal Y	ear 2014											Fiscal Y							ВА
0 N	M F				ACCEPT PRIOR TO 1		0	N	D	J	F	м	А	м	Calendar	Year 201 J	14 A	s	o	N	D	J	F	М	Cale	ndar Yea M	2015 J	J	А	s	L A N
C F	R	FY	SERVICE	PROC QTY	OCT 2013	AS OF 1 OCT	C T	O V	E C	A N	E B	A R	P R	A Y	U N	U L	U G	S E P	O C T	o V	D E C	A N	E B	A R	P R	A Y	U N	U L	U G	E P	C E
		Contra																													
_			eliveries: 165																												
+	-	2014	ARMY	.988	.000			Α -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.
<u> </u>	1	2014	FMS <sup>(‡)</sup>	13.932	.000	13.932		Α -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13.9
-	_		-	.946	.000			A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.9
-	_		Total	15.866		15.866		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15.8
+	_	2015	ARMY	1.008	.000																Α -	-	-	-	-	-	-	-	-	-	1.0
+	_	2015	MC <sup>(‡)</sup>	.112	.000																Α -	-	-	-	-	-	-	-	-	-	.1
-	_	2015	Total	1.120	.000																-	-	-	-	-	-	-	-	-	-	1.1
+	_	2016	ARMY	1.704	.000																										1.7
	1	2016	MC <sup>(‡)</sup>	.417	.000	.417																									.4
_	-	2016	Total	2.121	.000																										2.1
+	_	2017	ARMY	1.948	.000																										1.9
_	_	2017	MC <sup>(‡)</sup>	.060	.000																										.0
_	_	2017	Total	2.008	.000																										2.0
_Ľ	1	2018	ARMY	1.205	.000	1.205			-										•											•	1.2
							O C T	N O V	E C	J A N	F E B	M A R	A P R	M A Y	U U	U U	U G	S E P	O C T	N O V	E C	J A N	F E B	M A R	A P R	A Y	N U J	n n	A U G	S E P	

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			P-21, Pro																						: May			·ne-	101		
			i <b>ation</b> / 02 / 30	Budge	t Acti	vity /	Budg	et Sı	ib Act	tivity:			<b>Line</b> 1 300 /															<b>[DOD</b> ly of N		es	
				lements Thousands)								Fiscal Ye	ar 2016											Fiscal Ye	ar 2017						E
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0   I	R	FY	SERVICE	PROC QTY	TO 1 OCT 2015	DUE AS OF 1 OCT	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	N U	J 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	O E
		Contra									l	ı				l					I					ı	1				
			eliveries: 165	, ,																											
+	+		ARMY	.988	.000		-	.175	.175	.175	.175	.175	.113	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.(
	1	2014	FMS <sup>(‡)</sup>	13.932	.000	13.932	-	-	-	.425	.425	.425	.250	.363	.363	.272	.507	.507	.507	.507	.507	.507	.507	.506	.506	.506	.506	.232	.232	.232	5.
1	1	2014	MC <sup>(‡)</sup>	.946	.000	.946	-	-	-	-	-	-	.237	.237	.237	.235	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.(
-	_		Total	15.866	.000		-	.175	.175	.600	.600	.600	.600	.600	.600	.507	.507	.507	.507	.507	.507	.507	.507	.506	.506	.506	.506	.232	.232	.232	_
+	-	2015	ARMY	1.008	.000		-	-	-	-	-	-	-	-	-	.084	.084	.084	.084	.084	.084	.084	.084	.084	.084	.084	.084				.0
-	-		MC <sup>(‡)</sup>	.112	.000		-	-	-	-	-	-	-	-	-	.009	.009	.009	.009	.009	.009	.009	.009	.010	.010	.010	.010				.0
-	_		Total	1.120	.000		-	-	-	-	-	-	-	-	-	.093	.093	.093	.093	.093	.093	.093	.093	.094	.094	.094	.094	-	-	-	.0
+	_	2016	ARMY	1.704	.000				A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.142	.142	.142	+
+	-	2016	MC <sup>(‡)</sup>	.417	.000	.417			A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.4
-	_	<b>2016</b> 2017	Total ARMY	<b>2.121</b> 1.948	.000				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	- A -	.142	.142	.142	1.6
+	+	2017	MC (‡)	.060	.000																						A -	-	-		.0
+	-		Total	2.008	.000		-																		-		-	-	-		2.0
-	-		ARMY	1.205	.000																										1.2
						,	0	N	D	J	F	М	Α	М	J	J	Α	S	0	N	D	J	F	М	Α	М	J	J	Α	s	<u> </u>
							C T	0 V	E	A N	E B	A R	P R	A Y	U N	U L	U G	E P	C T	O V	E C	A N	E B	A R	P R	A Y	U N	U L	U G	E P	

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Ex	hi	bit F	P-21, Pr	oducti	on Sc	hedul	e: FY	2018	3 Arm	у														Date	: May	2017	7			
-	-	•	<b>iation</b> / 02 / 30	Budge	et Acti	vity /	Budg	et Su	b Ac	tivity:				Item TOW				nary							<b>Num</b> 103 / 1					:S
				lements Thousands	)						ļ	Fiscal Ye	ar 2018											Fiscal Ye	ar 2019					
	м				ACCEPT									С	alendar `	ear 201	3								Calend	dar Year	2019			
0 C 0	F R	FY	SERVICE	PROC	PRIOR TO 1 OCT 2017	BAL DUE AS OF 1 OCT	O C T	N O V	D E C	J A N	F E B	M A	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	A P R	M A Y	J U N	J U L	A U G	S E P
_		Contra		QTY	2017	1001	'	V	C	N	В	R	K	Y	N		G	Р	-	V	-	N	ь	R	K	Y	N		G	P
			eliveries: 165	551																										
	1	2014	ARMY	.988	.988	.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-							
	1	2014	FMS (‡)	13.932	8.792	5.140	.232	.230	.321	.400	.400	.400	.400	.400	.400	.400	.400	.400	.400	.357										Γ
	1	2014	MC <sup>(‡)</sup>	.946	.946	.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-										
	1	2014	Total	15.866	10.726	5.140	.232	.230	.321	.400	.400	.400	.400	.400	.400	.400	.400	.400	.400	.357	-	-	-	-	-	-	-	-	-	-
	1	2015	ARMY	1.008	1.008	.000	,							,	,	•			,			,	,	,					·	
	1	2015	MC <sup>(‡)</sup>	.112	.112	.000																								
	1	2015	Total	1.120	1.120	.000	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1	2016	ARMY	1.704	.426		.142	.142	.142	.142	.142	.142	.142	.142	.142	-	-	-	-	-										-
	1	2016	MC <sup>(‡)</sup>	.417	.000	.417	-	-	-	-	-	-	-	-	-	.085	.083	.083	.083	.083										
	1		Total	2.121	.426		.142	.142	.142	.142	.142	.142	.142	.142	.142	.085	.083	.083	.083	.083	-	-	-	-	-	-	-	-	-	-
	1	2017	ARMY	1.948	.000		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.175	.175	.175	.175	.175	.175	.175	.175	.175
$\dashv$	1	2017	MC <sup>(‡)</sup>	.060	.000	.060	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.060	-	-	-	-	-	-	-	-
	1	<b>2017</b> 2018	Total ARMY	2.008 1.205	.000		-	-	- A -	-	-	-	-	-	-	-	-	-	-	-	-	.235	.175	.175	.175	.175	.175	. <b>175</b>	. <b>175</b>	. <b>175</b>
		2010	AIXWII	1.203	.000	1.203	0	N O	D E	J A	F E	M A	A P	M A	J	J	A U	S E	0	N O	D E	J A	F E	M	A P	M A	J	J	A U	S E
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032/		-21, Production Schedule: FY 2018 Army ation / Budget Activity / Budget Sub Activity: 2 / 30  P-1 Line Item Number / Title: C59300 / TOW 2 System Summary																							y 201					_
Cost Elements																									nber / TOW				es	
		Cost E (Units in 7	ements housands)								Fiscal Ye	ear 2020											Fiscal Ye	ear 2021						
				ACCEPT					_				С	alendar	Year 202	20					_			Caler	ndar Year	2021				
M F R	FY	SERVICE	PROC QTY	PRIOR TO 1 OCT 2019	BAL DUE AS OF 1 OCT	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	
	Contrac	ct													l.															
ior Ye	ars De	liveries: 1655	551																											
1 :	2014	ARMY	.988	.988	.000																									
1 3	2014	FMS <sup>(‡)</sup>	13.932	13.932	.000																									
1 :	2014	MC <sup>(‡)</sup>	.946	.946	.000																									
1 :	2014	Total	15.866	15.866	.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1 :	2015	ARMY	1.008	1.008	.000																									
1 :	2015	MC <sup>(‡)</sup>	.112	.112	.000																									
1 :	2015	Total	1.120	1.120	.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1 :	2016	ARMY	1.704	1.704	.000																									
1 :	2016	MC <sup>(‡)</sup>	.417	.417	.000																									
1 :	2016	Total	2.121	2.121	.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Г
1 :	2017	ARMY	1.948	1.575	.373	.175	.175	.023																						
1 :	2017	MC <sup>(‡)</sup>	.060	.060	.000	-	-	-																						
1 :	2017	Total	2.008	1.635	.373	.175	.175	.023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1 :	2018	ARMY	1.205	.525	.680	.175	.175	.175	.155																					
						O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	N N	J 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: FY 2018 Army		Date: May 2017
Appropriation / Budget Activity / Budget Sub Activity: 2032A / 02 / 30	P-1 Line Item Number / Title: C59300 / TOW 2 System Summary	Item Number / Title [DODIC]: C59403 / TOW Family of Missiles

		Produ	ction Rates (Each	/ Year)				Procurement Le	adtime (Months)			
MF	R					lni	tial			Reo	rder	
Re	f Manufacturer				ALT	ALT	Manufacturing	Total	ALT	ALT	Manufacturing	Total
#	Name - Location	MSR For 2018	1-8-5 For 2018	MAX For 2018	Prior to Oct 1	After Oct 1	PLT	After Oct 1	Prior to Oct 1	After Oct 1	PLT	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 Administrative Lead Time shown for annual year contracts.FY17-FY21 Army: 6,911 (FY17 Base: 1,133, FY17 OCO: 815, FY18: 1,156, FY18 OCO: 49, FY19: 1,159, FY20: 1,156, FY21: 1,443).FY17 USMC: 60.FY22 Army: 1,29610 U.S. Code #2431 and DoD Financial Mgt Reg Vol 2B, Ch4 mandate Production Rates be defined in terms of "budget year."

**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 999,999,999 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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<sup>(‡)</sup> 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.

Exhibit P-40, Advance Procurement Budget Line Item Justification: FY 2018 Army

**Date:** May 2017

Appropriation / Budget Activity / Budget Sub Activity:

2032A: Missile Procurement, Army / BA 02: Other Missiles / BSA 30: Anti-Tank/

Assault Missile Sys

C59300 / TOW 2 System Summary

Program Elements for Code B Items: N/A

Other Related Program Elements: N/A

P-1 Line Item Number / Title:

Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	To Complete	Total
Gross/Weapon System Cost (\$ in Millions)	177.207	-	19.949	19.949	-	19.949	19.949	10.500	-	-	Continuing	Continuing
Net Procurement (P-1) (\$ in Millions)	177.207	-	19.949	19.949	-	19.949	19.949	10.500	-	-	Continuing	Continuing
Total Obligation Authority (\$ in Millions)	177.207	-	19.949	19.949	-	19.949	19.949	10.500	-	-	Continuing	Continuing

#### **Description:**

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

TOW missiles are launched from a variety of combat systems in the active Army and Army National Guard including the Improved Target Acquisition System (ITAS), all infantry and cavalry variants of Bradley Fighting Vehicle Systems (BFVS), the Stryker Anti-Tank Guided Missile (ATGM) Light Armored Vehicle (LAV), and the M220A2 TOW 2 launcher. The USMC employs the TOW missile from its ITAS launchers, ATGM, and AH-1W Cobra helicopters. The TOW missile provides the warfighter with a highly lethal, cost effective, interoperable, multi-purpose weapon.

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P-1 Line #10

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Exhibit P-40, Advance Procurement Budget Line Item Justification: FY 2018 Arn	ny	Date: May 2017
Appropriation / Budget Activity / Budget Sub Activity:	P-1 Line Item Number / Title:	
2020A Missils Description American DA 00, Other Missils / DCA 20, Auti Tauli	OFFICIAL TOWN OF CONTRACT CONTRACTOR	

2032A: Missile Procurement, Army / BA 02: Other Missiles / BSA 30: Anti-Tank/

Assault Missile Sys

C59300 / TOW 2 System Summary

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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Exhibit Type	Title*	ID CD	MDAP/ MAIS Code	Quantity / Total Cost (Each) / (\$ M)					
P-10	C59403 / TOW Family of Missiles			167,547 / 177.207	1,704 / -	1,948 / 19.949	1,156 / 19.949	49 / -	1,205 / 19.949
P-40	Total Gross/Weapon System Cost			167,547 / 177.207	1,704 / -	1,948 / 19.949	1,156 / 19.949	49 / -	1,205 / 19.949

<sup>\*</sup>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:

FY17-21 multi-year procurement contains advanced procurement in years FY17-20 to support the procurement of components in economic order quantities required for missile production. FY18 advanced procurement in the amount of \$19.949 million is the second year of advanced procurement.

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.

#### NOTES:

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.

Exhibit P-10, Advance Procure	ment Require	ments Analys	is ( <i>page 1 - E</i>	Budget Funding Justifica	ation): FY 2018 Army	Date: May 2017	
Appropriation / Budget Activity 2032A / 02 / 30	/ Budget Sub	Activity:		em Number / Title: OW 2 System Summary		P-5 Number / Title: C59403 / TOW Famil	y of Missiles
First System (2018) Award Date: December 2017	First Syst July 2018	em (2018) Compl	etion Date:		Interval Between Syste 12 Months	ms:	
TOW Family of Missile	s	Production I		Prior Years (Each)	FY 2016 (Each)	FY 2017 (Each)	FY 2018 (Each)
Quantity				167,547	1,704	1,948	1,205
Cost Elements		When Rec		Prior Years (\$ M)	FY 2016 (\$ M)	FY 2017 (\$ M)	FY 2018 (\$ M)
Other							
Launch Motor			14	9.460	-	0.899	0.841
Flight Motor			12	2.983	-	0.169	0.182
Warhead			19	72.464	-	7.070	7.129
Gyro			13	16.199	-	1.537	1.550
Flight Motor Case Kit			10	3.669	-	0.349	0.356
2B Sensor			18	57.178	-	8.475	8.546
Control Surface Actuator			13	9.580	-	0.910	0.841
Beacon Shutter Actuator			11	5.674	-	0.540	0.504
Total: Other				177.207	-	19.949	19.949
Total Advance Procurement/Obligation	Authority			177.207	-	19.949	19.949

Exhibit P-10, Advance Procurement Requirements Analysis	(page 2 - Budget Funding Justification): FY 2018 Army	Date: May 2017
Appropriation / Budget Activity / Budget Sub Activity:	P-1 Line Item Number / Title:	P-5 Number / Title:
2032A / 02 / 30	C59300 / TOW 2 System Summary	C59403 / TOW Family of Missiles

				FY 2	018		
Cost Elements	<b>QPA</b> (Each)	Production Leadtime (Months)	Unit Cost	Contract Forecast Date	2018 Qty (Each)	For FY	Total Cost Request (\$ M)
Other							
Launch Motor	1						0.841
Flight Motor	1						0.182
Warhead	1						7.129
Gyro	1						1.550
Flight Motor Case Kit	1						0.356
2B Sensor	1						8.546
Control Surface Actuator	1						0.841
Beacon Shutter Actuator	1						0.504
Total: Other							19.949
Total Advance Procurement/Obligation Authority							19.949

#### Description:

Advanced procurement funding in FY17, FY18, FY19 & FY20 procures EOQ to support the FY17-21 multi-year contract for 3,893 missiles.

On the P-10A the End Item Quantity for FY17 shows a quantity of 1,948 which is the sum of the FY17 Base and FY17 OCO. It should only show the FY17 Base which is 1,133.

On the P-10A the End Item Quantity for FY18 shows a quantity of 1,205 which is the sum of the FY18 Base, FY18 Option and FY18 OCO. It should only show the FY18 Base which is 640.

Exhibit P-40, Budget Line Item Justification: FY 2018 Army

**Date:** May 2017

Appropriation / Budget Activity / Budget Sub Activity:

P-1 Line Item Number / Title:

2032A: Missile Procurement, Army / BA 02: Other Missiles / BSA 30: Anti-Tank/

C64400 / Guided MLRS Rocket (GMLRS)

Assault Missile Svs

Program Elements for Code B Items: N/A

Other Related Program Elements: 0603778A, 0205778A

Line Item MDAP/MAIS Code: N/A

ID Code (A=Service Ready, B=Not Service Ready): A

	Prior			FY 2018	FY 2018	FY 2018					То	
Resource Summary	Years	FY 2016	FY 2017	Base	oco	Total	FY 2019	FY 2020	FY 2021	FY 2022	Complete	Total
Procurement Quantity (Units in Each)	22,134	1,542	2,954	4,458	1,542	6,000	1,242	2,352	1,650	1,848	3,838	43,560
Gross/Weapon System Cost (\$ in Millions)	2,735.905	251.060	402.579	595.182	191.522	786.704	180.409	319.623	268.534	358.795	882.740	6,186.349
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	2,735.905	251.060	402.579	595.182	191.522	786.704	180.409	319.623	268.534	358.795	882.740	6,186.349
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	2,735.905	251.060	402.579	595.182	191.522	786.704	180.409	319.623	268.534	358.795	882.740	6,186.349
(The following	Resource Sumi	mary rows are fo	or informational p	urposes only. Th	e corresponding	budget requests	s are documente	d elsewhere.)				
Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (\$ in Thousands)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	123.606	162.815	136.283	133.509	124.204	131.117	145.257	135.894	162.748	194.153	230.000	142.019

### **Description:**

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 consists of three separate increments. GMLRS Dual Purpose Improved Conventional Munition (DPICM) was the first increment. It 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 is the second increment that 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 replacement to GMLRS DPICM. The Program completed the Engineering and Manufacturing Development (EMD) Phase and entered full rate production in FY15. The GMLRS AW rocket is 90% common with the Unitary variant.

				FY 2018	FY 2018	FY 2018				
Secondar	ry Distribution	FY 2016	FY 2017	Base	осо	Total	FY 2019	FY 2020	FY 2021	FY 2022
Army	Quantity	1,542	2,954	4,458	1,542	6,000	1,242	2,352	1,650	1,848
	Total Obligation Authority	251.060	402.579	595.182	191.522	786.704	180.409	319.623	268.534	358.795
Total:	Quantity	1,542	2,954	4,458	1,542	6,000	1,242	2,352	1,650	1,848
Secondary Distribution	Total Obligation Authority	251.060	402.579	595.182	191.522	786.704	180.409	319.623	268.534	358.795

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Exhibit P-40, Budget Line Item Justification: FY 2018 Army

**Date:** May 2017

Appropriation / Budget Activity / Budget Sub Activity:

P-1 Line Item Number / Title:

2032A: Missile Procurement, Army / BA 02: Other Missiles / BSA 30: Anti-Tank/

C64400 / Guided MLRS Rocket (GMLRS)

Assault Missile Sys

Program Elements for Code B Items: N/A

Other Related Program Elements: 0603778A, 0205778A

Line Item MDAP/MAIS Code: N/A

ID Code (A=Service Ready, B=Not Service Ready): A

	Exhibits Schedule				Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/ MAIS Code	Quantity / Total Cost (Each) / (\$ M)					
P-5	C65404 / GUIDED MLRS ROCKET (GMLRS)	P-5a, P-21		260	22,134 / 2,733.281	1,542 / 250.617	2,954 / 402.129	4,458 / 594.691	1,542 / 191.522	6,000 / 786.213
P-40a	C65406 / GMLRS Training Devices				- /2.624	- / 0.443	- / 0.450	- / 0.491	- / -	- / 0.491
P-40	Total Gross/Weapon System Cost				22,134 / 2,735.905	1,542 / 251.060	2,954 / 402.579	4,458 / 595.182	1,542 / 191.522	6,000 / 786.704

<sup>\*</sup>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 2018 Base procurement dollars in the amount of \$554.998 million support the acquisition of 4,458 GMLRS rockets for the United States Army. Army Procurement Objective is 43,560. In addition, Base procurement dollars in the amount of \$0.491 million support the acquisition of equipment and support to ensure Guided Multiple Launch Rocket Common Training Device alignment with the production configuration.

FY 2018 Base procurement dollars in the amount of \$39.693 million support the requirement for facilitization that would ramp up production to a maximum capacity of 10,000 rockets in the 4th Qtr FY2020 timeframe.

FY 2018 OCO procurement dollars in the amount of \$191.522 million support the COCOM requirement for unit equipment sets to deter potential adversaries and support the Operation Inherent Resolve (OIR). The procurements include 1,542 GMLRS rockets.

All funding goes to the Active Component.

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.

Exhibit P-5, Cost Analysis: FY 2018 Army

**Date:** May 2017

Appropriation / Budget Activity / Budget Sub Activity:

P-1 Line Item Number / Title:

Item Number / Title [DODIC]:

2032A / 02 / 30

C64400 / Guided MLRS Rocket (GMLRS)

C65404 / GUIDED MLRS ROCKET

(GMLRS)

ID Code (A=Service Ready, B=Not Service Ready):

MDAP/MAIS Code: 260

Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
22,134	1,542	2,954	4,458	1,542	6,000
2,733.281	250.617	402.129	594.691	191.522	786.213
-	-	-	-	-	-
2,733.281	250.617	402.129	594.691	191.522	786.213
-	-	=	-	-	=
2,733.281	250.617	402.129	594.691	191.522	786.213
ional purposes only. The cor	responding budget request	s are documented elsewher	re.)		
-	-	-	-	-	=
123.488	162.527	136.130	133.399	124.204	131.036
	22,134 2,733.281 - 2,733.281 - 2,733.281 ional purposes only. The con	22,134 1,542 2,733.281 250.617	22,134	22,134     1,542     2,954     4,458       2,733.281     250.617     402.129     594.691       -     -     -     -       2,733.281     250.617     402.129     594.691       -     -     -     -       2,733.281     250.617     402.129     594.691       ional purposes only. The corresponding budget requests are documented elsewhere.)       -     -     -     -	22,134     1,542     2,954     4,458     1,542       2,733.281     250.617     402.129     594.691     191.522       -     -     -     -     -       2,733.281     250.617     402.129     594.691     191.522       -     -     -     -     -       2,733.281     250.617     402.129     594.691     191.522       ional purposes only. The corresponding budget requests are documented elsewhere.)     -     -     -     -     -     -

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

	F	Prior Years	3		FY 2016			FY 2017		F۱	′ 2018 Bas	e	F۱	/ 2018 OC	0	FY	/ 2018 Total	al
Cost Elements	Unit Cost	Qty (Each)	Total Cost (\$ M)															
Flyaway Cost	'	'			'		'	'		'	'		'	'			'	
Recurring Cost																		
Tactical GMLRS Hardware <sup>(†)</sup>	104.703	22,134	2,317.496	138.800	1,542	214.030	124.007	2,954	366.317	127.253	4,458	567.293	118.045	1,542	182.025	124.886	6,000	749.31
Ind Maint/Init Prod Fac	-	-	59.325	-	-	4.569	-	-	4.657	-	-	3.529	-	-	1.220	-	-	4.74
Production Verification Testing	-	-	49.668	-	-	6.278	-	-	6.398	-	-	4.849	-	-	1.699	-	-	6.54
First Destination Transportation	-	-	3.723	-	-	0.261	-	-	0.456	-	-	0.607	-	-	0.210	-	-	0.81
Production Engineering Support	-	-	142.492	-	-	11.842	-	-	12.068	-	-	9.145	-	-	3.163	-	-	12.30
Spares	-	-	1.277	-	-	1.635	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Recurring Cost	-	-	2,573.981	-	-	238.615	-	-	389.896	-	-	585.424	-	-	188.317	-	-	773.73
Subtotal: Flyaway Cost	-	-	2,573.981	-	-	238.615	-	-	389.896	-	-	585.424	-	-	188.317	-	-	773.73
Support Cost				,														
Engineering Services	-	-	91.600	-	-	5.679	-	-	5.789	-	-	4.385	-	-	1.516	-	-	5.90
Project Management Admin	-	-	67.700	-	-	6.323	-	-	6.444	-	-	4.883	-	-	1.689	-	-	6.57
Subtotal: Support Cost	-	-	159.300	-	-	12.002	-	-	12.233	-	-	9.268	-	-	3.205	-	-	12.47
Gross/Weapon System Cost	123.488	22,134	2,733.281	162.527	1,542	250.617	136.130	2,954	402.129	133.399	4,458	594.691	124.204	1,542	191.522	131.036	6,000	786.21

Exhibit P-5, Cost Analysis: FY 2018 Army		Date: May 2017
Appropriation / Budget Activity / Budget Sub Activity: 2032A / 02 / 30	P-1 Line Item Number / Title: C64400 / Guided MLRS Rocket (GMLRS)	Item Number / Title [DODIC]: C65404 / GUIDED MLRS ROCKET (GMLRS)

ID Code (A=Service Ready, B=Not Service Ready)	dy):		MDAP/MAIS Code	e: 260		
Secondar	y Distribution	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Army	Quantity	1,542	2,954	4,458	1,542	6,000
	Total Obligation Authority	250.617	402.129	594.691	191.522	786.213
Total:	Quantity	1,542	2,954	4,458	1,542	6,000
Secondary Distribution	Total Obligation Authority	250.617	402.129	594.691	191.522	786.213

<sup>(†)</sup> indicates the presence of a P-5a

Exhibit P-5a, Procurement History and Planning: FY 2018 A	Army	Date: May 2017
Appropriation / Budget Activity / Budget Sub Activity: 2032A / 02 / 30	P-1 Line Item Number / Title: C64400 / Guided MLRS Rocket (GMLRS)	Item Number / Title [DODIC]: C65404 / GUIDED MLRS ROCKET (GMLRS)

	0			Method/Type or		Award	Date of First	Qty	Unit Cost	Specs Avail	Date Revision	RFP Issue
Cost Elements	0	FY	Contractor and Location	Funding Vehicle	Location of PCO	Date	Delivery	(Each)	(\$ K)	Now?	Available	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			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	1,542	138.800			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	2,954	124.010			Feb 2016
Tactical GMLRS Hardware <sup>(†)</sup>		2018	Lockheed Martin M.&F.C Sys. / Dallas, TX	SS / FPIF	Aviation and Missile Command	Feb 2018	Apr 2019	6,000	124.890			Feb 2017

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

Lockheed Martin is currently the industry source that is both facilitized and qualified to produce the GMLRS rocket.

<sup>\*</sup>Sole Source/Fixed Price Incentive Firm

<sup>\*\*</sup>Aviation and Missile Command, Redstone Arsenal, Alabama

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Exh	nib	it P	-21, Pro	oducti	on Sc	hedu	le: FY	2018	3 Arm	у														Date	e: May	/ 201	7				
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1	2	2015	ARMY	450	162	288	36	36	36	36	36	36	36	36									-								
1	2	2015	MC <sup>(‡)</sup>	60	24	36	6	6	6	6	6	6	-	-																l	
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1	2	2017	ARMY	2,954	0	2,954								Α -	-	-	-	-	-	-	-	-	-	-	-	_	-	248	246	246	2,21
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1 2016	MC <sup>(‡)</sup>	90	90	0																								
1 2016	Total	2,046	2,046	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	ARMY	2,954	740	2,214	246	246	246	246	246	246	246	246	246															
1 2017	FMS (‡)	492	126	366	42	42	42	42	42	42	42	36	36															
1 2017	MC <sup>(‡)</sup>	180	54	126	18	18	18	12	12	12	12	12	12															
1 2017	Total	3,626	920	2,706	306	306	306	300	300	300	300	294	294	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1 2018	ARMY	6,000	0	6,000	-	-	-	-	-	-	500	500	500	500	500	500	500	500	500	500	500	500						
1 2018	FMS (‡)	600	0	600	-	-	-	-	-	-	54	54	54	54	48	48	48	48	48	48	48	48						
1 2018	MC (‡)	240	0	240	-	-	-	-	-	-	24	24	24	24	24	24	24	24	12	12	12	12						
1 2018	Total	6,840	0	6,840	-	-	-	-	-	-	578	578	578	578	572	572	572	572	560	560	560	560	-	-	-	-	-	-
		,			0	N	D	J	F	М	A	М	J	J	A	S	0	N	D	J	F	М	A	М	J	J	A	S
					C T	0 V	E C	A N	E B	A R	P R	A Y	U N	U	U G	E P	C T	o V	E C	A N	E B	A R	P R	A Y	U N	U	U G	E P

LI C64400 - Guided MLRS Rocket (GMLRS) Army

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Exhibit P-21, Production Schedule: FY 2018 Army		<b>Date:</b> May 2017
Appropriation / Budget Activity / Budget Sub Activity: 2032A / 02 / 30	P-1 Line Item Number / Title: C64400 / Guided MLRS Rocket (GMLRS)	Item Number / Title [DODIC]: C65404 / GUIDED MLRS ROCKET (GMLRS)

		Product	tion Rates (Each /	Month)				Procurement Le	adtime (Months)			
MFR						Init	tial			Reo	rder	
Ref #	Manufacturer Name - Location	MSR For 2018	1-8-5 For 2018	MAX For 2018	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
	Lockheed Martin M.&F.C Sys Dallas, TX	90	250	600	0	2	16	18	0	2	16	18

#### 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. To account for FY18 US Army, Marine Corps, and Foreign Military Sales (FMS) deliveries, the maximum production rate was adjusted from 500 per month to 600 per month.

**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 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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<sup>(‡)</sup> 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.

Exhibit P-40a, Budget Item Justification For Aggregated Items: FY 2018 Army

Appropriation / Budget Activity / Budget Sub Activity:

2032A / 02 / 30

P-1 Line Item Number / Title:

C64400 / Guided MLRS Rocket (GMLRS)

Various

											(	/								
			P	Prior Year	s		FY 2016			FY 2017		FY	′ 2018 Ba	se	F	2018 OC	o	FY	/ 2018 To	tal
Item Number / Title [DODIC]	ID CD	MDAP/ MAIS Code	Unit Cost	Qty (Each)	Total Cost (\$ M)															
GMLRS Training Devices										'				'	'					,
C65406 / GMLRS Training Devices			-	-	2.624	-	-	0.443	-	-	0.450	-	-	0.491	-	-	-	-	-	0.491
Secondary Distribution																				
Army				-	-		-	0.443		-	0.450		-	0.491		-	-		-	0.491
Subtotal: GMLRS Training	g Dev	/ices	-	-	2.624	-	-	0.443	-	-	0.450	-	-	0.491	-	-	-	-	-	0.491
Total			-	-	2.624	-	-	0.443	-	-	0.450	-	-	0.491	-	-	-	-	-	0.491

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

Exhibit P-40, Budget Line Item Justification: FY 2018 Army

**Date:** May 2017

Appropriation / Budget Activity / Budget Sub Activity:

P-1 Line Item Number / Title:

2032A: Missile Procurement, Army / BA 02: Other Missiles / BSA 30: Anti-Tank/

C65405 / MLRS Reduced Range Practice Rockets (RRPR)

Assault Missile Sys

Program Elements for Code B Items: N/A

Other Related Program Elements: 0210602A

Line Item MDAP/MAIS Code: N/A

ID Code (A=Service Ready, B=Not Service Ready):

	Prior			FY 2018	FY 2018	FY 2018					То		
Resource Summary	Years	FY 2016	FY 2017	Base	oco	Total	FY 2019	FY 2020	FY 2021	FY 2022	Complete	Total	
Procurement Quantity (Units in Each)	36,555	3,546	1,704	3,420	-	3,420	2,160	1,896	3,552	3,684	Continuing	Continuing	
Gross/Weapon System Cost (\$ in Millions)	189.804	39.975	18.004	28.321	-	28.321	21.147	19.628	31.476	33.079	Continuing	Continuing	
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	=	-	-	-	-	
Net Procurement (P-1) (\$ in Millions)	189.804	39.975	18.004	28.321	-	28.321	21.147	19.628	31.476	33.079	Continuing	Continuing	
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-	
Total Obligation Authority (\$ in Millions)	189.804	39.975	18.004	28.321	-	28.321	21.147	19.628	31.476	33.079	Continuing	Continuing	
(The following	Resource Sumi	mary rows are fo	r informational p	urposes only. Th	e corresponding	g budget request:	s are documente	d elsewhere.)					
Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-	
Flyaway Unit Cost (\$ in Thousands)	-	-	-	-	-	-	-	-	-	-	-	-	
Gross/Weapon System Unit Cost (\$ in Thousands)	5.192	11.273	10.566	8.281	-	8.281	9.790	10.352	8.861	8.979	Continuing	Continuing	

### **Description:**

The Multiple Launch Rocket System (MLRS) Low Cost Reduced Range Practice Rocket (LCRRPR) is the only live training rocket for High Mobility Artillery Rocket System (HIMARS) and M270/M270A1 MLRS Launcher units/crews. LCRRPR meets a critical validated requirement for Active and National Guard HIMARS and M270A1 launcher units to 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 Package (POP) boxes.

	'			FY 2018	FY 2018	FY 2018				
Seconda	ry Distribution	FY 2016	FY 2017	Base	oco	Total	FY 2019	FY 2020	FY 2021	FY 2022
Army	Quantity	2,310	1,092	2,700	-	2,700	1,338	1,074	2,832	2,766
	Total Obligation Authority	25.617	11.538	22.359	-	22.359	13.099	11.118	25.096	24.836
ANG	Quantity	1,236	612	720	-	720	822	822	720	918
	Total Obligation Authority	14.358	6.466	5.962	-	5.962	8.048	8.510	6.380	8.243
otal:	Quantity	3,546	1,704	3,420	-	3,420	2,160	1,896	3,552	3,684
Secondary Distribution	<b>Total Obligation Authority</b>	39.975	18.004	28.321	-	28.321	21.147	19.628	31.476	33.079

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Exhibit P-40, Budget Line Item Justification: FY 2018 Army

**Date:** May 2017

Appropriation / Budget Activity / Budget Sub Activity:

P-1 Line Item Number / Title:

2032A: Missile Procurement, Army / BA 02: Other Missiles / BSA 30: Anti-Tank/

C65405 / MLRS Reduced Range Practice Rockets (RRPR)

Assault Missile Sys

Program Elements for Code B Items: N/A

Other Related Program Elements: 0210602A

Line Item MDAP/MAIS Code: N/A

ID Code (A=Service Ready, B=Not Service Ready):

	Exhibits Schedule				Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/ MAIS Code	Quantity / Total Cost (Each) / (\$ M)					
P-5	C65405 / MLRS Reduced Range Practice Rockets (RRPR)	P-5a, P-21			36,555 / 189.804	3,546 / 39.975	1,704 / 18.004	3,420 / 28.321	- / -	3,420 / 28.321
P-40	Total Gross/Weapon System Cost				36,555 / 189.804	3,546 / 39.975	1,704 / 18.004	3,420 / 28.321	- 1 -	3,420 / 28.321

<sup>\*</sup>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:

FY2018 Base procurement dollars in the amount of \$28.321 million support the procurement of 3,420 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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Exhibit P-5, Cost Analysis: FY 2018 Army

**Date:** May 2017

Appropriation / Budget Activity / Budget Sub Activity:

P-1 Line Item Number / Title:

Item Number / Title [DODIC]: C65405 / MLRS Reduced Range

2032A / 02 / 30

C65405 / MLRS Reduced Range Practice Rockets (RRPR)

Practice Rockets (RRPR)

ID Code (A=Service Ready, B=Not Service Ready):

MDAP/MAIS Code:

Prior Years 36,555 189.804	FY 2016 3,546 39.975	<b>FY 2017</b> 1,704	FY 2018 Base 3,420	FY 2018 OCO	FY 2018 Total
	,	1,704	3,420	_	2 420
189.804	39.975				3,420
		18.004	28.321	-	28.321
-	-	-	-	-	-
189.804	39.975	18.004	28.321	-	28.321
-	-	-	-	-	-
189.804	39.975	18.004	28.321	-	28.321
nal purposes only. The corr	responding budget requests	s are documented elsewher	re.)		
-	-	-	-	-	=
5.192	11.273	10.566	8.281	-	8.281
	189.804 - <b>189.804</b> ral purposes only. The cor	189.804 39.975	189.804         39.975         18.004           -         -         -           189.804         39.975         18.004           nal purposes only. The corresponding budget requests are documented elsewher         -         -	189.804         39.975         18.004         28.321           -         -         -         -           189.804         39.975         18.004         28.321           189.804         18004         28.321           18004         28.321         18.004         28.321           18004         18.004         18.004         18.004         18.004           18004         18.004 <td>189.804     39.975     18.004     28.321     -       -     -     -     -     -       189.804     39.975     18.004     28.321     -       nal purposes only. The corresponding budget requests are documented elsewhere.)     -     -     -     -</td>	189.804     39.975     18.004     28.321     -       -     -     -     -     -       189.804     39.975     18.004     28.321     -       nal purposes only. The corresponding budget requests are documented elsewhere.)     -     -     -     -

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

	P	rior Years	i		FY 2016			FY 2017		F۱	′ 2018 Bas	e	F۱	/ 2018 OC	0	FY	/ 2018 Tot	:al
Cost Elements	Unit Cost	Qty (Each)	Total Cost (\$ M)	Unit Cost	<b>Qty</b> (Each)	Total Cost (\$ M)	Unit Cost	Qty (Each)	Total Cost (\$ M)									
Flyaway Cost	'	'		'	,			'		'	'		'		'	'	'	
Recurring Cost																		
Reduced Range Practice Rocket (LCRRPR) <sup>(†)</sup>	3.873	36,555	141.594	9.427	3,546	33.429	8.098	1,704	13.799	6.525	3,420	22.317	-	-	-	6.525	3,420	22.3
Warheads Govt Furnished Equip (GFE)	-	-	16.815	-	-	3.334	-	-	1.419	-	-	2.905	-	-	-	-	-	2.9
Production Verification Testing	-	-	3.500	-	-	0.072	-	-	0.073	-	-	0.074	-	-	-	-	-	0.0
First Destination Transportation	-	-	0.784	-	-	0.250	-	-	0.108	-	-	0.220	-	-	-	-	-	0.2
Production Engineering Support	-	-	12.623	-	-	1.816	-	-	1.509	-	-	1.689	-	-	-	-	-	1.6
Subtotal: Recurring Cost	-	-	175.300	-	-	38.900	-	-	16.908	-	-	27.204	-	-	-	-	-	27.2
Subtotal: Flyaway Cost	-	-	175.300	-	-	38.900	-	-	16.908	-	-	27.204	-	-	-	-	-	27.2
Support Cost						•		·										
Engineering Services	-	-	4.838	-	-	0.471	-	-	0.480	-	-	0.489	-	-	-	-	-	0.4
Project Management Admin	-	-	9.666	-	-	0.604	-	-	0.616	-	-	0.628	-	-	-	-	-	0.6
Subtotal: Support Cost	-	-	14.504	-	-	1.075	-	-	1.096	-	-	1.117	-	-	-	-	-	1.1
Gross/Weapon System Cost	5.192	36,555	189.804	11.273	3,546	39.975	10.566	1,704	18.004	8.281	3,420	28.321	-	-	-	8.281	3,420	28.3

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Exhibit P-5, Cost Analysis: FY 2018 Army		Date: May 2017
Appropriation / Budget Activity / Budget Sub Activity: 2032A / 02 / 30	P-1 Line Item Number / Title: C65405 / MLRS Reduced Range Practice Rockets (RRPR)	Item Number / Title [DODIC]: C65405 / MLRS Reduced Range Practice Rockets (RRPR)

ID Code (A=Service Ready, B=Not Service Rea	ady):		MDAP/MAIS Code	):		
Seconda	ry Distribution	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Army	Quantity	2,310	1,092	2,700	-	2,700
	Total Obligation Authority	25.617	11.538	22.359	-	22.359
ANG	Quantity	1,236	612	720	-	720
	Total Obligation Authority	14.358	6.466	5.962	-	5.962
Total:	Quantity	3,546	1,704	3,420	-	3,420
Secondary Distribution	Total Obligation Authority	39.975	18.004	28.321	-	28.321

<sup>(†)</sup> indicates the presence of a P-5a

P-1 Line #12

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Exhibit P-5a, Procurement History and Planning: FY 2018 Army

Appropriation / Budget Activity / Budget Sub Activity:

2032A / 02 / 30

P-1 Line Item Number / Title:

C65405 / MLRS Reduced Range Practice Rockets (RRPR)

C65405 / MLRS Reduced Range Practice Rockets (RRPR)

	0			Method/Type or		Award	Date of First	Qty	Unit Cost	Specs Avail	Date Revision	RFP Issue
Cost Elements	0	FY	<b>Contractor and Location</b>	Funding Vehicle	Location of PCO	Date	Delivery	(Each)	(\$ K)	Now?	Available	Date
Reduced Range Practice Rocket (LCRRPR) <sup>(†)</sup>		2015	Lockheed Martin / Dallas, TX	SS / FPIF	AMCOM,RSA,AL	Jun 2015	Oct 2016	1,182	6.230	Y		Feb 2013
Reduced Range Practice Rocket (LCRRPR) <sup>(†)</sup>		2015	Letterkenny Munitions Center / Chambersburg, PA	MIPR	LEMC, PA	Mar 2016	Feb 2017	342	5.350	Y		
Reduced Range Practice Rocket (LCRRPR) <sup>(†)</sup>		2016	Lockheed Martin / Dallas, TX	SS / FPIF	AMCOM,RSA,AL	May 2016	Sep 2017	3,204	9.300	Y		Feb 2016
Reduced Range Practice Rocket (LCRRPR) <sup>(†)</sup>		2016	Letterkenny Munitions Center / Chambersburg, PA	MIPR	LEMC, PA	Jan 2017	Feb 2017	342	5.650	Y		
Reduced Range Practice Rocket (LCRRPR) <sup>(†)</sup>		2017	Lockheed Martin / Dallas, TX	SS / FPIF	AMCOM,RSA,AL	May 2017	Apr 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	Feb 2018	Apr 2019	3,078	6.590	Y		Feb 2017
Reduced Range Practice Rocket (LCRRPR) <sup>(†)</sup>		2018	Letterkenny Munitions Center / Chambersburg, PA	MIPR	LEMC, PA	Mar 2019	Apr 2019	342	5.960	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.

<sup>\*</sup> Sole Source/Fixed Price Incentive Firm

<sup>\*\*</sup> Aviation and Missile Command, Redstone Arsenal, AL

	ו אועו	P-21, Pro	oducti	on Sc	hedul	e: FY	2018	8 Arm	ıy														Date	e: Ma	y 201	17					
Appropriation / Budget Activity / Budget Sub Activity: 2032A / 02 / 30											P-1 Line Item Number / Title: C65405 / MLRS Reduced Range Practice Rockets (RRPR)												Item Number / Title [DODIC]: C65405 / MLRS Reduced Range Practice Rockets (RRPR)								
Cost Elements (Units in Each)  ACCEPT										-	Fiscal `	Fiscal Year 2015  Calendar Year 2015									1		Fiscal Year 2016  Calendar Year 2016								
M O F C R O #		SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2014	BAL DUE AS OF 1 OCT	0 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	Year 20 J U L	015 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	A N C	
		nge Practice R																									1				
		eliveries: 3503		,																										-	
1	2015	ARMY	1,182	0	1,182									Α -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,1	
1	2015	MC <sup>(‡)</sup>	648	0	648									Α -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	
1	2015	Total	1,830	0	1,830									-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,83	
2	2015	ARMY	342	0	342																		Α -	-	-	-	-	-	-	34	
1	2016	ARMY	3,204	0	3,204																				Α -	-	-	-	-	3,2	
1	2016	MC <sup>(‡)</sup>	648	0	648																				Α -	-	-	-	-	6-	
1	2016	Total	3,852	0	3,852																				-	-	-	-	-	3,8	
2	2016	ARMY	342	0	342																									3	
1	2017		1,362	0	1,362																									1,3	
1	2017	MC <sup>(‡)</sup>	648	0	648																									64	
1	2017	Total	2,010	0	2,010																									2,01	
2	2017		342	0																										34	
1	2018		3,078	0	3,078																									3,0	
1	2018	MC <sup>(‡)</sup>	648	0	648																									6-	
_	2018		3,726	0	-																									3,72	
2	2018	ARMY	342	0	342				1					_					1							_				34	
						O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	U U	U L	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	U L	A U G	S E P		

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Ex	hil	bit F	P-21, Pro	oducti	on Sc	hedu	le: FY	2018	3 Arm	у														Date	: May	/ 2017	7							
													P-1 Line Item Number / Title: C65405 / MLRS Reduced Range Practice Rockets (RRPR)													Item Number / Title [DODIC]: C65405 / MLRS Reduced Range Practice Rockets (RRPR)								
Cost Elements (Units in Each)  ACCEPT											ı	Fiscal Year 2017  Calendar Year 2017														Fiscal Year 2018  Calendar Year 2018								
	R	FY	SERVICE	PROC QTY	PRIOR TO 1 OCT 2016	BAL DUE AS OF 1 OCT	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	/ear 2017 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	A U G	S E P	L N C			
Red	luce	ed Ran	ge Practice R	ocket (LCF	RRPR)																													
Prio	r Ye	ears De	eliveries: 3503	31																											_			
	1	2015	ARMY	1,182	0	1,182	98	98	98	99	99	99	99	99	99	98	98	98																
T	1	2015	MC <sup>(‡)</sup>	648	0	648	54	54	54	54	54	54	54	54	54	54	54	54																
1	1	2015	Total	1,830	0	1,830	152	152	152	153	153	153	153	153	153	152	152	152	-	-	-	-	-	-	-	-	-	-	-	-				
:	2	2015	ARMY	342	0	342	-	-	-	-	28	28	28	29	29	29	29	29	29	28	28	28	,			·								
	1	2016	ARMY	3,204	0	3,204	-	-	-	-	-	-	-	-	-	-	-	267	267	267	267	267	267	267	267	267	267	267	267					
	1	2016	MC <sup>(‡)</sup>	648	0	648	-	-	-	-	-	-	-	-	-	-	-	54	54	54	54	54	54	54	54	54	54	54	54					
1	1	2016	Total	3,852	0	3,852	-	-	-	-	-	-	-	-	-	-	-	321	321	321	321	321	321	321	321	321	321	321	321	-				
1	2	2016	ARMY	342	0	342				Α -	28	28	28	29	29	29	29	29	29	28	28	28												
	1	2017	ARMY	1,362	0	1,362					·			Α -	-	-	-	-	-	-	-	-	-	-	113	113	113	113	113	114				
1	1	2017	MC <sup>(‡)</sup>	648	0	648								A -	-	-	-	-	-	-	-	-	-	-	-	-	54	54	54	54				
1	1	2017	Total	2,010	0	2,010	_							-	-	-	-	-	-	-	-	-	-	-	113	113	167	167	167	168	1,			
	2	2017	ARMY	342	0	342												,	,					Α -	28	28	29	29	29	29				
	1	2018	ARMY	3,078	0	3,078																	A -	-	-	-	-	-	-	-	3,			
	1	2018	MC <sup>(‡)</sup>	648	0	648																	Α -	-	-	-	-	-	-	-				
1	1	2018	Total	3,726	0	3,726																	-	-	-	-	-	-	-	-	3,			
1:	2	2018	ARMY	342	0	342																									3			
		_0.0				_	0	N	D	J	F	М	Α	М	J	J	Α	S	0	N O	D E	J	F E	М	Α	М	J	J	Α	s				

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-711	ibit F	P-21, Pro	oducti	on Sc	hedul	e: FY	2018	3 Arm	у														Date	: Ma	y 201	7					
Appropriation / Budget Activity / Budget Sub Activity: 2032A / 02 / 30												P-1 Line Item Number / Title: C65405 / MLRS Reduced Range Practice Rockets (RRPR)												Item Number / Title [DODIC]: C65405 / MLRS Reduced Range Practice Rockets (RRPR)							
, , ,												Fiscal Year 2019											Fiscal Year 2020								
1				ACCEPT									С	alendar '	Year 2019	)								Caler	ndar Yea	r 2020				}	
M F R		SERVICE	PROC QTY	PRIOR TO 1 OCT 2018	BAL DUE AS OF 1 OCT	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	N U	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	N C	
edu	ed Rang	ge Practice R	ocket (LCF	RRPR)							1																				
		eliveries: 3503		-																										_	
1	2015	ARMY	1,182	1,182	0																									П	
1	2015	MC <sup>(‡)</sup>	648	648	0																										
1	2015	Total	1,830	1,830	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
2	2015	ARMY	342	342	0																										
1	2016	ARMY	3,204	3,204	0																									L	
1	2016	MC <sup>(‡)</sup>	648	648	0																										
1	2016	Total	3,852	3,852	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
2	2016	ARMY	342	342	0																										
1	2017	ARMY	1,362	679	683	114	114	114	114	114	113	-	-																	lacksquare	
1	2017	MC <sup>(‡)</sup>	648	216	432	54	54	54	54	54	54	54	54																		
_	2017	Total	2,010	895		168	168	168	168	168	167	54	54	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	$\perp$	
	2017	ARMY	342	172	170	29	29	28	28	28	28					-						-			1						
_	2018	ARMY	3,078	0		-	-	-	-	-	-	256	256	256	256	257	257	257	257	257	257	256	256	-	-					_	
_	2018	MC <sup>(‡)</sup>	648	0		-	-	-	-	-	-	-	54	54	54	54	54	54	54	54	54	54	54	54	_			1		$oxed{oxed}$	
_	2018	Total	3,726	0	-, -	-	-	-	-	-	-	256	310	310	310	311	311	311	311	311	311	310	310	54	-	-	-	-	-		
2	2018	ARMY	342	0	342	_		_			A -	28	28	28	29	29	29	29	29	29	28	28	28						_	₩	
						O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	N 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	N N N	n 1	U G	S E P		

LI C65405 - MLRS Reduced Range Practice Rockets (RRP... Army

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Exhibit P-21, Production Schedule: FY 2018 Army		Date: May 2017
Appropriation / Budget Activity / Budget Sub Activity: 2032A / 02 / 30	P-1 Line Item Number / Title: C65405 / MLRS Reduced Range Practice Rockets (RRPR)	Item Number / Title [DODIC]: C65405 / MLRS Reduced Range
2002/17 02 7 00	OSS-1007 MERCE REGULATING FRANKEIS (RITAL TV)	Practice Rockets (RRPR)

		Produc	tion Rates (Each /	Month)				Procurement Le	adtime (Months)			
MF	<b>8</b>					lni	tial			Reo	rder	
Re	Manufacturer Manufacturer				ALT	ALT	Manufacturing	Total	ALT	ALT	Manufacturing	Total
#	Name - Location	MSR For 2018	1-8-5 For 2018	MAX For 2018	Prior to Oct 1	After Oct 1	PLT	After Oct 1	Prior to Oct 1	After Oct 1	PLT	After Oct 1
	Lockheed Martin - Dallas, TX	42	480	960	0	2	16	18	0	2	16	18
	Letterkenny Munitions Center - Chambersburg, PA	42	72	120	0	2	16	18	0	2	16	18

#### 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).

**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 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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<sup>(‡)</sup> 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.

Exhibit P-40, Budget Line Item Justification: FY 2018 Army

Date: May 2017

Appropriation / Budget Activity / Budget Sub Activity:

P-1 Line Item Number / Title:

2032A: Missile Procurement, Army / BA 02: Other Missiles / BSA 30: Anti-Tank/

C02901 / High Mobility Artillery Rocket System (HIMARS)

Assault Missile Sys

Program Elements for Code B Items: N/A

Other Related Program Elements: 0210608A, 0603778A

Line Item MDAP/MAIS Code: N/A

ID Code (A=Service Ready, B=Not Service Ready):

Line item MDAI /MAIO Code: N/A				1					1	1		
	Prior			FY 2018	FY 2018	FY 2018					То	
Resource Summary	Years	FY 2016	FY 2017	Base	oco	Total	FY 2019	FY 2020	FY 2021	FY 2022	Complete	Total
Procurement Quantity (Units in Each)	387	-	-	-	-	-	-	-	-	-	-	387
Gross/Weapon System Cost (\$ in Millions)	1,667.667	-	-	-	41.000	41.000	-	-	-	-	-	1,708.667
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	1,667.667	-	-	-	41.000	41.000	-	-	-	-	-	1,708.667
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	1,667.667	-	-	-	41.000	41.000	-	-	-	-	-	1,708.667
(The following	Resource Sumi	mary rows are fo	r informational p	ourposes only. Th	e corresponding	budget request	s are documente	ed elsewhere.)	•			
Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (\$ in Thousands)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	4,309.217	-	-	-	-	-	-	-	-	-	-	4,415.160

## **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/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 Guided Multiple Launch Rocket System (GMLRS) and the Army Tactical Missile System (ATACMS). These munitions are capable of engaging targets with precision at ranges up to 300 kilometers.

Army Acquisition Objective (AAO) is 363 HIMARS launchers. The European Reassurance Initiative (ERI) will increase this AAO by 32 launchers.

Secondar	y Distribution	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	-	-	-	41.000	41.000	-	-	-	-
Total:	Quantity	-	-	-	-	-	-	-	-	-
Secondary Distribution	Total Obligation Authority	-	-	-	41.000	41.000	-	-	-	-

Exhibit P-40, Budget Line Item Justification: FY 2018 Army

Appropriation / Budget Activity / Budget Sub Activity:

P-1 Line Item Number / Title:

2032A: Missile Procurement, Army / BA 02: Other Missiles / BSA 30: Anti-Tank/

C02901 / High Mobility Artillery Rocket System (HIMARS)

Assault Missile Svs

Program Elements for Code B Items: N/A

Other Related Program Elements: 0210608A, 0603778A

**Date:** May 2017

Line Item MDAP/MAIS Code: N/A

ID Code (A=Service Ready, B=Not Service Ready):

	Exhibits Schedule				Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/ MAIS Code	Quantity / Total Cost (Each) / (\$ M)					
P-5	C03000 / HIMARS LAUNCHER				387 / 1,623.489	- / -	- / -	- / -	- /41.000	- /41.000
P-5	C03001 / HIMARS Training Devices			367	- / 44.178	- / -	- / -	- / -	- / -	- / -
P-40	Total Gross/Weapon System Cost				387 / 1,667.667	- 1 -	- 1 -	- 1 -	- / 41.000	- /41.000

<sup>\*</sup>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:

FY2018 OCO procurement dollars in the amount of \$41.000 million support Non-Recurring Engineering requirements associated with common obsolescence mitigation of the HIMARS and MLRS launchers. These activities are required to re-enable production for the requirements of a 32 HIMARS and 32 MLRS launcher European Reassurance Initiative (ERI)-driven Army Acquisition Objective (AAO) increase per launcher variant. All Fire Control System (FCS) design obsolescence will be addressed, and the HIMARS supply chain will be assessed in preparation for HIMARS production line restart in FY2019. The long-term FCS hardware architecture will address M-Code incorporation to comply with public law and fully enable a common FCS capability across both the HIMARS and MLRS launcher fleets upon FCS upgrade. Completion of these activities will induce significant long-term cost savings in sustainment of the launcher fleets given the FY17 Army decision to extend the operational life of HIMARS and MLRS beyond FY2050. This represents an approximate 20 year increase in the operational service life.

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-5, Cost Analysis: FY 2018 Army

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

Date: May 2017

Item Number / Title [DODIC]:
C03000 / HIMARS LAUNCHER

ID Code (A=Service Ready, B=Not Service Ready):		M	DAP/MAIS Code:			
Resource Summary	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Procurement Quantity (Units in Each)	387	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	1,623.489	-	=	-	41.000	41.000
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	1,623.489	-	-	-	41.000	41.000
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	1,623.489	-	-	-	41.000	41.000
(The following Resource Summary rows are for information	onal purposes only. The corr	esponding budget request	s are documented elsewher	re.)		
Initial Spares (\$ in Millions)	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	4,195.062	-	-	-	-	-

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

	F	Prior Years	S		FY 2016			FY 2017		FY	' 2018 Bas	se	FY	' 2018 OC	0	FY	' 2018 Tot	tal
Cost Elements	Unit Cost	Qty (Each)	Total Cost (\$ M)	Unit Cost	Qty (Each)	Total Cost												
- Iyaway Cost																		
Recurring Cost																		
Launcher	-	-	1,050.619	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Carrier	-	-	189.532	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Engineering Services	-	-	118.849	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Fielding	-	-	63.549	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Facilitization	-	-	28.410	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Project Management Admin	-	-	8.090	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Production Engineering	-	-	96.080	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Government Testing	-	-	31.173	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Peculiar Support Equipment	-	-	37.187	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Subtotal: Recurring Cost	-	-	1,623.489	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Non Recurring Cost						,								,		,		
European Reassurance Initiative Production Restart - Obsolescence Mitigation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	41.000	-	-	41
Subtotal: Non Recurring Cost	-	-	-	-	-	-	-	-	-	-	-	-	-	-	41.000	-	-	41
Subtotal: Flyaway Cost	-	-	1,623.489	-	-	-	-	-	-	-	-	-	-	-	41.000	-	-	41

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Exhibit P-5, Cost Analysis: FY 2018 Army

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

P-1 Line Item Number / Title:
C02901 / High Mobility Artillery Rocket System (HIMARS)

Date: May 2017

Item Number / Title [DODIC]:
C03000 / HIMARS LAUNCHER

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.

Note. Subtotals of Totals II		i -5 illay ild	it be exact c	JI Sulli Exacti	ly due to rou	nung.												
	F	Prior Years	5		FY 2016			FY 2017		FY	′ 2018 Ba	se	FY	/ 2018 OC	Ю	F۱	Y 2018 Tot	:al
Cost Elements	Unit Cost	<b>Qty</b> (Each)	Total Cost (\$ M)	Unit Cost	Qty (Each)	Total Cost (\$ M)	Unit Cost	Qty (Each)	Total Cost (\$ M)	Unit Cost	<b>Qty</b> (Each)	Total Cost (\$ M)	Unit Cost	<b>Qty</b> (Each)	Total Cost (\$ M)	Unit Cost	Qty (Each)	Total Cost (\$ M)
Gross/Weapon System Cost	4,195.062	387	1,623.489	-	•	-	-	-	-	-	-	-	-	-	41.000	-	-	41.000

Secondar	y Distribution	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Army	Quantity	-	-	-	-	-
	Total Obligation Authority	-	-	-	41.000	41.000
Total:	Quantity	-	=	-	=	-
Secondary Distribution	Total Obligation Authority	-	-	-	41.000	41.000

Exhibit P-5, Cost Analysis: FY 2018 Army		Date: May 2017
Appropriation / Budget Activity / Budget Sub Activity:	P-1 Line Item Number / Title:	Item Number / Title [DODIC]:
2032A / 02 / 30	C02901 / High Mobility Artillery Rocket System (HIMARS)	C03001 / HIMARS Training Devices

ID Code (A=Service Ready, B=Not Service Ready):		I	IDAP/MAIS Code: 36	7		
Resource Summary	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	44.178	-	-	-	-	-
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	44.178	-	-	-	-	-
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	44.178	-	-	-	-	-
(The following Resource Summary rows are for information	onal purposes only. The cor	responding budget reque	sts are documented elsewhe	re.)		
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.

140tc: Odbtotals of Totals				1		- 5			_	1		_				1		
	F	Prior Years	S		FY 2016			FY 2017		F	Y 2018 Ba	se	F	<b>/ 2018 OC</b>	0	F	Y 2018 Tot	al
Cost Elements	Unit Cost	Qty (Each)	Total Cost (\$ M)	Unit Cost	Qty (Each)	Total Cost (\$ M)	Unit Cost	<b>Qty</b> (Each)	Total Cost (\$ M)									
Flyaway Cost																		
Recurring Cost																		
OMEMS Tactical Trainer	-	-	31.152	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MFOM Simulator (MLPA)	-	-	8.493	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Organizational Maintenance Trainer	-	-	4.533	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Recurring Cost	-	-	44.178	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Flyaway Cost	-	-	44.178	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost	-	-	44.178	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Exhibit P-40, Budget Line Item Justification: FY 2018 Army

**Date:** May 2017

Appropriation / Budget Activity / Budget Sub Activity:

2032A: Missile Procurement, Army / BA 02: Other Missiles / BSA 30: Anti-Tank/

Assault Missile Svs

P-1 Line Item Number / Title:

C88001 / 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

	Prior			FY 2018	FY 2018	FY 2018					То	
Resource Summary	Years	FY 2016	FY 2017	Base	oco	Total	FY 2019	FY 2020	FY 2021	FY 2022	Complete	Total
Procurement Quantity (Units in Each)	-	-	645	-	-	-	-	-	-	-	-	645
Gross/Weapon System Cost (\$ in Millions)	-	-	63.577	-	8.669	8.669	-	-	-	-	-	72.246
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	-	-	63.577	-	8.669	8.669	-	-	-	-	-	72.246
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	-	-	63.577	-	8.669	8.669	-	-	-	-	-	72.246
(The following	Resource Sum	mary rows are fo	or informational p	ourposes only. Th	ne corresponding	budget request	s are documente	ed elsewhere.)	•			
Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (\$ in Thousands)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	-	-	98.569	-	-	-	-	-	-	-	-	112.009

#### **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 up to seconds 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 Fractional Casualty against Personnel in Soft Skinned Vehicles. Pre-flight Component Assembly and Storage allows operation within a matter of minutes.

LMAMS Procurement Quantity is the number of All Up Rounds (AUR) to be procured in the fiscal year.

Secondar	y Distribution	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022
Army	Quantity	-	645	-	-	-	-	-	-	-
	Total Obligation Authority	-	63.577	-	8.669	8.669	-	-	-	-
Total:	Quantity	-	645	-	-	-	-	-	-	-
Secondary Distribution	Total Obligation Authority	-	63.577	-	8.669	8.669	-	-	-	-

#### Justification:

FY 2017 Overseas Contingency Operations (OCO) dollars in the amount of \$4.77 Million support the procurement of 50 Inert Training Missiles, 10 Training Simulators, 10 Fire Control Units (FCUs), and training support equipment along with fielding and support in order to support pre-deployment training and procure new systems required by Joint Urgent Operational Needs Statement (JUONS) 0506.

FY 2017 Overseas Contingency Operations (OCO) dollars in the amount of \$12.3 Million support the procurement of 110 All Up Rounds (AUR), 50 Inert Training Missiles, 12 Training Simulators, 12 Fire Control Units (FCUs) and training support equipment along with fielding and support in order to support pre-deployment training and procure new systems required by Joint Urgent Operational Needs Statement (JUONS) AC-0008.

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Exhibit P-40, Budget Line Item Justification: FY 201	8 Army		Date: May 2017					
Appropriation / Budget Activity / Budget Sub Activity / Budget Sub Activity / BA 02: Other Miss Assault Missile Sys		P-1 Line Item Number / Title: C88001 / LETHAL MINIATURE AERIAL MISSILE SYSTEM (LMAMS)						
D Code (A=Service Ready, B=Not Service Ready):	Program Elements for Code B	Items: N/A	Other Related Program Elements: N/A					
ine Item MDAP/MAIS Code: N/A								
FY 2017 Overseas Contingency Operations (OCO) dollars in the am Units (FCUs) and training support equipment along with fielding and 0556.	nount of \$46.5 Million support the presupport in order to support pre-dep	rocurement of 535 All U ployment training and p	Up Rounds (AUR), 100 Inert Training Missiles, 26 Training Simulators, 26 Fire Control rocure new systems required by Joint Urgent Operational Needs Statement (JUONS)					
FY 2018 Overseas Contingency Operations (OCO) dollars in the amorder to support pre-deployment training and procure new systems r			rt Training Missiles and training support equipment along with fielding and support in JONS) 0556.					

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Exhibit P-40, Budget Line Item Justification: FY 2018 Army

Date: May 2017

Appropriation / Budget Activity / Budget Sub Activity:

P-1 Line Item Number / Title:

2032A: Missile Procurement, Army / BA 03: Modification of Missiles / BSA 10:

C50700 / Patriot Mods

Modifications

Program Elements for Code B Items: N/A Other Related Program Elements: 0607865A

Line Item MDAP/MAIS Code: N/A

ID Code (A=Service Ready, B=Not Service Ready):

	Prior			FY 2018	FY 2018	FY 2018					То	
Resource Summary	Years	FY 2016	FY 2017	Base	oco	Total	FY 2019	FY 2020	FY 2021	FY 2022	Complete	Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	3,188.044	241.883	425.307	329.073	-	329.073	380.978	201.228	234.245	214.324	Continuing	Continuing
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	3,188.044	241.883	425.307	329.073	-	329.073	380.978	201.228	234.245	214.324	Continuing	Continuing
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	3,188.044	241.883	425.307	329.073	-	329.073	380.978	201.228	234.245	214.324	Continuing	Continuing
(The following	Resource Sumi	mary rows are fo	r informational p	urposes only. Th	e corresponding	budget request	s are documente	ed elsewhere.)				1
Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (\$ in Thousands)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	-	-	-	-	-	-	-	-	-	-	-	-

#### **Description:**

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; crew interface and communication upgrades.

PATRIOT Mods funding supports Reliability, Availability, and Maintainability (RAM) Mods; Recapitalization (RECAP); 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; the Air Defense Artillery (ADA) School Upgrades/ Training Aids, Devices, Simulators and Simulations (TADSS); PATRIOT Maintenance Trainer (PMT); PATRIOT Multi-Echelon Training (PMET); Reconfigurable Table Top Trainers (RT3); Assured Positioning, Navigation, and Timing (PNT); Test Detachment; the Modern Manstation (MMS) upgrade; Enhanced Launcher Electronic Systems (ELES); SIPRNet/NIPRNet Access Point/Troposcatter (SNAP/TROPO), Digital Sidelobe Canceller (DSLC), and Command Obsolescence Alleviation.

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 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.

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

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P-1 Line #15

Exhibit P-40, Budget Line Item Justification: FY 2018 Army		Date: May 2017
Appropriation / Budget Activity / Budget Sub Activity:	P-1 Line Item Number / Title:	
2032A: Missile Procurement, Army / BA 03: Modification of Missiles / BSA 10:	C50700 / Patriot Mods	
Modifications		

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

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.

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.

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.

The Air Defense Artillery (ADA) School Upgrades/Training Aids, Devices, Simulators and Simulations (TADSS) modification is necessary to upgrade school assets to Configuration 3. Four Radar Kits will complete the school upgrades.

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 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

The Modern Manstation (MMS) is designed to significantly improve the reliability of the legacy Manstation by replacing 221 obsolete parts in 41 assemblies and reducing Battery Replaceable Units (BRUs) from 493 to 51. Benefits of the MMS include the installation of two 30" high resolution color LCD displays with touch panels; significant increase in Mean Time Between Failure rates; elimination of a costly Multi-Volt power supply while greatly improving the overall visual graphics used for decision making. The MMS upgrades increased Warfighter effectiveness; enable future capabilities; increase reliability; and reduce life cycle costs. Training will be aligned with the tactical system using the same technology, providing geopolitical maps, and utilizing color symbology for immediate recognition of friend, foe or unknown. Soft keys will enable future switch configurations with software upgrades. The MMS also enables future graphical user interface with Common Warfighter Machine Interface (CWMI) systems. The MMS modification upgrade will be incorporated into the Engagement Control Station (ECS) and the Information and Coordination Central (ICC) Shelters.

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.

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P-1 Line #15

Exhibit P-40, Budget Line Item Justification: FY 2018 Army

Date: May 2017

Appropriation / Budget Activity / Budget Sub Activity:

P-1 Line Item Number / Title:

2032A: Missile Procurement, Army / BA 03: Modification of Missiles / BSA 10:

C50700 / Patriot Mods

Modifications

Program Elements for Code B Items: N/A Other Related Program Elements: 0607865A

Line Item MDAP/MAIS Code: N/A

ID Code (A=Service Ready, B=Not Service Ready):

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.

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 § 913.

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.

Digital Sidelobe Canceller (DSLC) 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. DSLC replaces the analog hardware and performs this task digitally in the radars processor. Benefits of the DSLC 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.

Command Obsolescence Alleviation supports updates for interoperability and supportability by working obsolescence alleviation and engineering changes.

35th Brigade Modification Kits provides mod kits to support the VCSA initiative accelerating the 35th BDE modernization.

ADI TPX 57 Obsolescence addresses the IFF Interrogator

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Seconda	ry Distribution	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	
Army	Quantity	-	-	-	-	-	-	-	-	-	
	Total Obligation Authority	241.883	425.307	329.073	-	329.073	380.978	201.228	234.245	214.324	
Total:	Quantity	-	-	-	-	-	-	-	-	-	
Secondary Distribution	<b>Total Obligation Authority</b>	241.883	425.307	329.073	-	329.073	380.978	201.228	234.245	214.324	

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P-1 Line #15

Exhibit P-40, Budget Line Item Justification: FY 2018 Army		Date: May 2017
, , , , , , , , , , , , , , , , , , ,	P-1 Line Item Number / Title: C50700 / 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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total		
Exhibit Type	Title*	Title* Subexhibits CD MAIS		MDAP/ MAIS Code	Quantity / Total Cost (Each) / (\$ M)					
P-3a	C50700 / PATRIOT MODS (Various)				- / 3,188.044	- / 241.883	- / 425.307	- / 329.073	- / -	- /329.073
P-40	P-40 Total Gross/Weapon System Cost					- / 241.883	- / 425.307	- / 329.073	- 1 -	- / 329.073
	Exhibits Schedule				FY 2019	FY 2020	FY 2021	FY 2022	To Complete	Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/ MAIS Code	Quantity / Total Cost (Each) / (\$ M)					
P-3a	C50700 / PATRIOT MODS (Various)				- / -	- / -	- / -	- / -	- / -	- / -
P-40	P-40 Total Gross/Weapon System Cost					- / 201.228	- / 234.245	- / 214.324	Continuing	Continuing

<sup>\*</sup>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 2018 base procurement dollars in the amount of \$329.073 million supports the modifications for Reliability, Availability, and Maintainability Modifications (RAM Mods), Recapitalization (RECAP), Battery Command Post/ Tactical Command System/ Computer Software Module (BCP/TCS/CSM), Combined Crypto Modification Phase I (CCMPI), Radar Digital Processor-Configuration (RDP-C), Enhanced Launcher Electronics System (ELES), SIPRNet/NIPRNet Access Point/Troposcatter (SNAP/TROPO), PATRIOT Maintenance Trainer (PMT), PATRIOT Multi-Echelon Training (PMET), Test Detachment, Digital Sidelobe Canceller (DSLC), and Command Obsolescence Alleviation.

Efforts have been and will continue to be made to expedite PATRIOT materiel solutions (e.g., Radar Digital Processor and Communications Upgrades) to both enhance capability and facilitate integration into the Integrated Air and Missile Defense (IAMD) architecture.

In accordance with Section 1815 of the FY 2008 National Defense Authorization Act (P.L. 110-181), this item is necessary for 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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P-1 Line #15

Exhibit P-3a, Individual Modification: FY 2018 Army

Appropriation / Budget Activity / Budget Sub Activity:
2032A / 03 / 10

Date: May 2017

Modification Number / Title:
C50700 / Patriot Mods

C50700 / PATRIOT MODS

ID Code (A=Service Ready, B=Not Service Ready)		MDAP/MAIS Code:										
	Prior	->//-	->/ 00/-	FY 2018	FY 2018	FY 2018	->/-0-/-0		<b>-</b> 3/ 222/	->/	То	
Resource Summary	Years	FY 2016	FY 2017	Base	oco	Total	FY 2019	FY 2020	FY 2021	FY 2022	Complete	Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	3,188.044	241.883	425.307	329.073	-	329.073	-	-	-	-	-	-
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	3,188.044	241.883	425.307	329.073	-	329.073	-	-	-	-	-	-
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	3,188.044	241.883	425.307	329.073	-	329.073	-	-	-	-	-	-
(The following	Resource Sumr	mary rows are fo	r informational p	urposes only. Th	ne corresponding	budget request	s are documente	ed elsewhere.)		:		
Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	-	-	-	-	-	-	-	-	-	-	-	-

#### **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.

								1 0		
Seconda	ary Distribution	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	241.883	425.307	329.073	-	329.073	-	-	-	-
Total:	Quantity	-	-	-	-	-	=	=	-	-
Secondary Distribution	Total Obligation Authority	241.883	425.307	329.073	-	329.073	-	-	-	-

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P-1 Line #15

Exhibit P-3a, Individual Modification: FY 2018 Army

Appropriation / Budget Activity / Budget Sub Activity:
2032A / 03 / 10

Date: May 2017

Modification Number / Title:
C50700 / Patriot Mods

C50700 / PATRIOT MODS

ID Code (A=Service Ready, B=Not Service Ready): MDAP/MAIS Code: Related RDT&E PEs: Models of Systems Affected: Various **Modification Type:** Various FY 2018 FY 2018 То **FY 2018 Prior Years** FY 2016 FY 2017 oco FY 2019 FY 2020 FY 2022 Base Total FY 2021 Complete Total Qtv (Each) I Qty (Each) I Qtv (Each) I **Financial Plan** Total Cost (\$ M) Total Cost (\$ M) | Total Cost (\$ Total Cost (\$ M) Total Cost (\$ M) Total Cost (\$ M) | Total Cost (\$ M) **Procurement** Modification Item 1 of 18: RAM Mods A Kits Recurring - 1 -Kit Quantity 6,324 / 622.559 110 / 17.100 129 / 27.161 131 / 20.593 0 / 0.000 131 / 20.593 - 1 -- 1 -- 1 -- 1 -- 1 -0 / 48.733 0 / 13.000 0 / 12.925 0 / 15.601 0 / 0.000 0 / 15.601 - 1 -- 1 -- 1 -- 1 -- 1 -- 1 -Training Training Equipment 0 / 21.229 0 / 2.500 0 / 2.585 0/3.113 0 / 0.000 0 / 3.113 - 1 -- 1 -- 1 -- 1 -- 1 -- 1 -Support Equipment 0 / 32.528 0 / 6.850 0 / 6.721 0 / 8.116 0 / 0.000 0 / 8.116 - 1 -- 1 -- 1 -- / -- / -- 1 -- 1 -- 1 -- 1 -- 1 -- 1 -- 1 -Other 0 / 59.467 0 / 11.550 0 / 11.374 0 / 13.729 0 / 0.000 0 / 13.729 Integrated Logistics Support 0 / 8.637 0 / 1.100 0 / 1.034 0 / 1.257 0 / 0.000 0 / 1.257 - 1 -- 1 -- /52.100 - /61.800 - /62.409 - /62.409 - / -- / -- / -- / -- / -- / -- / 793.153 - /0.000 Subtotal: Recurring 6.324 / 793.153 110 / 52.100 129 / 61.800 131 / 62.409 0/0.000 131 / 62.409 - / -- / -- / -- / -- / -- / -Subtotal: RAM Mods Modification Item 2 of 18: Recapitalization A Kits Recurring 12 / 210.139 1 / 12.411 1 / 12.650 0 / 0.000 1 / 12.650 - 1 -- 1 -Kit Quantity 1 / 11.200 - 1 -- 1 -- / -- 1 -Integrated Logistics Support 0 / 14.606 0 / 1.900 0 / 0.802 0 / 1.650 0 / 0.000 0 / 1.650 - 1 -- 1 -- / -- 1 -- / -- 1 -- / 224,745 - /14.300 - / -- / -Subtotal: Recurring - /13.100 - /13.213 - /0.000 - /14.300 - / -- / -- / -- / -12 / 224.745 1 / 13.100 1 / 13.213 1 / 14.300 - / -- / -- / -Subtotal: Recapitalization 0/0.000 1 / 14.300 - / -- / -- / -Modification Item 3 of 18: BCP/TCS/CSM A Kits Recurring **Engineering Change Orders** 0 / 1.415 0/0.660 0/0.770 0/0.770 010.000 0/0.770 - 1 -- 1 -- 1 -- / -- / -- 1 -Fielding Support 0 / 3.139 0 / 0.840 0 / 0.980 0 / 0.980 0 / 0.000 0 / 0.980 - 1 -- 1 -- 1 -- 1 -- 1 -- 1 -- 1 -0/0.240 0 / 0.280 0 / 0.280 0 / 0.000 0/0.280 - 1 -- 1 -0 / 0.493 - 1 -- 1 -- 1 -Obsolescence/Tech Refresh - 1 -- 1 -Software/Systems Engineering 0 / 28.210 0 / 0.840 0 / 0.980 0/0.980 0 / 0.000 0/0.980 - 1 -- 1 -- 1 -- 1 -Integrated Logistics Support 0 / 38.790 0/3.420 0/3.990 0/3.990 0/0.000 0/3.990 - 1 -- 1 -- 1 -- 1 -- 1 -- / -- /6.000 - /72.047 - /7.000 - /7.000 - /0.000 - /7.000 - / -- / -- / -- / -- / -- / -Subtotal: Recurring Non-Recurring **BCP Kit Quantity** 62 / 29.435 0/0.000 0/0.000 0/0.000 0 / 0.000 0/0.000 - 1 -- 1 -- 1 -- 1 -- 1 -- 1 -17 / 0.000 0 / 0.000 0 / 0.000 0 / 0.000 0 / 0.000 0 / 0.000 - 1 -- 1 -- 1 -- 1 -- 1 -- 1 -TCS Kit Quantity - / -- / -- / 29.435 - /0.000 - /0.000 - /0.000 - /0.000 - /0.000 - / -- / -- / -- / -Subtotal: Non-Recurring

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Exhibit P-3a, Individual Modification: FY 2018 Army

Appropriation / Budget Activity / Budget Sub Activity:
2032A / 03 / 10

Date: May 2017

Modification Number / Title:
C50700 / Patriot Mods

C50700 / PATRIOT MODS

ID Code (A=Service Ready, B=Not Service Ready): MDAP/MAIS Code: Related RDT&E PEs: Models of Systems Affected: Various **Modification Type:** Various FY 2018 FY 2018 То **FY 2018 Prior Years** FY 2016 FY 2017 OCO FY 2019 FY 2020 FY 2021 FY 2022 Base Total Complete Total Qtv (Each) I **Financial Plan** Total Cost (\$ M) 79 / 101.482 0/6.000 0/7.000 0/7.000 0/0.000 - / -- / -Subtotal: BCP/TCS/CSM Modification Item 4 of 18: Combined Crypto Modification Phase I (CCMPI) A Kits Recurring 0 / 0.000 0 / 0.000 0 / 0.000 0 / 0.000 - 1 -Kit Quantity 72 / 23.970 78 / 25.000 - / -- 1 -- 1 -- / -- 1 -Kit Quantity (GFE) 0 / 0.268 0 / 0.536 0 / 0.268 0/0.000 0 / 0.000 0 / 0.000 - 1 -- 1 -- 1 -- 1 -- 1 -- 1 -- /25.536 - /0.268 - /0.000 - /0.000 Subtotal: Recurring - /24.238 - /0.000 - / -Non-Recurring 0 / 0.132 0 / 0.264 0 / 0.000 0 / 0.000 0 / 0.000 0 / 0.000 - 1 -- 1 -- 1 -Training - 1 -- 1 -- 1 -Subtotal: Non-Recurring - /0.132 - /0.264 - /0.000 - /0.000 - /0.000 - /0.000 - / -- / -- / -- / -- / -- / -72 / 24.370 78 / 25.800 0/0.268 0/0.000 0/0.000 0/0.000 - / -- / -- / -- / -- / -- / -Subtotal: Combined Crypto Modification Phase I (CCMPI) Modification Item 5 of 18: Radar Digital Processor -Configuration (RDP-C) A Kits Recurring Kit Quantity 80 / 240.766 0/0.000 0 / 0.000 0 / 0.000 0 / 0.000 0 / 0.000 - 1 -- 1 -- 1 -- 1 -- 1 -- 1 -- 1 -0 / 4.000 0 / 4.000 - 1 -- 1 -- 1 -- 1 -0 / 0.000 0 / 4.000 0 / 4.000 0 / 0.000 - 1 -Fielding - 1 -- 1 -Support Equipment 0 / 36.942 0 / 0.000 0 / 0.000 0/0.000 0 / 0.000 0/0.000 - 1 -- / -- 1 -- / -- /277.708 - /4.000 - /4.000 - /4.000 - /0.000 - /4.000 - / -- / -- / -- / -- / -Subtotal: Recurring - / -Subtotal: Radar Digital Processor - Configuration (RDP-80 / 277.708 0/4.000 0/4.000 0/4.000 0/0.000 0/4.000 - / -- / -- / -Modification Item 6 of 18: Air Defense Artillery School Upgrades/ TADSS A Kits Recurring - 1 -Radar Kit Quantity 0 / 0.000 4 / 96.000 0 / 0.000 0/0.000 0/0.000 0/0.000 - 1 -- 1 -- 1 -- 1 -- 1 -- /0.000 - /96.000 - /0.000 - /0.000 - /0.000 - /0.000 - / -- / -- / -- / -- / -- / -Subtotal: Recurring Subtotal: Air Defense Artillery School Upgrades/ TADSS 0/0.000 4/96.000 0/0.000 0/0.000 0/0.000 0/0.000 - / -- / -- / -- / -- / -- / -Modification Item 7 of 18: Modern Manstation (MMS) A Kits Recurring

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Exhibit P-3a, Individual Modification: FY 2018 Army

Appropriation / Budget Activity / Budget Sub Activity:
2032A / 03 / 10

Date: May 2017

Modification Number / Title:
C50700 / Patriot Mods

C50700 / PATRIOT MODS

2032A / 03 / 10 ID Code (A=Service Ready, B=Not Service Ready): MDAP/MAIS Code: Related RDT&E PEs: Models of Systems Affected: Various **Modification Type:** Various FY 2018 FY 2018 То **FY 2018 Prior Years** FY 2016 FY 2017 oco FY 2019 FY 2020 FY 2021 FY 2022 Base Total Complete Total Qtv (Each) I **Financial Plan** Total Cost (\$ M) Fieldina 0 / 5.525 0 / 2.300 0 / 0.000 0/0.000 0 / 0.000 0 / 0.000 - 1 -- 1 -- 1 -0 / 0.000 0 / 0.000 0 / 0.000 0 / 0.000 - 1 -- 1 -- 1 -- 1 -- 1 -- 1 -Support Equipment 0 / 56.567 0/0.000 - /62.092 - /2.300 - /0.000 - /0.000 - /0.000 - /0.000 - / -- / -- / -- / -- / -- / -Subtotal: Recurring Non-Recurring - 1 -Kit Quantity 82 / 55.842 0/0.000 0.000 0/0.000 0/0.000 0/0.000 - 1 -- 1 -- 1 -- 1 -- 1 -- / -- / -- /0.000 - /0.000 - /0.000 - /0.000 - / -- / -- / -- / -Subtotal: Non-Recurring - /55.842 - /0.000 Subtotal: Modern Manstation (MMS) 82 / 117.934 0/2.300 0/0.000 0/0.000 0/0.000 0/0.000 - / -- / -- / -- / -- / -- / -Modification Item 8 of 18: Enhanced Launcher Electronics System (ELES) A Kits Recurring 211 / 34.304 8 / 33.000 58 / 208.000 30 / 119.623 010.000 30 / 119.623 - 1 -Kit Quantity - 1 -- 1 -- 1 -- 1 -- 1 -Subtotal: Recurring - /34.304 - /33.000 - /208.000 - /119.623 - /0.000 - /119.623 - / -- / -- / -- / -- / -- / -- / -Subtotal: Enhanced Launcher Electronics System 211 / 34.304 8/33.000 58 / 208.000 30 / 119.623 0/0.000 30 / 119.623 - / -- / -- / -- / -- / -(ELES) Modification Item 9 of 18: SNAP/TROPO A Kits Recurring Kit Quantity SNAP 4 / 0.548 0/0.000 2/0.282 0/0.000 0 / 0.000 0 / 0.000 - 1 -- 1 -- 1 -- 1 -- 1 -- 1 -- 1 -- 1 -- 1 -0 / 1.799 0/0.000 0 / 2.897 0 / 1.115 010.000 0 / 1.115 - 1 -- / -- 1 -Support - 1 -Integrated Logistics Support 0 / 1.048 0 / 0.000 0 / 1.046 0 / 0.633 0 / 0.000 0 / 0.633 - / -- 1 -- / -- 1 -- 1 -0 / 0.089 0 / 0.000 0 / 0.080 0 / 0.002 0 / 0.000 0 / 0.002 - 1 -- 1 -- 1 -- 1 -- 1 -Training - / -Equipment 0 / 0.859 0 / 0.000 0 / 0.000 0/0.000 0 / 0.000 0 / 0.000 - 1 -- 1 -- 1 -- 1 -- 1 -- 1 -Subtotal: Recurring - /4.343 - /0.000 - /4.305 - /1.750 - /0.000 - /1.750 - / -- / -- / -- / -- / -- / -Non-Recurring Kit Quantity TROPO 10 / 4.689 0 / 0.000 16 / 8.195 0/0.000 0 / 0.000 0 / 0.000 - 1 -- 1 -- 1 -- 1 -- 1 -- 1 -- / -- /4.689 - /0.000 - /8.195 - /0.000 - /0.000 - /0.000 - / -- / -- / -- / -- / -Subtotal: Non-Recurring 14/9.032 0 / 1.750 - / -- / -- / -- / -- / -Subtotal: SNAP/TROPO 0/0.000 18 / 12.500 0/1.750 0/0.000 - / -Modification Item 10 of 18: PATRIOT Maintenance Trainer (PMT) A Kits Recurring 1 / 15.941 1 / 15.000 2 / 27.000 0 / 0.000 2 / 27.000 - 1 -Kit Quantity 0 / 0.000 - 1 -- / -- 1 -

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Exhibit P-3a, Individual Modification: FY 2018 Army

Appropriation / Budget Activity / Budget Sub Activity:
2032A / 03 / 10

Date: May 2017

Modification Number / Title:
C50700 / Patriot Mods

C50700 / PATRIOT MODS

2032A / 03 / 10 ID Code (A=Service Ready, B=Not Service Ready): MDAP/MAIS Code: Related RDT&E PEs: Models of Systems Affected: Various **Modification Type:** Various FY 2018 FY 2018 FY 2018 То **Prior Years** FY 2016 FY 2017 OCO FY 2019 FY 2020 FY 2021 FY 2022 Base Total Complete Total Qtv (Each) I **Financial Plan** Total Cost (\$ M) - /15.941 - /0.000 - /15.000 - /27.000 - /0.000 - /27.000 - / -- / -- / -Subtotal: Recurring - / -- / -Non-Recurring Training Support 0 / 0.000 0 / 4.000 0 / 0.000 0 / 0.000 0 / 0.000 0 / 0.000 - 1 -- / -- 1 -- / -- 1 -- /0.000 - /4.000 - /0.000 - /0.000 - /0.000 - /0.000 - / -- / -- / -- / -- / -- / -Subtotal: Non-Recurring Subtotal: PATRIOT Maintenance Trainer (PMT) 1 / 15.941 0/4.000 1 / 15.000 2/27.000 0/0.000 2/27.000 - / -- / -- / -- / -- / -- / -Modification Item 11 of 18: PATRIOT Multi-Echelon Training (PMET) A Kits Recurring Kit Quantity 4 / 6.497 4 / 4.383 4 / 5.300 4 / 5.000 0/0.000 4 / 5.000 - 1 -- 1 -- 1 -- 1 -- 1 -- / -- /6.497 - /4.383 - /5.300 - /5.000 - /0.000 - /5.000 - / -- / -- / -- / -- / -Subtotal: Recurring Subtotal: PATRIOT Multi-Echelon Training (PMET) 4 / 6.497 4 / 4.383 4 / 5.300 4/5.000 0/0.000 4 / 5.000 - / -- / -- / -- / -- / -- / -Modification Item 12 of 18: Reconfigurable Table Top Trainers (RT3) A Kits Recurring Kit Quantity 356 / 13.838 0/0.000 34 / 7.500 0/0.000 0 / 0.000 0/0.000 - / -- 1 -- 1 -- / -- 1 -- / -- /13.838 - /0.000 - /7.500 - /0.000 - /0.000 - /0.000 - / -- / -- / -- / -- / -- / -Subtotal: Recurring - / -- / -Subtotal: Reconfigurable Table Top Trainers (RT3) 356 / 13.838 0/0.000 34 / 7.500 0/0.000 0/0.000 0/0.000 - / -- / -- / -- / -Modification Item 13 of 18: Assured PNT A Kits Recurring Hardware Integration 0 / 0.000 0 / 0.000 798 / 3.000 0/0.000 0 / 0.000 0 / 0.000 - 1 -- 1 -- 1 -- 1 -- 1 -- 1 -- /0.000 - / -- / -- /0.000 - /0.000 - /3.000 - /0.000 - /0.000 - / -- / -- / -- / -Subtotal: Recurring - / -- / -- / -Subtotal: Assured PNT 0/0.000 0/0.000 798 / 3.000 0/0.000 0/0.000 0/0.000 - / -- / -- / -Modification Item 14 of 18: Test Detachment A Kits Recurring 0 / 0.000 0 / 0.000 1 / 49.409 0 / 6.591 0 / 0.000 0 / 6.591 - / -- / -- 1 -- 1 -- / -Equipment - 1 -Subtotal: Recurring - /0.000 - /0.000 - /49.409 - /6.591 - /0.000 - /6.591 - / -- / -- / -- / -- / -- / -- / -0/0.000 0/0.000 1 / 49.409 0/6.591 0/0.000 0/6.591 - / -- / -- / -- / -Subtotal: Test Detachment - / -

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Exhibit P-3a, Individual Modification: FY 2018 Army

Appropriation / Budget Activity / Budget Sub Activity:
2032A / 03 / 10

Date: May 2017

Modification Number / Title:
C50700 / Patriot Mods

C50700 / PATRIOT MODS

2032A / 03 / 10 ID Code (A=Service Ready, B=Not Service Ready): MDAP/MAIS Code: Related RDT&E PEs: Models of Systems Affected: Various **Modification Type:** Various FY 2018 FY 2018 То FY 2018 **Prior Years** FY 2016 FY 2017 oco FY 2019 FY 2020 FY 2022 Base Total FY 2021 Complete Total Qtv (Each) I Qty (Each) I Qtv (Each) I **Financial Plan** Total Cost (\$ M) | Total Cost (\$ Total Cost (\$ M) Total Cost (\$ M) Total Cost (\$ M) | Total Cost (\$ M) Modification Item 15 of 18: Digital Sidelobe Canceller (DSLC) A Kits Recurring 0 / 0.000 0 / 0.000 5 / 12.900 38 / 77.800 0 / 0.000 38 / 77.800 - 1 -- 1 -Kit Quantity - / -- 1 -- 1 -- 1 -- /77.800 - / -- / -Subtotal: Recurring - /0.000 - /0.000 - /12.900 - /77.800 - /0.000 - / -- / -- / -- / -Subtotal: Digital Sidelobe Canceller (DSLC) 0/0.000 0/0.000 5 / 12.900 38 / 77.800 0/0.000 38 / 77.800 - / -- / -- / -- / -- / -- / -Modification Item 16 of 18: Command Obsolescence Alleviation A Kits Recurring Command Obsolescnece Alleviation 0 / 0.000 0/0.000 1/3.000 0/2.000 0 / 0.000 0/2.000 - 1 -- 1 -- 1 -- 1 -- 1 -- 1 -- /0.000 - /0.000 - /3.000 - /2.000 - /0.000 - /2.000 - / -- / -- / -- / -- / -- / -Subtotal: Recurring - / -0/0.000 0/0.000 1/3.000 0/2.000 0/0.000 0/2.000 - / -- / -- / -- / -- / -Subtotal: Command Obsolescence Alleviation Modification Item 17 of 18: 35th Brigade Modification Kits A Kits Non-Recurring 35th Brigade Mod Kits 0 / 0.000 0/0.000 1 / 15.200 0/0.000 0 / 0.000 0/0.000 - / -- 1 -- 1 -- / -- 1 -- / -- /0.000 - /0.000 - /15.200 - /0.000 - /0.000 - /0.000 - / -- / -- / -Subtotal: Non-Recurring - / -- / -- / -Subtotal: 35th Brigade Modification Kits 0/0.000 0/0.000 1 / 15.200 0/0.000 0/0.000 0/0.000 - / -- / -- / -- / -Modification Item 18 of 18: ADI TPX 57 Obsolescence A Kits Non-Recurring ADI TPX 57 Obsolescence 0 / 0.000 0 / 0.000 1/5.000 0/0.000 0 / 0.000 0 / 0.000 - 1 -- / -- 1 -- / -- / -- / -- / -- / -- / -- / -- / -- / -Subtotal: Non-Recurring - /0.000 - /0.000 - /5.000 - /0.000 - /0.000 - /0.000 0/0.000 0/0.000 1/5.000 0/0.000 0/0.000 0/0.000 - / -- / -- / -- / -- / -- / -Subtotal: ADI TPX 57 Obsolescence 7.235/ 205 / 240.683 | 1.052 / 423.090 206 / 327.473 0/0.000 206 / 327.473 - / -- / -- / -- / -Subtotal: Procurement, All Modification Items 1.619.004 Installation 6,324 / 151.613 110 / 0.000 100 / 0.000 251 / 0.000 - / -251 / 0.000 - / -- 1 -- 1 -- 1 -- / -- 1 -Modification Item 1 of 18: RAM Mods Modification Item 2 of 18: Recapitalization 12 / 224.745 1 / 1.000 1 / 0.985 1 / 1.100 - 1 -1/1.100 - / -- / -- 1 -- / -- / -- 1 -

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Exhibit P-3a, Individual Modification: FY 2018 Army

Appropriation / Budget Activity / Budget Sub Activity: P-1 Line Item Number / Title: Modification Number / Title:

Appropriation / Budget Activity / Budget Sub Activity:
2032A / 03 / 10

P-1 Line Item Number / Title:
C50700 / Patriot Mods

Modification Number / Title:
C50700 / PATRIOT MODS

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

Models of Systems Affected: Various	e: Various	e: Various Related RDT&E PEs:										
	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	To Complete	Total
Financial Plan	Qty (Each) I Total Cost (\$ M)											
Modification Item 3 of 18: BCP/TCS/CSM	79 / 1,192.582	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
Modification Item 4 of 18: Combined Crypto Modification Phase I (CCMPI)	17 / 0.100	36 / 0.200	59 / 1.232	38 / 0.500	- 1 -	38 / 0.500	- 1 -	- 1 -	- 1 -	- / -	- / -	- 1 -
Modification Item 5 of 18: Radar Digital Processor - Configuration (RDP-C)	79 / 0.000	0 / 0.000	1 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- / -	- 1 -	- 1 -
Modification Item 6 of 18: Air Defense Artillery School Upgrades/ TADSS	0 / 0.000	0 / 0.000	1 / 0.000	3 / 0.000	- 1 -	3 / 0.000	- 1 -	- 1 -	- 1 -	- / -	- 1 -	- 1 -
Modification Item 7 of 18: Modern Manstation (MMS)	34 / 0.000	48 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
Modification Item 8 of 18: Enhanced Launcher Electronics System (ELES)	211 / 0.000	0 / 0.000	8 / 0.000	58 / 0.000	- 1 -	58 / 0.000	- 1 -	- 1 -	- 1 -	- / -	- / -	- / -
Modification Item 9 of 18: SNAP/TROPO	14 / 0.000	0 / 0.000	18 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
Modification Item 10 of 18: PATRIOT Maintenance Trainer (PMT)	1 / 0.000	0 / 0.000	1 / 0.000	2 / 0.000	- 1 -	2 / 0.000	- 1 -	- 1 -	- 1 -	- / -	- / -	- 1 -
Modification Item 11 of 18: PATRIOT Multi-Echelon Training (PMET)	4 / 0.000	4 / 0.000	4 / 0.000	4 / 0.000	- / -	4 / 0.000	- 1 -	- 1 -	- 1 -	- / -	- / -	- 1 -
Modification Item 12 of 18: Reconfigurable Table Top Trainers (RT3)	356 / 0.000	0 / 0.000	0 / 0.000	34 / 0.000	- / -	34 / 0.000	- 1 -	- 1 -	- 1 -	- / -	- / -	- 1 -
Modification Item 13 of 18: Assured PNT	0 / 0.000	0 / 0.000	0 / 0.000	798 / 0.000	- 1 -	798 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
Modification Item 14 of 18: Test Detachment	0 / 0.000	0 / 0.000	1 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
Modification Item 15 of 18: Digital Sidelobe Canceller (DSLC)	0 / 0.000	0 / 0.000	0 / 0.000	5 / 0.000	- / -	5 / 0.000	- / -	- 1 -	- / -	- / -	- 1 -	- / -
Modification Item 16 of 18: Command Obsolescence Alleviation	0 / 0.000	0 / 0.000	0 / 0.000	1 / 0.000	- 1 -	1 / 0.000	- 1 -	- 1 -	- / -	- / -	- 1 -	- 1 -
<b>Modification Item 17 of 18:</b> 35th Brigade Modification Kits	0 / 0.000	0 / 0.000	0 / 0.000	1 / 0.000	- 1 -	1 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
Modification Item 18 of 18: ADI TPX 57 Obsolescence	0 / 0.000	0 / 0.000	0 / 0.000	1 / 0.000	- 1 -	1 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
Subtotal: Installation	7,131 / 1,569.040	199 / 1.200	194 / 2.217	1,197 / 1.600	- / -	1,197 / 1.600	- / -	- / -	- / -	- / -	- / -	- / -
Total												
Total Cost (Procurement + Support + Installation)	3,188.044	241.883	425.307	329.073	-	329.073	-	-	-	-	-	-

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Exhibit P-3a, Indiv	vidual Modification: F	Y 2018 Army			<b>Date</b> : May 2017					
<b>Appropriation / B</b> 2032A / 03 / 10	udget Activity / Budge	et Sub Activity:	P-1 Line Item Nu C50700 / Patriot N		Modification Numb					
ID Code (A=Service Read	y, B=Not Service Ready):		'	MDAP/MAIS Code:						
Modification Item 1 of	18: RAM Mods			-						
Manufacturer Informa	tion									
Manufacturer Name: Ra	aytheon			Manufacturer Location: Andover, MA						
Administrative Leadtime	e (in Months): 2			Production Leadtime (in	Months): 14					
Dates	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022			
Contract Dates	Dec 2015	Dec 2016	Dec 2017							
Delivery Dates	Feb 2017	Feb 2018	Feb 2019							

#### Installation Information

Method of Implementation: Lead Logistics Fielding Team

	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	To Complete	Total
Installation Cost	Qty (Each) I Total Cost (\$ M)											
Prior Years	6,324 / 151.613	110 / 0.000	44 / 0.000	131 / 0.000	- 1 -	131 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2016	0 / 0.000	0 / 0.000	56 / 0.000	54 / 0.000	- 1 -	54 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2017	0 / 0.000	0 / 0.000	0 / 0.000	66 / 0.000	- 1 -	66 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2018	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2019	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2020	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2021	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2022	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
To Complete	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
Total	6,324 / 151.613	110 / 0.000	100 / 0.000	251 / 0.000	- 1 -	251 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -

## Installation Schedule

		-	FY 2	2016			FY 2	2017			FY 2	018		,	FY 2	019			FY 2	2020			FY 2	2021			FY 2	022			
	PYS	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	TC	Tot
In	6,474	21	23	23	22	22	28	28	27	27	33	33	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7,320	14,113
Out	6,416	21	21	23	23	22	22	28	28	27	27	33	33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7,389	14,113

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P-1 Line #15

Exhibit P-3a, Indiv	vidual Modification: F	Y 2018 Army				<b>Date:</b> May 2017	
<b>Appropriation / B</b> 2032A / 03 / 10	udget Activity / Budge	et Sub Activity:	P-1 Line Item Nu C50700 / Patriot N			Modification Numb	
ID Code (A=Service Read	y, B=Not Service Ready):			MDAP/MAIS (	Code:		
Modification Item 2 of	18: Recapitalization						
Manufacturer Informa	tion						
Manufacturer Name: Va	arious			Manufacturer Location: \	/arious		
Administrative Leadtime	e (in Months): 6			Production Leadtime (in	Months): 12		
Dates	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Contract Dates	Apr 2016	Apr 2017	Apr 2018				
Delivery Dates	Apr 2017	Apr 2018	Apr 2019				

## Installation Information

Method of Implementation: Depot, PM Office, contractor team

	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	To Complete	Total
Installation Cost	Qty (Each) I Total Cost (\$ M)											
Prior Years	12 / 224.745	1 / 1.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2016	0 / 0.000	0 / 0.000	1 / 0.985	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2017	0 / 0.000	0 / 0.000	0 / 0.000	1 / 1.100	- 1 -	1 / 1.100	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2018	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2019	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2020	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2021	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2022	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
To Complete	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
Total	12 / 224.745	1 / 1.000	1 / 0.985	1 / 1.100	- 1 -	1 / 1.100	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -

#### Installation Schedule

			-																												
			FY 2	2016			FY 2	2017			FY 2	2018			FY 2	2019			FY 2	2020			FY 2	021			FY 2	022			
	PYS	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	тс	Tot																
In	12	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	30
Out	11	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	30

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P-1 Line #15

Exhibit P-3a, Indiv	idual Modification: F	Y 2018 Army				<b>Date:</b> May 2017	
<b>Appropriation / Bu</b> 2032A / 03 / 10	idget Activity / Budge	et Sub Activity:	P-1 Line Item Nu C50700 / Patriot N			Modification Numb C50700 / PATRIOT	
ID Code (A=Service Ready,	, B=Not Service Ready):		·	MDAP/MAIS C	ode:		
Modification Item 3 of	18: BCP/TCS/CSM			<u>.                                      </u>			
Manufacturer Informat	ion						
Manufacturer Name: Vai	rious			Manufacturer Location: V	/arious		
Administrative Leadtime	(in Months):			Production Leadtime (in I	Months):		
Dates	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Contract Dates							
Delivery Dates							
	-	'	·		1		
Installation Information	1						
Method of Implementat	tion: Various						

	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	To Complete	Total
Installation Cost	Qty (Each) I Total Cost (\$ M)											
Prior Years	79 / 1,192.582	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- / -
FY 2016	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2017	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2018	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2019	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2020	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2021	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2022	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
To Complete	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
Total	79 / 1,192.582	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -

## Installation Schedule

			FY 2	2016			FY 2	2017			FY 2	2018			FY 2	2019			FY 2	2020			FY 2	2021			FY 2	2022			
	PYS	Q1	Q2	Q3	Q4	тс	Tot																								
In	79	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	,	
Out	79	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

LI C50700 - Patriot Mods
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Exhibit P-3a, Indiv	idual Modification: F	Y 2018 Army				Date: May 2017	
<b>Appropriation / Bu</b> 2032A / 03 / 10	dget Activity / Budge	et Sub Activity:	P-1 Line Item Numl C50700 / Patriot Mo			Modification Number C50700 / PATRIOT I	
ID Code (A=Service Ready,	B=Not Service Ready):			MDAP/MAIS C	ode:		
Modification Item 4 of	18: Combined Crypto Modifi	cation Phase I (CCMPI)		·			
Manufacturer Informat	ion						
Manufacturer Name: Ra	ytheon			Manufacturer Location: A	ndover, MA		
Administrative Leadtime	(in Months): 3			Production Leadtime (in A	Months): 12		
Dates	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Contract Dates	Dec 2015						

## Installation Information

Delivery Dates

Method of Implementation: Lead Logistics Fielding Team

Dec 2016

	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	To Complete	Total
Installation Cost	Qty (Each) I Total Cost (\$ M)											
Prior Years	17 / 0.100	20 / 0.100	19 / 0.397	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2016	0 / 0.000	16 / 0.100	40 / 0.835	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2017	0 / 0.000	0 / 0.000	0 / 0.000	38 / 0.500	- 1 -	38 / 0.500	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2018	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2019	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2020	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2021	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2022	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
To Complete	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
Total	17 / 0.100	36 / 0.200	59 / 1.232	38 / 0.500	- 1 -	38 / 0.500	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -

## Installation Schedule

				FY 2	2016			FY 2	2017			FY 2	018			FY 2	2019			FY 2	2020			FY 2	2021			FY 2	022			
	P	YS	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	тс	Tot
In		33	10	10	10	9	20	20	19	19	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	,	
Οι	ut	17	8	8	10	10	10	9	20	20	19	19	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

LI C50700 - Patriot Mods
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Exhibit P-3a, Indiv	/idual Modification: F	Y 2018 Army				Date: May 2017	
Appropriation / Bo 2032A / 03 / 10	udget Activity / Budg	et Sub Activity:	P-1 Line Item Nu C50700 / Patriot I			Modification Numb	
ID Code (A=Service Ready	y, B=Not Service Ready):		•	MDAP/MAIS (	Code:		
Modification Item 5 of	18: Radar Digital Processor	- Configuration (RDP-C	3)	,			
Manufacturer Information	tion						
Manufacturer Name: Ra	aytheon			Manufacturer Location:	Andover, MA		
Administrative Leadtime	e (in Months): 8			Production Leadtime (in	Months): 20		
Dates	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Contract Dates							
Delivery Dates							

## Installation Information

Method of Implementation: Depot, PM Office, contractor team

	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	To Complete	Total
Installation Cost	Qty (Each) I Total Cost (\$ M)											
Prior Years	79 / 0.000	0 / 0.000	1 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2016	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2017	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2018	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2019	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2020	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2021	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2022	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
To Complete	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
Total	79 / 0.000	0 / 0.000	1 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -

## Installation Schedule

			FY 2	2016			FY 2	2017			FY 2	2018			FY 2	2019			FY 2	2020			FY 2	2021			FY 2	022			
	PYS	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	TC	Tot																				
In	5	0	16	15	15	15	4	3	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	80
Out	-	0	5	0	0	0	16	15	15	15	4	3	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	80

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Exhibit P-3a, Indi	ividual Modification: F	Y 2018 Army				Date: May 2017	
<b>Appropriation / B</b> 2032A / 03 / 10	Budget Activity / Budg	et Sub Activity:	P-1 Line Item Nu C50700 / Patriot			Modification Numb	
ID Code (A=Service Read	dy, B=Not Service Ready):		,	MDAP/MAIS C	Code:		
Modification Item 6 o	f 18: Air Defense Artillery Sch	nool Upgrades/ TADSS		<u>.                                      </u>			
Manufacturer Informa	ation						
Manufacturer Name: P	M Office, contractor team			Manufacturer Location: V	/arious		
Administrative Leadtim	ne (in Months): 6			Production Leadtime (in	Months): 18		
Dates	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Contract Dates	Mar 2016						
Delivery Dates	Sep 2017						

## Installation Information

Method of Implementation: PM fielding team

	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	To Complete	Total
Installation Cost	Qty (Each) I Total Cost (\$ M)											
Prior Years	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2016	0 / 0.000	0 / 0.000	1 / 0.000	3 / 0.000	- 1 -	3 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2017	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2018	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2019	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2020	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2021	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2022	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
To Complete	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
Total	0 / 0.000	0 / 0.000	1 / 0.000	3 / 0.000	- 1 -	3 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -

## Installation Schedule

			FY 2	2016			FY 2	2017			FY 2	2018			FY 2	2019			FY 2	2020			FY 2	2021			FY 2	2022			
	PYS	Q1	Q2	Q3	Q4	тс	Tot																								
In	-	0	0	0	0	0	0	0	1	1	1	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	,	
Out	-	0	0	0	0	0	0	0	1	1	1	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

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Exhibit P-3a, Indivi	idual Modification: F	7 2018 Army				<b>Date:</b> May 2017	
Appropriation / Bu 2032A / 03 / 10	dget Activity / Budge	t Sub Activity:	P-1 Line Item Nu C50700 / Patriot			Modification Numb	
ID Code (A=Service Ready,	B=Not Service Ready):		•	MDAP/MAIS C	ode:	,	
Modification Item 7 of 1	18: Modern Manstation (MM	S)		,			
Manufacturer Informati	on						
Manufacturer Name: Ray	ytheon			Manufacturer Location: A	Indover, MA		
Administrative Leadtime	(in Months): 6			Production Leadtime (in I	Months): 15		
Dates	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Contract Dates							
Delivery Dates							

## Installation Information

Method of Implementation: Various

	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	To Complete	Total
Installation Cost	Qty (Each) I Total Cost (\$ M)											
Prior Years	34 / 0.000	48 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2016	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2017	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2018	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2019	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2020	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2021	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2022	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
To Complete	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
Total	34 / 0.000	48 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -

## Installation Schedule

			FY 2	2016			FY 2	2017			FY 2	2018			FY 2	2019			FY 2	2020			FY 2	2021			FY 2	022			
	PYS	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	тс	Tot																				
In	40	14	14	14	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	,	
Out	34	6	14	14	14	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

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Exhibit P-3a, Individual Modification: FY 2018 Army		<b>Date</b> : May 2017
Appropriation / Budget Activity / Budget Sub Activity:	P-1 Line Item Number / Title:	Modification Number / Title:
2032A / 03 / 10	C50700 / Patriot Mods	C50700 / PATRIOT MODS

ID Code (A=Service Ready, B=Not Service Ready):

MDAP/MAIS Code:

**Modification Item 8 of 18:** Enhanced Launcher Electronics System (ELES)

#### Manufacturer Information

Manufacturer Name: Vario	ous			Manufacturer Location: Va	arious		
Administrative Leadtime (	in Months): 3			Production Leadtime (in M	fonths): 18		
Detec	EV 2040	EV 2047	EV 2040	EV 2040	EV 2020	EV 2024	EV 2022

,	,			,	,		
Dates	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Contract Dates	Dec 2015	Dec 2016	Dec 2017				
Delivery Dates	Jun 2017	Jun 2018	Jun 2019				
	L	L	L	L	L	J	L

#### Installation Information

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

	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	To Complete	Total
Installation Cost	Qty (Each) I Total Cost (\$ M)											
Prior Years	211 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2016	0 / 0.000	0 / 0.000	8 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2017	0 / 0.000	0 / 0.000	0 / 0.000	58 / 0.000	- 1 -	58 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2018	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2019	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2020	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2021	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2022	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
To Complete	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
Total	211 / 0.000	0 / 0.000	8 / 0.000	58 / 0.000	- 1 -	58 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -

#### Installation Schedule

			FY 2	2016			FY 2	017			FY 2	018			FY 2	2019			FY 2	2020			FY 2	2021			FY 2	022			
	PYS	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	TC	Tot
In	211	0	0	0	0	0	0	8	0	0	0	29	29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	176	453
Out	211	0	0	0	0	0	0	8	0	0	0	29	29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	176	453

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Exhibit P-3a, Indivi	dual Modification: F	/ 2018 Army				Date: May 2017	
<b>Appropriation / Bud</b> 2032A / 03 / 10	dget Activity / Budge	t Sub Activity:	P-1 Line Item Num C50700 / Patriot Mo			Modification Numb C50700 / PATRIOT	
ID Code (A=Service Ready, I	B=Not Service Ready):			MDAP/MAIS C	ode:		
Modification Item 9 of 1	8: SNAP/TROPO			<u>.                                      </u>			
Manufacturer Information	on						
Manufacturer Name: Tele	Communication Systems (	rcs)		Manufacturer Location: T	ampa, FL		
Administrative Leadtime (	(in Months): 1			Production Leadtime (in	Months): 9		
Dates	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Contract Dates		Oct 2016					

## Installation Information

Delivery Dates

Method of Implementation: Depot, PM, contractor team

Jun 2017

	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	To Complete	Total
Installation Cost	Qty (Each) I Total Cost (\$ M)											
Prior Years	14 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2016	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2017	0 / 0.000	0 / 0.000	18 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2018	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2019	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2020	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2021	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2022	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
To Complete	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
Total	14 / 0.000	0 / 0.000	18 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -

## Installation Schedule

			FY 2	2016			FY 2	2017			FY 2	2018			FY 2	2019			FY 2	2020			FY 2	2021			FY 2	2022			
	PYS	Q1	Q2	Q3	Q4	тс	Tot																								
In	14	0	0	0	0	0	0	18	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	,	
Out	14	0	0	0	0	0	0	0	18	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

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Exhibit P-3a, Individual Modification: FY 2018 Army		Date: May 2017
Appropriation / Budget Activity / Budget Sub Activity: 2032A / 03 / 10	P-1 Line Item Number / Title: C50700 / Patriot Mods	Modification Number / Title: C50700 / PATRIOT MODS
ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:	
Modification Item 10 of 18: PATRIOT Maintenance Trainer (PMT)		
Manufacturer Information		

Manufacturer Location: Tewksbury, MA Manufacturer Name: Raytheon Administrative Leadtime (in Months): 4 Production Leadtime (in Months): 4

**Dates** FY 2016 FY 2017 FY 2018 FY 2019 FY 2020 FY 2021 FY 2022 Contract Dates Feb 2016 Feb 2017 Feb 2018

Delivery Dates Jun 2016 Jun 2017 Jun 2018

## Installation Information

**Method of Implementation:** PM Office, contractor team

mountain on mipromontainon in a mo	o, oo	•										
	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	To Complete	Total
Installation Cost	Qty (Each) I Total Cost (\$ M)											
Prior Years	1 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- / -	- 1 -	- 1 -	- 1 -	- 1 -	- / -
FY 2016	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2017	0 / 0.000	0 / 0.000	1 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2018	0 / 0.000	0 / 0.000	0 / 0.000	2 / 0.000	- 1 -	2/0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2019	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2020	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2021	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2022	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
To Complete	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
Total	1 / 0.000	0 / 0.000	1 / 0.000	2 / 0.000	- 1 -	2/0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -

## Installation Schedule

			FY 2	2016			FY 2	2017			FY 2	2018			FY 2	2019			FY 2	2020			FY 2	2021			FY 2	022			
	PYS	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	тс	Tot																				
In	1	0	0	0	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5
Out	1	0	0	0	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5

**UNCLASSIFIED** LI C50700 - Patriot Mods 114 Page 21 of 29 P-1 Line #15 Army

Exhibit P-3a, Individual Modification: FY 2018 Army		Date: May 2017
Appropriation / Budget Activity / Budget Sub Activity: 2032A / 03 / 10	P-1 Line Item Number / Title: C50700 / Patriot Mods	Modification Number / Title: C50700 / PATRIOT MODS
ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:	
Modification Item 11 of 18: PATRIOT Multi-Echelon Training (PMET)		
Manufacturer Information		
Manufacturer Name: Raytheon	Manufacturer Location: Tewksbury	, MA
Administrative Leadtime (in Months): 4	Production Leadtime (in Months): 4	

FY 2019

FY 2020

FY 2021

FY 2022

FY 2018

Feb 2018

May 2018

## Installation Information

**Dates** 

Contract Dates

Delivery Dates

Method of Implementation: PM Office, contractor team

FY 2016

Feb 2016

May 2016

FY 2017

Feb 2017

May 2017

	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	To Complete	Total
Installation Cost	Qty (Each) I Total Cost (\$ M)	Qty (Each) I Total Cost (\$ M										
Prior Years	4 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2016	0 / 0.000	4 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2017	0 / 0.000	0 / 0.000	4 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2018	0 / 0.000	0 / 0.000	0 / 0.000	4 / 0.000	- 1 -	4 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2019	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2020	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2021	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2022	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
To Complete	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
Total	4 / 0.000	4 / 0.000	4 / 0.000	4 / 0.000	- 1 -	4 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -

## Installation Schedule

			FY 2	2016			FY 2	2017			FY 2	2018			FY 2	2019			FY 2	2020			FY 2	2021			FY 2	022			
	PYS	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	TC	Tot																				
In	4	0	0	4	0	0	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	36
Out	4	0	0	4	0	0	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	36

LI C50700 - Patriot Mods
Army

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P-1 Line #15

Exhibit P-3a, Indiv	idual Modification: F	Y 2018 Army				Date: May 2017	
Appropriation / Bu 2032A / 03 / 10	dget Activity / Budg	et Sub Activity:	P-1 Line Item Nu C50700 / Patriot N			Modification Numb C50700 / PATRIOT	
ID Code (A=Service Ready,	B=Not Service Ready):			MDAP/MAIS (	Code:		
Modification Item 12 of	18: Reconfigurable Table	Top Trainers (RT3)					
Manufacturer Informati	on						
Manufacturer Name: Ray	ytheon			Manufacturer Location: 7	Гewksbury, MA		
Administrative Leadtime	(in Months): 3			Production Leadtime (in	Months): 9		
Dates	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Contract Dates		Dec 2016					

## Installation Information

Delivery Dates

Method of Implementation: PM Office, contractor team

Oct 2017

•	*											
	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	To Complete	Total
Installation Cost	Qty (Each) I Total Cost (\$ M)											
Prior Years	356 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2016	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2017	0 / 0.000	0 / 0.000	0 / 0.000	34 / 0.000	- 1 -	34 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2018	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2019	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2020	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2021	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2022	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
To Complete	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
Total	356 / 0.000	0 / 0.000	0 / 0.000	34 / 0.000	- 1 -	34 / 0.000	- 1 -	- / -	- 1 -	- / -	- / -	- 1 -

## Installation Schedule

			FY 2	2016			FY 2	2017			FY 2	2018			FY 2	2019			FY 2	2020			FY 2	2021			FY 2	022			
	PYS	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	TC	Tot																				
In	356	0	0	0	0	0	0	0	0	9	9	8	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	229	619
Out	356	0	0	0	0	0	0	0	0	9	9	8	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	229	619

LI C50700 - Patriot Mods
Army

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P-1 Line #15

Exhibit P-3a, Indivi	idual Modification: F	Y 2018 Army				Date: May 2017	
<b>Appropriation / Bu</b> 2032A / 03 / 10	dget Activity / Budge	et Sub Activity:	P-1 Line Item Num C50700 / Patriot Mo			Modification Numb	
ID Code (A=Service Ready,	B=Not Service Ready):			MDAP/MAIS C	Code:		
Modification Item 13 of	18: Assured PNT			<u>.                                      </u>			
Manufacturer Informati	on						
Manufacturer Name: TBI	)			Manufacturer Location: 1	ГВD		
Administrative Leadtime	(in Months): 4			Production Leadtime (in	Months): 14		
Dates	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Contract Dates		Jan 2017					

## Installation Information

Delivery Dates

Method of Implementation: Logistics Fielding Team

	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	To Complete	Total
Installation Cost	Qty (Each) I Total Cost (\$ M)											
Prior Years	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2016	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2017	0 / 0.000	0 / 0.000	0 / 0.000	798 / 0.000	- 1 -	798 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2018	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2019	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2020	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2021	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2022	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
To Complete	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
Total	0 / 0.000	0 / 0.000	0 / 0.000	798 / 0.000	- 1 -	798 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -

## Installation Schedule

Army

			FY 2	2016			FY 2	2017	_		FY 2	2018			FY 2	2019	_		FY 2	2020			FY 2	2021			FY 2	2022			
	PYS	Q1	Q2	Q3	Q4	тс	Tot																								
In	-	0	0	0	0	0	0	0	0	0	798	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Out	-	0	0	0	0	0	0	0	0	0	0	798	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

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Mar 2018

Exhibit P-3a, Indiv	vidual Modification: F	Y 2018 Army				<b>Date:</b> May 2017	
Appropriation / Bu 2032A / 03 / 10	udget Activity / Budge	et Sub Activity:	P-1 Line Item Nu C50700 / Patriot N			Modification Numb	
ID Code (A=Service Ready	, B=Not Service Ready):			MDAP/MAIS (	Code:		
Modification Item 14 o	f 18: Test Detachment			<u>.</u>			
Manufacturer Informat	tion						
Manufacturer Name: Va	rious			Manufacturer Location: \	√arious		
Administrative Leadtime	e (in Months): 4			Production Leadtime (in	Months): 8		
Dates	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Contract Dates		Feb 2017					
Delivery Dates		Sep 2017					

## Installation Information

Method of Implementation: WSMR PM owned test bed personnel

	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	To Complete	Total
Installation Cost	Qty (Each) I Total Cost (\$ M)											
Prior Years	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2016	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2017	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2018	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2019	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2020	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2021	0 / 0.000	0 / 0.000	1 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2022	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
To Complete	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
Total	0 / 0.000	0 / 0.000	1 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -

## Installation Schedule

			FY 2	2016			FY 2	2017			FY 2	2018			FY 2	2019			FY 2	2020			FY 2	2021			FY 2	2022			
	PYS	Q1	Q2	Q3	Q4	тс	Tot																								
In	-	0	0	0	0	0	0	0	1	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	,	
Out	-	0	0	0	0	0	0	0	1	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

LI C50700 - Patriot Mods
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P-1 Line #15

Exhibit P-3a, Individual Modification: FY 2018 Army		Date: May 2017
Appropriation / Budget Activity / Budget Sub Activity:	P-1 Line Item Number / Title:	Modification Number / Title:
2032A / 03 / 10	C50700 / Patriot Mods	C50700 / PATRIOT MODS

ID Code (A=Service Ready, B=Not Service Ready) :

Modification Item 15 of 18: Digital Sidelphe Canceller (DSLC)

MDAP/MAIS Code:

Modification Rem 13 Of	10. Digital Sidelobe Caricel	iei (DSLC)					
Manufacturer Informat	ion						
Manufacturer Name: TB	D			Manufacturer Location: TE	BD		
Administrative Leadtime	(in Months): 3			Production Leadtime (in N	Nonths): 18		
Dates	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Contract Dates		Jan 2017	Jan 2018				
Delivery Dates		Jul 2018	Jul 2019				

#### Installation Information

Method of Implementation: Depot, PM Office, contractor team

	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	To Complete	Total
Installation Cost	Qty (Each) I Total Cost (\$ M)											
Prior Years	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2016	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2017	0 / 0.000	0 / 0.000	0 / 0.000	5 / 0.000	- 1 -	5 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2018	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2019	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2020	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2021	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2022	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
To Complete	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
Total	0 / 0.000	0 / 0.000	0 / 0.000	5 / 0.000	- 1 -	5 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -

## Installation Schedule

			FY 2	2016			FY 2	2017			FY 2	2018			FY 2	2019			FY 2	2020			FY 2	2021			FY 2	022			
	PYS	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	TC	Tot																				
In	-	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	81	86
Out	-	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	81	86

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P-1 Line #15

Exhibit P-3a, Indivi	dual Modification: F	Y 2018 Army				Date: May 2017	
<b>Appropriation / Bu</b> 2032A / 03 / 10	dget Activity / Budge	et Sub Activity:	P-1 Line Item Nur C50700 / Patriot M			Modification Number C50700 / PATRIOT	
ID Code (A=Service Ready,	B=Not Service Ready):		•	MDAP/MAIS C	Code:	,	
Modification Item 16 of	18: Command Obsolescen	ce Alleviation		'			
Manufacturer Information	on						
Manufacturer Name: Vari	ous			Manufacturer Location: \	/arious		
Administrative Leadtime	(in Months): 8			Production Leadtime (in	Months): 5		
Dates	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Contract Dates		Jun 2017					
Delivery Dates		Dec 2017					

#### Installation Information

Method of Implementation: PM Office, contractor team

	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	To Complete	Total
Installation Cost	Qty (Each) I Total Cost (\$ M)											
Prior Years	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2016	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2017	0 / 0.000	0 / 0.000	0 / 0.000	1 / 0.000	- 1 -	1 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2018	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2019	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2020	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2021	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2022	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
To Complete	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
Total	0 / 0.000	0 / 0.000	0 / 0.000	1 / 0.000	- 1 -	1 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -

## Installation Schedule

			FY 2	2016			FY 2	2017			FY 2	2018		FY 2019				FY 2020					FY 2	021			FY 2				
	PYS	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	тс	Tot
In	-	0	0	0	0	0	0	0	0	1	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	,	
Out	-	0	0	0	0	0	0	0	0	1	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

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P-1 Line #15

Exhibit P-3a, Indiv	vidual Modification: F	Y 2018 Army			<b>Date</b> : May 2017									
Appropriation / Bi 2032A / 03 / 10	udget Activity / Budg	et Sub Activity:	P-1 Line Item Nu C50700 / Patriot I		Modification Number / Title: C50700 / PATRIOT MODS									
ID Code (A=Service Ready	, B=Not Service Ready):		•	MDAP/MAIS Code:										
Modification Item 17 o	f 18: 35th Brigade Modificat	ion Kits												
Manufacturer Informat	tion													
Manufacturer Name: Va	rious			Manufacturer Location: \	√arious									
Administrative Leadtime	e (in Months): 8			Production Leadtime (in	Months): 8									
Dates	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022							
Contract Dates		Jun 2017												
Delivery Dates		Feb 2018												

## Installation Information

Method of Implementation: WSMR PM owned test bed personnel

	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	To Complete	Total
Installation Cost	Qty (Each) I Total Cost (\$ M)											
Prior Years	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2016	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2017	0 / 0.000	0 / 0.000	0 / 0.000	1 / 0.000	- 1 -	1 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2018	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2019	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2020	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2021	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2022	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
To Complete	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
Total	0 / 0.000	0 / 0.000	0 / 0.000	1 / 0.000	- 1 -	1 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -

## Installation Schedule

		FY 2016 FY 2017								FY 2018 FY 20						FY 2019 FY 2020						FY 2	2021			FY 2						
	PYS	s Q	1	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	тс	Tot
In	-		0	0	0	0	0	0	0	0	0	1	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	,	
Ou	: -		0	0	0	0	0	0	0	0	0	0	1	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

LI C50700 - Patriot Mods
Army

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P-1 Line #15

Exhibit P-3a, Indiv	ridual Modification: F	Y 2018 Army				Date: May 2017	
Appropriation / Bu 2032A / 03 / 10	udget Activity / Budge	et Sub Activity:	P-1 Line Item Nu C50700 / Patriot I			Modification Numb	
ID Code (A=Service Ready	, B=Not Service Ready):		•	MDAP/MAIS O	Code:	·	
Modification Item 18 o	f 18: ADI TPX 57 Obsolesce	ence					
Manufacturer Informat	tion						
Manufacturer Name: Va	rious			Manufacturer Location: \	/arious		
Administrative Leadtime	(in Months): 8			Production Leadtime (in	Months): 5		
Dates	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Contract Dates		Jun 2017					
Delivery Dates		Dec 2017					

### Installation Information

Method of Implementation: PM Office, Contractor Team

	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	To Complete	Total
Installation Cost	Qty (Each) I Total Cost (\$ M)											
Prior Years	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2016	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2017	0 / 0.000	0 / 0.000	0 / 0.000	1 / 0.000	- 1 -	1 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- / -
FY 2018	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2019	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2020	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2021	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2022	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
To Complete	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
Total	0 / 0.000	0 / 0.000	0 / 0.000	1 / 0.000	- 1 -	1 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -

### Installation Schedule

			FY 2	2016			FY 2	2017			FY 2	2018			FY 2	2019			FY 2	2020			FY 2	2021			FY 2	022			
	PYS	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	TC	Tot																				
In	-	0	0	0	0	0	0	0	0	1	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Out	-	0	0	0	0	0	0	0	0	1	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

LI C50700 - Patriot Mods
Army

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P-1 Line #15

Exhibit P-40, Budget Line Item Justification: FY 2018 Army		Date: May 2017
Appropriation / Budget Activity / Budget Sub Activity:	P-1 Line Item Number / Title:	

2032A: Missile Procurement, Army / BA 03: Modification of Missiles / BSA 10:

Modifications

CA6700 / ATACMS MODS

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

Line item wdariwais code. N/A												
	Prior			FY 2018	FY 2018	FY 2018					То	
Resource Summary	Years	FY 2016	FY 2017	Base	OCO	Total	FY 2019	FY 2020	FY 2021	FY 2022	Complete	Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	-	20.119	165.943	116.040	-	116.040	38.417	135.000	135.000	135.000	-	745.519
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	-	20.119	165.943	116.040	-	116.040	38.417	135.000	135.000	135.000	-	745.519
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	-	20.119	165.943	116.040	-	116.040	38.417	135.000	135.000	135.000	-	745.519
(The following	Resource Sum	mary rows are fo	r informational p	ourposes only. Th	e corresponding	budget request	s are documente	ed elsewhere.)				
Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (\$ in Thousands)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	-	-	-	-	-	-	-	-	-	-	-	-

### **Description:**

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 that was funded under Program Element (PE) 0203802A; it will not build any new missiles or add to the overall inventory.

Block (BLK) I/IA missiles currently have warheads (WHs) that are non-compliant with the 2008 Department of Defense (DoD) policy on cluster munitions (CM). The modification will be 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 may 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.

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Exhibit P-40, Budget Line Item Justification: FY 2018 Army

Date: May 2017

Appropriation / Budget Activity / Budget Sub Activity:

P-1 Line Item Number / Title:

2032A: Missile Procurement, Army / BA 03: Modification of Missiles / BSA 10:

CA6700 / ATACMS MODS

Modifications

Program Elements for Code B Items: N/A

Other Related Program Elements: 0203802A

Line Item MDAP/MAIS Code: N/A

ID Code (A=Service Ready, B=Not Service Ready):

Exhibits Schedule				Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
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)
CA6700 / Army Tactical Missile System (ATACMS) Modifications (Unclassified)				- / -	- /20.119	- / 165.943	- /116.040	- / -	- /116.040
Total Gross/Weapon System Cost				- 1 -	- / 20.119	- / 165.943	- / 116.040	- 1 -	- / 116.040
Exhibits Schedule				FY 2019	FY 2020	FY 2021	FY 2022	To Complete	Total
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)
CA6700 / Army Tactical Missile System (ATACMS) Modifications (Unclassified)				- / -	- / -	- / -	- / -	- / -	- / -
Total Gross/Weapon System Cost				- / 38.417	- / 135.000	- / 135.000	- / 135.000	- 1 -	- / 745.519
	Title*  CA6700 / Army Tactical Missile System (ATACMS) Modifications (Unclassified)  Total Gross/Weapon System Cost  Exhibits Schedule  Title*  CA6700 / Army Tactical Missile System (ATACMS) Modifications (Unclassified)	Title*  CA6700 / Army Tactical Missile System (ATACMS) Modifications (Unclassified)  Total Gross/Weapon System Cost  Exhibits Schedule  Title*  Subexhibits  CA6700 / Army Tactical Missile System (ATACMS) Modifications (Unclassified)	Title*  CA6700 / Army Tactical Missile System (ATACMS) Modifications (Unclassified)  Total Gross/Weapon System Cost  Exhibits Schedule  Title*  Subexhibits   ID   ID   ID   ID   ID   ID   ID   I	Title* Subexhibits CD MDAP/ MAIS Code  CA6700 / Army Tactical Missile System (ATACMS) Modifications (Unclassified)  Total Gross/Weapon System Cost  Exhibits Schedule  Title* Subexhibits CD MDAP/ MAIS Code  CA6700 / Army Tactical Missile System (ATACMS) Modifications (Unclassified)	Title* Subexhibits CD MDAP/ MAIS Code (Each) I (\$ M)  CA6700 / Army Tactical Missile System (ATACMS) Modifications (Unclassified)  Total Gross/Weapon System Cost  Exhibits Schedule  FY 2019  Subexhibits CD MDAP/ MAIS Code (Each) I (\$ M)  Title* Subexhibits CD MDAP/ MAIS CODE (Each) I (\$ M)  CA6700 / Army Tactical Missile System (ATACMS) Modifications (Unclassified)	Title* Subexhibits   ID   MDAP/ MAIS   COde   Quantity / Total Cost (Each) I (\$ M)    CA6700 / Army Tactical Missile System (ATACMS) Modifications (Unclassified)   - / -   - / 20.119    Total Gross/Weapon System Cost   - / -   - / 20.119    Exhibits Schedule   FY 2019   FY 2020    Title*   Subexhibits   ID   MDAP/ MAIS   CD   Code   Cach) I (\$ M)    CA6700 / Army Tactical Missile System (ATACMS) Modifications (Unclassified)   - / -   - / -    CA6700 / Army Tactical Missile System (ATACMS) Modifications (Unclassified)   - / -   - / -    CA6700 / Army Tactical Missile System (ATACMS) Modifications (Unclassified)   - / -   - / -    CA6700 / Army Tactical Missile System (ATACMS) Modifications (Unclassified)   - / -   - / -    CA6700 / Army Tactical Missile System (ATACMS) Modifications (Unclassified)   - / -   - / -    CA6700 / Army Tactical Missile System (ATACMS) Modifications (Unclassified)   - / -   - / -    CA6700 / Army Tactical Missile System (ATACMS) Modifications (Unclassified)   - / -   - / -    CA6700 / Army Tactical Missile System (ATACMS) Modifications (Unclassified)   - / -   - / -    CA6700 / Army Tactical Missile System (ATACMS) Modifications (Unclassified)   - / -   - / -    CA6700 / Army Tactical Missile System (ATACMS) Modifications (Unclassified)   - / -   - / -    CA6700 / Army Tactical Missile System (ATACMS) Modifications (Unclassified)   - / -   - / -    CA6700 / Army Tactical Missile System (ATACMS) Modifications (Unclassified)   - / -   - / -    CA6700 / Army Tactical Missile System (ATACMS) Modifications (Unclassified)   - / -   - / -    CA6700 / Army Tactical Missile System (ATACMS) Modifications (Unclassified)   - / -   - / -    CA6700 / Army Tactical Missile System (ATACMS) Modifications (Unclassified)   - / -   - / -    CA6700 / Army Tactical Missile System (ATACMS) Modifications (Unclassified)   - / -   - / -    CA6700 / Army Tactical Missile System (ATACMS) Modifications (Unclassified)   - / -   - / -    CA6700 / Army Tactical Missile System (ATACMS) Modifications (Unclassified)   -	CA6700 / Army Tactical Missile System (ATACMS) Modifications   CD   CD   CD   CD   CD   CD   CD   C	Title*	Title*

<sup>\*</sup>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.

#### Justification:

FY18 procurement dollars in the amount of \$116.040 million supports the modification of 121 expired ATACMS and resets their 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.

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.

Modification costs in FY18 include components, installation costs, and checkout in the unit price at the time of contract award.

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LI CA6700 - ATACMS MODS Army

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

Exhibit P-3a, Individual Modification: FY 2018 Army		Date: May 2017
Appropriation / Budget Activity / Budget Sub Activity:	P-1 Line Item Number / Title:	Modification Number / Title:
2032A / 03 / 10	CA6700 / ATACMS MODS	CA6700 / Army Tactical Missile System
		(ATACMS) Modifications
l		

ID Code (A=Service Ready, B=Not Service Ready)	:					MDAP/MAI	IS Code:					
	Prior			FY 2018	FY 2018	FY 2018					То	
Resource Summary	Years	FY 2016	FY 2017	Base	oco	Total	FY 2019	FY 2020	FY 2021	FY 2022	Complete	Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	-	20.119	165.943	116.040	-	116.040	-	-	-	-	-	-
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	-	20.119	165.943	116.040	-	116.040	-	-	-	-	-	-
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)		20.119	165.943	116.040	-	116.040	•	-	-	-	-	-
(The following	Resource Sum	mary rows are fo	or informational p	urposes only. Th	ne corresponding	budget requests	s are documente	ed elsewhere.)				
Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	-	-	-	-	-	-	-	-	-	-	-	-

#### **Description:**

Block (BLK) I/IA missiles currently have warheads (WHs) that are non-compliant with the 2008 Department of Defense (DoD) policy on cluster munitions (CM). The modification will be 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 may be introduced under this modification pending test program results under PE 0203802A.

This is the follow-on procurement to the integration and testing program that was funded under Program Element (PE) 0203802A; it will not build any new missiles or add to the overall inventory.

Block (BLK) I/IA missiles currently have warheads (WHs) that are non-compliant with the 2008 Department of Defense (DoD) policy on cluster munitions (CM). The modification will be 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 may 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 FY18 include components, installation costs, and checkout in the unit price at the time of contract award.

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Exhibit P-3a, Individual Modification: F	Y 2018 Arm	ıy							Date: Mag	y 2017		
Appropriation / Budget Activity / Budget 2032A / 03 / 10	et Sub Acti	-	<b>P-1 Line I</b> CA6700 / .						CA6700 /	cion Number Army Tacti S) Modificat	cal Missile	System
ID Code (A=Service Ready, B=Not Service Ready):		,			MD	AP/MAIS Co	ode:					
Models of Systems Affected: ATACMS		Modifi	cation Typ	e: Unclass	sified		Re	lated RDT	&E PEs:			
	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	To Complete	Total
Financial Plan	Qty (Each) I Total Cost (\$ M)	Qty (Each) I Total Cost (\$ M)	Qty (Each) I Total Cost (\$ M									
Procurement												
Modification Item 1 of 1: CM Compliant Warhead												
A Kits												-
Recurring												_
Kit Quantity	0 / 0.000	0 / 0.000	188 / 132.918	121 / 87.588	0 / 0.000	121 / 87.588	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
Project Management Admin	0 / 0.000	0/2.427	0 / 13.062	0 / 15.280	0 / 0.000	0 / 15.280	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
Subtotal: Recurring	- /0.000	- /2.427	- /145.980	- /102.868	- /0.000	- /102.868	- / -	- / -	- / -	- / -	- / -	- / -
Non-Recurring												
Startup/Tooling	0 / 0.000	0 / 17.692	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
Subtotal: Non-Recurring	- /0.000	- /17.692	- /0.000	- /0.000	- /0.000	- /0.000	- / -	- / -	- / -	- / -	- / -	- / -
Subtotal: CM Compliant Warhead	0 / 0.000	0 / 20.119	188 / 145.980	121 / 102.868	0 / 0.000	121 / 102.868	- / -	- / -	- / -	- / -	- / -	- / -
Subtotal: Procurement, All Modification Items	0 / 0.000	0/20.119	188 / 145.980	121 / 102.868	0/0.000	121 / 102.868	- / -	- / -	- / -	- / -	- / -	- / -
Installation												
Modification Item 1 of 1: CM Compliant Warhead	- 1 -	0 / 0.000	188 / 19.963	121 / 13.172	- 1 -	121 / 13.172	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
Subtotal: Installation	- / -	0/0.000	188 / 19.963	121 / 13.172	- / -	121 / 13.172	- / -	- / -	- / -	- / -	- / -	- / -
Total												
Total Cost (Procurement + Support + Installation)	-	20.119	165.943	116.040	-	116.040	-	_	_	-	-	-

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LI CA6700 - ATACMS MODS Page 4 of 5 P-1 Line #16 Army

Exhibit P-3a, Indiv	ridual Modification: FY	′ 2018 Army				<b>Date:</b> May 2017	
<b>Appropriation / Bu</b> 2032A / 03 / 10	udget Activity / Budge	t Sub Activity:	P-1 Line Item Nu CA6700 / ATACM			Modification Numb CA6700 / Army Tact (ATACMS) Modification	ical Missile System
ID Code (A=Service Ready,	, B=Not Service Ready):		•	MDAP/MAIS (	Code:		
Modification Item 1 of	1: CM Compliant Warhead						
Manufacturer Informat	ion						
Manufacturer Name: Loc	ckheed Martin			Manufacturer Location: 0	Camden, AR		
Administrative Leadtime	(in Months): 3			Production Leadtime (in	Months): 15		
Dates	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Contract Dates		Jun 2017	Mar 2018				
Delivery Dates		Dec 2018	Sep 2019				

#### Installation Information

Method of Implementation: TBD

	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	To Complete	Total
Installation Cost	Qty (Each) I Total Cost (\$ M)	Qty (Each) I Total Cost (\$ M										
Prior Years	- 1 -	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2016	- 1 -	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2017	- 1 -	0 / 0.000	188 / 19.963	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2018	- 1 -	0 / 0.000	0 / 0.000	121 / 13.172	- 1 -	121 / 13.172	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2019	- 1 -	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2020	- 1 -	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2021	- 1 -	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2022	- 1 -	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
To Complete	- 1 -	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
Total	- 1 -	0 / 0.000	188 / 19.963	121 / 13.172	- 1 -	121 / 13.172	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -

## Installation Schedule

			FY 2	2016			FY 2	2017			FY 2	2018			FY 2	2019			FY 2	2020			FY 2	021			FY 2	022			
	PYS	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	тс	Tot																
In	-	0	0	0	0	0	0	188	0	0	121	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	309
Out	-	0	0	0	0	0	0	0	0	0	0	0	0	47	47	47	78	30	30	30	0	0	0	0	0	0	0	0	0	0	309

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Exhibit P-40, Budget Line Item Justification: FY 2018 Army

Date: May 2017

Appropriation / Budget Activity / Budget Sub Activity:

P-1 Line Item Number / Title:

2032A: Missile Procurement, Army / BA 03: Modification of Missiles / BSA 10:

C57701 / GMLRS MOD

Modifications

Program Elements for Code B Items: N/A Other Related Program Elements: N/A

Line Item MDAP/MAIS Code: N/A

ID Code (A=Service Ready, B=Not Service Ready):

	Prior			FY 2018	FY 2018	FY 2018					То	
Resource Summary	Years	FY 2016	FY 2017	Base	oco	Total	FY 2019	FY 2020	FY 2021	FY 2022	Complete	Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	-	5.321	0.395	0.531	-	0.531	0.269	15.530	53.182	101.854	19.738	196.820
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	-	5.321	0.395	0.531	-	0.531	0.269	15.530	53.182	101.854	19.738	196.820
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	-	5.321	0.395	0.531	-	0.531	0.269	15.530	53.182	101.854	19.738	196.820
(The following	Resource Sum	mary rows are fo	r informational p	urposes only. Th	ne corresponding	budget request	s are documente	ed elsewhere.)	•			
Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (\$ in Thousands)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	-	-	-	-	-	-	-	-	-	-	-	-

### **Description:**

LI C57701 - GMLRS MOD

This modification effort will execute the inventory requirements established in the Total Army Munitions Requirement (TAMR) 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 consists of three separate increments. GMLRS Purpose Improved Conventional Munition (DPICM) was the first increment. It is a cluster munition that replaced the shorter range MLRS rockets to engage area or imprecisely located targets. GLMRS DPICM Production was terminated in response to the June 2008 Department of Defense (DoD) Cluster Munitions Policy. GMLRS Unitary is the second increment that utilizes a 200 lb high explosive warhead to engage point targets with limited collateral damage. The GMLRS AW rocket is 90% common with the Unitary variant. GMLRS AW is a non-cluster munition developed to replace GMLRS DPICM. The GMLRS AW program entered full rate production in FY15.

The U.S. Army manages all three increments 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.

Secondar	y Distribution	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	5.321	0.395	0.531	-	0.531	0.269	15.530	53.182	101.854
Total:	Quantity	-	-	-	-	-	-	-	-	-
Secondary Distribution	Total Obligation Authority	5.321	0.395	0.531	-	0.531	0.269	15.530	53.182	101.854

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Exhibit P-40, Budget Line Item Justification	<b>n</b> : FY 2018 Army		Date: May 2017					
Appropriation / Budget Activity / Budget S 2032A: Missile Procurement, Army / BA 03: M Modifications		P-1 Line Item Number / Title: C57701 / GMLRS MOD						
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								
Justification: FY 2018 Base procurement dollars in the amount of \$0.4	531 million supports the continuation of the co	onversion test effort.						
In accordance with Section 1815 of the FY2008 National defense missions, domestic emergency responses, and	Il Defense Authorization Act (P.L. 110-181), the providing military support to civil authorities.	is item is necessary for the	he use by the active and reserve components of the Armed Forces for homeland					

 LI C57701 - GMLRS MOD
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 Army
 Page 2 of 2
 P-1 Line #17

Exhibit P-40, Budget Line Item Justification: FY 2018 Army Date: May 2017

Appropriation / Budget Activity / Budget Sub Activity:

P-1 Line Item Number / Title:

2032A: Missile Procurement, Army / BA 03: Modification of Missiles / BSA 10:

Modifications

C20000 / Stinger Mods

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

Line Item MDAP/MAIS Code: N/A

	Prior			FY 2018	FY 2018	FY 2018					То	
Resource Summary	Years	FY 2016	FY 2017	Base	oco	Total	FY 2019	FY 2020	FY 2021	FY 2022	Complete	Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	202.995	2.216	6.578	63.090	28.000	91.090	66.213	72.220	1.470	3.100	-	445.882
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	202.995	2.216	6.578	63.090	28.000	91.090	66.213	72.220	1.470	3.100	-	445.882
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	202.995	2.216	6.578	63.090	28.000	91.090	66.213	72.220	1.470	3.100	-	445.882
(The following	Resource Sumi	mary rows are fo	r informational p	ourposes only. Th	ne corresponding	budget request	s are documente	d elsewhere.)	•			
Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (\$ in Thousands)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	-	-	-	-	-	-	-	-	-	-	-	-

### **Description:**

The Stinger Block I missile is an advanced, fire-and-forget, short-range, man-portable, air defense weapon system. Stinger's mission is to provide the force with low-altitude air defense against fixed and rotary wing aircraft, unmanned aircraft systems (UAS) and cruise missiles (CM). Stinger employs an infrared (heat seeking)/ultraviolet seeker to guide to the target. Stinger Block I has extensive infrared counter-countermeasure capabilities and can engage targets from any aspect to include head-on. The missile utilizes a high-explosive, hit-to-kill warhead. Stinger can be fired from the shoulder or from a variety of platforms to include vehicles, helicopters and UAS. The missile is delivered as a certified round and requires no field testing or maintenance. The Service Life Extension Program (SLEP) extends the life of the Stinger Block I missile up to 10 years by providing a more viable asset to the Army's inventory. The addition of a target detection device (TDD) to the current fuze will provide proximity capability and improved effectiveness against UAS threats, eliminating the need for "hit to kill".

Secondar	ry Distribution	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	2.216	6.578	63.090	28.000	91.090	66.213	72.220	1.470	3.100
Total:	Quantity	-	-	-	-	-	-	-	-	-
Secondary Distribution	Total Obligation Authority	2.216	6.578	63.090	28.000	91.090	66.213	72.220	1.470	3.100

LI C20000 - Stinger Mods
Army

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Page 1 of 5
P-1 Line #18

Exhibit P-40, Budget Line Item Justification: FY 2018 Army		Date: May 2017
Appropriation / Budget Activity / Budget Sub Activity:	P-1 Line Item Number / Title:	
2032A: Missile Procurement, Army / BA 03: Modification of Missiles / BSA 10:	C20000 / Stinger Mods	
Modifications		

ID Code (A=Service Ready, B=Not Service Ready):

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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/ MAIS Code	Quantity / Total Cost (Each) / (\$ M)					
P-3a	C21300 / Stinger Service Life Extension Program (SLEP) (TBD)				- / 202.995	- /2.216	- / 6.578	- / 63.090	- /28.000	- / 91.090
P-40	Total Gross/Weapon System Cost		- / 202.995	- / 2.216	- / 6.578	- / 63.090	- / 28.000	- / 91.090		
	Exhibits Schedule					FY 2020	FY 2021	FY 2022	To Complete	Total
Exhibit Type				Quantity / Total Cost (Each) / (\$ M)						
P-3a	C21300 / Stinger Service Life Extension Program (SLEP) (TBD)				- / -	- / -	- / -	- / -	- / -	- / -
P-40 Total Gross/Weapon System Cost					- / 66.213	- / 72.220	- / 1.470	- / 3.100	- 1 -	- / 445.882

<sup>\*</sup>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:

FY18 Base funding in the amount of \$63.090 million supports the Service Life Extension Program (SLEP) of an additional 1,147 missiles.

FY18 OCO funding in the amount of \$28.000 million supports the European Reassurance Initiative (ERI) requirement for Stinger Block 1 Missiles. The Army and ERI Stinger Block 1 Missiles (Qty 576) will undergo the current Stinger SLEP to include the integration of the Proximity Fuze.

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.

LI C20000 - Stinger Mods
Army

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P-1 Line #18

Exhibit P-3a, Individual Modification: FY 2018 Army	<b>Date</b> : May 2017	
Appropriation / Budget Activity / Budget Sub Activity: 2032A / 03 / 10	P-1 Line Item Number / Title: C20000 / Stinger Mods	Modification Number / Title: C21300 / Stinger Service Life Extension Program (SLEP)

ID Code (A=Service Ready, B=Not Service Ready)	:					MDAP/MAIS Code:						
	Prior			FY 2018	FY 2018	FY 2018					То	
Resource Summary	Years	FY 2016	FY 2017	Base	oco	Total	FY 2019	FY 2020	FY 2021	FY 2022	Complete	Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	202.995	2.216	6.578	63.090	28.000	91.090	-	-	-	-	-	-
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	202.995	2.216	6.578	63.090	28.000	91.090	-	-	-	-	-	-
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	202.995	2.216	6.578	63.090	28.000	91.090	-	-	-	-	-	-
(The following	Resource Sumi	mary rows are fo	or informational p	urposes only. Th	ne corresponding	budget request	s are documente	ed 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, air defense weapon system. Stinger's mission is to provide the force with low-altitude air defense against fixed and rotary wing aircraft, unmanned aircraft systems (UAS) and cruise missiles (CM). Stinger employs an infrared (heat seeking)/ultraviolet seeker to guide to the target. Stinger Block I has extensive infrared counter-countermeasure capabilities and can engage targets from any aspect to include head-on. The missile utilizes a high-explosive, hit-to-kill warhead. Stinger can be fired from the shoulder or from a variety of platforms to include vehicles, helicopters and UAS. The missile is delivered as a certified round and requires no field testing or maintenance. The Service Life Extension Program (SLEP) extends the life of the Stinger Block I missile up to 10 years by providing a more viable asset to the Army's inventory. The addition of a target detection device (TDD) to the current fuze will provide proximity capability and improved effectiveness against UAS threats, eliminating the need for "hit to kill".

Seconda	ry Distribution	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	2.216	6.578	63.090	28.000	91.090	-	-	-	-
Total:	Quantity	-	-	-	-	-	-	=	-	-
Secondary Distribution	Total Obligation Authority	2.216	6.578	63.090	28.000	91.090	-	-	-	-

LI C20000 - Stinger Mods
Army

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P-1 Line #18

				ONOLA								
Exhibit P-3a, Individual Modification: F	Y 2018 Arm	y							Date: May	/ 2017		
Appropriation / Budget Activity / Budget 2032A / 03 / 10	et Sub Acti	vity:		<b>tem Numb</b> Stinger Mo					Modification Number / Title: C21300 / Stinger Service Life Extension Program (SLEP)			
ID Code (A=Service Ready, B=Not Service Ready):				MD	AP/MAIS Co	ode:						
Models of Systems Affected: FIM-92E S Missile	Stinger Bloc	k I <b>Modifi</b>	cation Typ	e: TBD	,	_	Re	lated RDT	&E PEs:			
	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	To Complete	Total
Financial Plan	Qty (Each) I Total Cost (\$ M)	Qty (Each) I Total Cost (\$ M)	Qty (Each) I Total Cost (\$ M)	Qty (Each) I Total Cost (\$ M								
Procurement							'	'		'		
<b>Modification Item 1 of 1:</b> Stinger Service Life Extension Program (SLEP)												
A Kits												
Recurring												
Hardware	850 / 196.085	0 / 0.000	119 / 5.863	1,147 / 56.233	576 / 24.121	1,723 / 80.354	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
Engineering Services	0 / 0.762	0 / 0.489	0 / 0.132	0 / 1.261	0 / 1.109	0 / 2.370	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
Govt PM/Admin Support	0 / 1.651	0 / 0.381	0 / 0.197	0 / 1.893	0 / 0.831	0 / 2.724	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
Other Flyaway Support	0 / 4.497	0 / 1.023	0 / 0.329	0 / 3.155	0 / 1.664	0 / 4.819	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
Subtotal: Recurring	- /202.995	- /1.893	- /6.521	- /62.542	- /27.725	- /90.267	- / -	- / -	- / -	- / -	- / -	- / -
Subtotal: Stinger Service Life Extension Program (SLEP)	850 / 202.995	0/1.893	119 / 6.521	1,147 / 62.542	576 / 27.725	1,723 / 90.267	- / -	- / -	- / -	- / -	- / -	- / -
Subtotal: Procurement, All Modification Items	850 / 202.995	0/1.893	119 / 6.521	1,147 / 62.542	576 / 27.725	1,723 / 90.267	- / -	- / -	- / -	- / -	- / -	- / -
Installation												
Modification Item 1 of 1: Stinger Service Life Extension Program (SLEP)	0 / 0.000	850 / 0.323	119 / 0.057	1,147 / 0.548	576 / 0.275	1,723 / 0.823	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
Subtotal: Installation	0 / 0.000	850 / 0.323	119 / 0.057	1,147 / 0.548	576 / 0.275	1,723 / 0.823	- / -	- / -	- / -	- / -	- / -	- / -
Total												
Total Cost (Procurement + Support + Installation)	202.995	2.216	6.578	63.090	28.000	91.090	-	-	-	-	-	-

LI C20000 - Stinger Mods
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P-1 Line #18

Exhibit P-3a, Indi	vidual Modification: F	Y 2018 Army				Date: May 2017				
Appropriation / B 2032A / 03 / 10	udget Activity / Budge	et Sub Activity:	P-1 Line Item Nu C20000 / Stinger			Modification Number / Title: C21300 / Stinger Service Life Extension Program (SLEP)				
ID Code (A=Service Read	ly, B=Not Service Ready):			MDAP/MAIS C	Code:					
Modification Item 1 of	f 1: Stinger Service Life Exter	nsion Program (SLEP)								
Manufacturer Informa	ition									
Manufacturer Name: M	cAlester Army Ammunition P	lant		Manufacturer Location: N	McAlester, OK					
Administrative Leadtime	e (in Months): 3			Production Leadtime (in Months): 21						
Dates	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022			
Contract Dates	Jan 2014	Jun 2017	Oct 2017							
Delivery Dates	Oct 2015	Jul 2018	Nov 2018							

### Installation Information

Method of Implementation: Depot Upgrade

	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	To Complete	Total
Installation Cost	Qty (Each) I Total Cost (\$ M)											
Prior Years	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2016	0 / 0.000	850 / 0.323	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2017	0 / 0.000	0 / 0.000	119 / 0.057	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2018	0 / 0.000	0 / 0.000	0 / 0.000	1,147 / 0.548	576 / 0.275	1,723 / 0.823	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2019	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2020	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2021	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2022	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
To Complete	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
Total	0 / 0.000	850 / 0.323	119 / 0.057	1,147 / 0.548	576 / 0.275	1,723 / 0.823	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -

## Installation Schedule

			FY 2	2016			FY 2	2017			FY 2	2018			FY 2	019			FY 2	2020			FY 2	2021			FY 2	2022			
	PYS	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	TC	Tot
In	850	0	0	0	0	0	0	59	60	287	287	287	286	240	336	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,692
Out	425	425	0	0	0	0	0	59	60	287	287	287	286	240	336	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,692

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Army

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Exhibit P-40, Budget Line Item Justification: FY 2018 Army

Date: May 2017

Appropriation / Budget Activity / Budget Sub Activity:

P-1 Line Item Number / Title:

2032A: Missile Procurement, Army / BA 03: Modification of Missiles / BSA 10:

CE8710 / AVENGER MODS

Modifications

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

Line Item MDAP/MAIS Code: N/A															
Resource Summary	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	To Complete	Total			
Procurement Quantity (Units in Each)	-	-	-	-	-	-	-	-	-	-	-	-			
Gross/Weapon System Cost (\$ in Millions)	56.334	6.171	35.979	62.931	-	62.931	31.434	14.377	14.304	11.452	Continuing	Continuing			
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-			
Net Procurement (P-1) (\$ in Millions)	56.334	6.171	35.979	62.931	-	62.931	31.434	14.377	14.304	11.452	Continuing	Continuing			
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-			
Total Obligation Authority (\$ in Millions)	56.334	6.171	35.979	62.931	-	62.931	31.434	14.377	14.304	11.452	Continuing	Continuing			
(The following	Resource Sumi	mary rows are fo	or informational p	urposes only. Th	ne corresponding	g budget request	s are documente	d elsewhere.)							
Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-			
Flyaway Unit Cost (\$ in Thousands)	-	-	-	-	-	-	-	-	-	-	-	-			
Gross/Weapon System Unit Cost (\$ in Thousands)	-	-	-	-	-	-	-	-	-	-	-	-			

### **Description:**

The Avenger Air Defense System is a lightweight, highly mobile surface-to-air missile and gun weapon system mounted on a High Mobility Multi-purpose Wheeled Vehicle (HMMWV). The system employs a canopied turret consisting of a gunner position, two gyro-stabilized missile launcher pods containing four Stinger missiles each, a Forward Looking Infrared Receiver (FLIR), a Laser Range Finder (LRF), an Identification, Friend or Foe (IFF) system and a very high rate of fire .50 caliber machine gun (M3P). The gun system is used against ground targets and to cover the Stinger missile dead-zone. Avenger is capable of day/night and adverse weather conditions; can be transported by UH-60L Blackhawk helicopter or C-130 aircraft; is air-droppable and can shoot on the move. The system can also be operated by remote control from a protected position up to 50 meters away from the fire unit.

The Avenger system is operated by a two-man crew and is used to counter Unmanned Aerial Systems (UASs), cruise missiles, and fixed wing/rotary wing aircraft. Avenger fills the line-of-sight rear component of the Forward Area Air Defense (FAAD) system. Funds procurement portion of Avenger Modification program to maintain system relevance in a configuration that is sustainable against multiple threats through FY2031. The Avenger Modification program keeps Avenger sustainable and relevant until replaced by the Indirect Fire Protection Capability Increment 2-Intercept (IFPC Inc 2-I) solution which will be fully fielded in FY31.

The Targeting Console (TC) is a required subsystem that provides the gunner with information and controls necessary to carry out the short range Air Defense Mission. The current Targeting Console is not supportable beyond FY18. This program will fund replacement and upgrade of the TC on the Slew-to-cue (STC) units that will be able to handle the increased targeting capability realized with the latest version of the FAAD early warning network.

The M3P.50 CAL machine gun is required to provide the Avenger crew with self-protection inside of the missile dead zone coverage. The M3Ps currently fielded to Air Defense Artillery (ADA) units are not supportable through FY31. This program will allow for the procurement of new M3Ps to ensure that Avenger units maintain their self-protection capability until a replacement system is fielded.

The Vehicle Internal Communications (VIC) System is a required subsystem that allows communication between the gunner and driver. It also interfaces with the Identification Friend or Foe (IFF) and missile electronics resulting in improved IFF capabilities. The updated VIC replaces the Voice Intercom System I (AN/VIC-I) 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 FY31. The AFCC-Revised (AFCC-R) will undergo software and hardware upgrades that will enable the system to handle

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Page 1 of 14 P-1 Line #19

Exhibit P-40, Budget Line Item Justification: FY 2018 Army

Date: May 2017

Appropriation / Budget Activity / Budget Sub Activity:

P-1 Line Item Number / Title:

2032A: Missile Procurement, Army / BA 03: Modification of Missiles / BSA 10:

CE8710 / AVENGER MODS

Modifications

Program Elements for Code B Items: N/A Other Related Program Elements: N/A

Line Item MDAP/MAIS Code: N/A

ID Code (A=Service Ready, B=Not Service Ready):

increased targeting capability realized with the latest version of the Forward Area Air Defense (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 compromised Mode 4 which will no longer be supported beyond 2020. 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. The ECU/PPU removes restrictions on operational use of Avenger in hot climates. This modification fulfills the user requirement for a separate, reliable power source and for heat and air conditioning to fully operate in a broad spectrum of combat environments (i.e., desert).

Secondar	ry Distribution	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	6.171	35.979	62.931	-	62.931	31.434	14.377	14.304	11.452
Total:	Quantity	-	-	-	-	-	-	-	-	-
Secondary Distribution	Total Obligation Authority	6.171	35.979	62.931	-	62.931	31.434	14.377	14.304	11.452

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Exhibit P-40, Budget Line Item Justification: FY 2018	3 Army		Date: May 2017
Appropriation / Budget Activity / Budget Sub Activity	y:	P-1 Line Item Number / Tit	le:
2032A: Missile Procurement, Army / BA 03: Modification	of Missiles / BSA 10:	CE8710 / AVENGER MODS	<b>;</b>
Modifications			
ID Code (A=Service Ready, B=Not Service Ready)*	Program Flements for Code B It	tems: N/A	Other Related Program Flements: N/A

Line Item MDAP/MAIS Code: N/A

	Exhibits Schedule				Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Exhibit Type	Title* Subs	pexhibits	ID CD	MDAP/ MAIS Code	Quantity / Total Cost (Each) / (\$ M)					
P-3a	CE8710 / Avenger Modification (Operational)				- / 56.334	- /6.171	- / 35.979	- / 62.931	- / -	- / 62.931
P-40	Total Gross/Weapon System Cost			- / 56.334	- / 6.171	- / 35.979	- / 62.931	- 1 -	- / 62.931	
Exhibits Schedule					FY 2019	FY 2020	FY 2021	FY 2022	To Complete	Total
Exhibit Type	Exhibit ID ME				Quantity / Total Cost (Each) / (\$ M)					
P-3a	3a CE8710 / Avenger Modification (Operational)				- / -	- / -	- / -	- / -	- / -	- / -
P-40	Total Gross/Weapon System Cost		- / 31.434	- / 14.377	- / 14.304	- / 11.452	Continuing	Continuing		

<sup>\*</sup>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 2018 procurement dollars in the amount of \$62.931 million support the acquisition of components of the Avenger modification program. These funds procure updated Avenger Line Replaceable Units (LRUs) to ensure that Avenger is viable and sustainable through the Fiscal Year (FY) 2031 timeframe when Avenger leaves the force.

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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Appropriation / Budget Activity / Budget Sub Activity: 2032A / 03 / 10  P-1 Line Item Number / Title: CE8710 / AVENGER MODS  Modification Number / Title: CE8710 / Avenger Modification	Exhibit P-3a, Individual Modification: FY 2018 Army	<b>Date</b> : May 2017

ID Code (A=Service Ready, B=Not Service Ready)	:					MDAP/MA	IS Code:					
Resource Summary	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	To Complete	Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	56.334	6.171	35.979	62.931	-	62.931	-	-	-	-	-	-
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	56.334	6.171	35.979	62.931	-	62.931	-	-	-	-	-	-
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	56.334	6.171	35.979	62.931	-	62.931	-	-	-	-	-	-
(The following	Resource Sum	mary rows are fo	or informational p	urposes only. Th	ne corresponding	budget request	s are documente	ed elsewhere.)		:		
Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	-	-	-	-	-	-	-	-	-	-	-	-

### **Description:**

LI CE8710 - AVENGER MODS

The Avenger Modification program keeps Avenger sustainable and relevant until replaced by the Indirect Fire Protection Capability Increment 2- Intercept (IFPC Inc 2-I) solution which will be fully fielded in FY31. The Avenger Fire Control Computer (AFCC) will undergo software and hardware upgrades that will enable the system to handle increased targeting capability realized with the latest version of the Forward Area Air Defense (FAAD) early warning system and ensure the system meets the latest Information Assurance (IA) requirements. The Vehicle Internal Communications (VIC) system will be upgraded from analog to digital. Mode 5 IFF cooperative target identification functions will be added to improve the system IFF capabilities. New targeting consoles will be placed on the Slew-to-cue (STC) Avengers only. Newly redesigned components of the Environmental Control Unit/Prime Power Units (ECU/PPU) will be procured for all Active components.

These funds are provided to procure updated Avenger Line Replaceable Units (LRUs) to ensure that Avenger is viable and sustainable until Avenger leaves the force in the Fiscal Year (FY) 2031 timeframe. Army Avengers.

Seconda	ary Distribution	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	6.171	35.979	62.931	-	62.931	-	-	-	-
Total:	Quantity	-	-	-	-	-	=	-	-	-
Secondary Distribution To	Total Obligation Authority	6.171	35.979	62.931	-	62.931	-	-	-	-

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Army Page 4 of 14 P-1 Line #19

Exhibit P-3a, Individual Modification: FY 2018 Army

Appropriation / Budget Activity / Budget Sub Activity:

2032A / 03 / 10

P-1 Line Item Number / Title:
CE8710 / AVENGER MODS

MDAP/MAIS Code:

MDAP/MAIS Code:

Models of Systems Affected: Avenger Basic and
Slaveta Gue Systems

Related RDT&E PEs:

	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	To Complete	Total
Financial Plan	Qty (Each) I Total Cost (\$ M)	Qty (Each) Total Cost (\$										
rocurement												
Modification Item 1 of 7: Prior Modifications												
A Kits												
Recurring												
Prior Year Modifications	170 / 48.694	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1
Subtotal: Recurring	- /48.694	- /0.000	- /0.000	- /0.000	- /0.000	- /0.000	- / -	- / -	- / -	- / -	- / -	- /
Subtotal: Prior Modifications	170 / 48.694	0/0.000	0 / 0.000	0/0.000	0/0.000	0/0.000	- / -	- / -	- / -	- / -	- / -	- /
Modification Item 2 of 7: M3P Machine Gun				l I	I	I		I I			]	
A Kits												
Recurring												
Equipment	0 / 0.000	126 / 5.531	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1
Spares/Repair Parts	0 / 0.000	0 / 0.187	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1
Engineering Services	0 / 0.000	0 / 0.062	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1
System Engineering/Program Management	0 / 0.000	0 / 0.338	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1
Subtotal: Recurring	- /0.000	- /6.118	- /0.000	- /0.000	- /0.000	- /0.000	- / -	- / -	- / -	- / -	- / -	- /
Subtotal: M3P Machine Gun	0 / 0.000	126 / 6.118	0 / 0.000	0/0.000	0/0.000	0/0.000	- / -	- / -	- / -	- / -	- / -	- /
<b>Modification Item 3 of 7:</b> Voice Intercommunication System				1				1			1	
A Kits												
Recurring												
Equipment	0 / 0.000	0 / 0.000	0 / 0.000	196 / 4.371	0 / 0.000	196 / 4.371	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1
Spares/Repair Parts	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.907	0 / 0.000	0 / 0.907	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1
Transportation	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.082	0 / 0.000	0 / 0.082	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1
New Equipment Training	0 / 0.000	0 / 0.000	0 / 0.000	0/0.742	0 / 0.000	0 / 0.742	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1
Engineering Services	0 / 0.000	0 / 0.000	0 / 0.000	0 / 1.155	0 / 0.000	0 / 1.155	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1
System Engineering/Program Management	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.990	0 / 0.000	0 / 0.990	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1
Subtotal: Recurring	- /0.000	- /0.000	- /0.000	- /8.247	- /0.000	- /8.247	- / -	- / -	- / -	- / -	- / -	- /
Subtotal: Voice Intercommunication System	0 / 0.000	0/0.000	0/0.000	196 / 8.247	0/0.000	196 / 8.247	- / -	- / -	- / -	- / -	- / -	- /
<b>Modification Item 4 of 7:</b> Avenger Fire Control Computer												
A Kits												

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Exhibit P-3a, Individual Modification: FY 2018 Army

Appropriation / Budget Activity / Budget Sub Activity:
2032A / 03 / 10

P-1 Line Item Number / Title:
CE8710 / AVENGER MODS

Date: May 2017

Modification Number / Title:
CE8710 / AVENGER MODS

CE8710 / Avenger Modification

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

Models of Systems Affected: Avenger Basic andModification Type: OperationalRelated RDT&E PEs:

Slew-to-Cue Systems

	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	To Complete	Total
Financial Plan	Qty (Each) I Total Cost (\$ M)	Qty (Each) I Total Cost (\$ A										
Recurring												
Equipment	0 / 0.000	0 / 0.000	0 / 0.000	170 / 15.851	0 / 0.000	170 / 15.851	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
Spares/Repair Parts	0 / 0.000	0 / 0.000	0 / 0.000	0 / 2.033	0 / 0.000	0 / 2.033	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1
Transportation	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.695	0 / 0.000	0 / 0.695	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1
Engineering Services	0 / 0.000	0 / 0.000	0 / 0.000	0 / 3.512	0 / 0.000	0 / 3.512	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1
System Engineering/Program Management	0 / 0.000	0 / 0.000	0 / 0.000	0 / 1.674	0 / 0.000	0 / 1.674	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1
Subtotal: Recurring	- /0.000	- /0.000	- /0.000	- /23.765	- /0.000	- /23.765	- / -	- / -	- / -	- / -	- / -	- /
Subtotal: Avenger Fire Control Computer	0 / 0.000	0 / 0.000	0/0.000	170 / 23.765	0 / 0.000	170 / 23.765	- / -	- / -	- / -	- / -	- / -	- /
<b>Modification Item 5 of 7:</b> Mode 5/Identification Friend or Foe												
A Kits												
Recurring												
Equipment	0 / 0.000	0 / 0.000	131 / 29.464	161 / 16.849	0 / 0.000	161 / 16.849	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1
Spares/Repair Parts	0 / 0.000	0 / 0.000	0 / 1.216	0 / 0.789	0 / 0.000	0 / 0.789	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1
Transportation	0 / 0.000	0 / 0.000	0 / 0.231	0 / 0.141	0 / 0.000	0 / 0.141	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1
New Equipment Training	0 / 0.000	0 / 0.000	0 / 0.000	0 / 2.751	0 / 0.000	0 / 2.751	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1
Engineering Services	0 / 0.000	0 / 0.000	0 / 1.277	0 / 1.047	0 / 0.000	0 / 1.047	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1
System Engineering/Program Management	0 / 0.000	0 / 0.000	0 / 2.173	0 / 3.508	0 / 0.000	0 / 3.508	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1
Systems Engineering	0 / 0.000	0 / 0.000	0 / 0.278	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1
Subtotal: Recurring	- /0.000	- /0.000	- /34.639	- /25.085	- /0.000	- /25.085	- / -	- / -	- / -	- / -	- / -	- /
Subtotal: Mode 5/Identification Friend or Foe	0 / 0.000	0 / 0.000	131 / 34.639	161 / 25.085	0 / 0.000	161 / 25.085	- / -	- / -	- / -	- / -	- / -	- /
Modification Item 6 of 7: Targeting Console					'	'			'		'	
A Kits												
Recurring												
Equipment	170 / 4.077	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1
Spares/Repair Parts	0 / 0.182	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1
New Equipment Training	0 / 0.022	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1
Engineering Services	0 / 0.441	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1
System Engineering/Program Management	0 / 0.889	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1
Subtotal: Recurring	- /5.611	- /0.000	- /0.000	- /0.000	- /0.000	- /0.000	- / -	- / -	- / -	- / -	- / -	- /
Subtotal: Targeting Console	170 / 5.611	0 / 0.000	0/0.000	0/0.000	0 / 0.000	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- /

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Exhibit P-3a, Individual Modification: FY 2018 Army

Appropriation / Budget Activity / Budget Sub Activity:
2032A / 03 / 10

P-1 Line Item Number / Title:
CE8710 / AVENGER MODS

Date: May 2017

Modification Number / Title:
CE8710 / AVENGER MODS

CE8710 / Avenger Modification

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

Models of Systems Affected: Avenger Basic and Modification Type: Operational Related RDT&E PEs:

Slew-to-Cue Systems

	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	To Complete	Total
Financial Plan	Qty (Each) I Total Cost (\$ M)											
<b>Modification Item 7 of 7:</b> Environmental Control Unit/ Prime Power Unit						-					-	
A Kits												
Recurring												
Equipment	0 / 0.000	0 / 0.000	0 / 0.000	126 / 1.043	0 / 0.000	126 / 1.043	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
Spares/Repair Parts	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.168	0 / 0.000	0 / 0.168	- 1 -	- 1 -	- 1 -	- / -	- 1 -	- 1 -
Transportation	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.108	0 / 0.000	0 / 0.108	- 1 -	- 1 -	- 1 -	- / -	- 1 -	- 1 -
New Equipment Training	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.241	0 / 0.000	0/0.241	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
Engineering Services	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.021	0 / 0.000	0 / 0.021	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
System Engineering/Program Management	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.387	0 / 0.000	0 / 0.387	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
Subtotal: Recurring	- /0.000	- /0.000	- /0.000	- /1.968	- /0.000	- /1.968	- / -	- / -	- / -	- / -	- / -	- / -
Subtotal: Environmental Control Unit/Prime Power Unit	0 / 0.000	0/0.000	0/0.000	126 / 1.968	0 / 0.000	126 / 1.968	- / -	- / -	- / -	- / -	- / -	- / -
Subtotal: Procurement, All Modification Items	340 / 54.305	126 / 6.118	131 / 34.639	653 / 59.065	0/0.000	653 / 59.065	- / -	- / -	- / -	- / -	- / -	- / -
Installation												
Modification Item 1 of 7: Prior Modifications	170 / 2.029	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
Modification Item 2 of 7: M3P Machine Gun	0 / 0.000	126 / 0.037	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
Modification Item 3 of 7: Voice Intercommunication System	0 / 0.000	0 / 0.000	0 / 0.000	196 / 0.344	- 1 -	196 / 0.344	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
Modification Item 4 of 7: Avenger Fire Control Computer	0 / 0.000	0 / 0.000	0 / 0.000	170 / 1.190	- 1 -	170 / 1.190	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
<b>Modification Item 5 of 7:</b> Mode 5/Identification Friend or Foe	0 / 0.000	0 / 0.000	131 / 1.340	161 / 1.690	- 1 -	161 / 1.690	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
Modification Item 6 of 7: Targeting Console	0 / 0.000	170 / 0.016	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
<b>Modification Item 7 of 7:</b> Environmental Control Unit/ Prime Power Unit	0 / 0.000	0 / 0.000	0 / 0.000	126 / 0.642	- 1 -	126 / 0.642	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
Subtotal: Installation	170 / 2.029	296 / 0.053	131 / 1.340	653 / 3.866	- / -	653 / 3.866	- / -	- / -	- / -	- / -	- / -	- / -
Total												
Total Cost (Procurement + Support + Installation)	56.334	6.171	35.979	62.931	_	62.931	-	-	_	_	_	_

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Exhibit P-3a, Indiv	idual Modification: F	Y 2018 Army				Date: May 2017	
<b>Appropriation / Bu</b> 2032A / 03 / 10	dget Activity / Budge	et Sub Activity:	P-1 Line Item Nu CE8710 / AVENG			Modification Numb	
ID Code (A=Service Ready,	B=Not Service Ready):		•	MDAP/MAIS (	Code:	•	
Modification Item 1 of 7	7: Prior Modifications						
Manufacturer Informati	on						
Manufacturer Name: Not	Applicable			Manufacturer Location: I	Not Applicable		
Administrative Leadtime	(in Months):			Production Leadtime (in	Months):		
Dates	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Contract Dates							
Delivery Dates							

### Installation Information

Method of Implementation: Not Applicable

	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	To Complete	Total
Installation Cost	Qty (Each) I Total Cost (\$ M)											
Prior Years	170 / 2.029	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2016	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2017	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2018	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2019	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2020	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2021	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2022	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
To Complete	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
Total	170 / 2.029	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -

## Installation Schedule

			FY 2	2016			FY 2	2017			FY 2	2018			FY 2	2019			FY 2	2020			FY 2	2021			FY 2	022			
	PYS	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	тс	Tot																				
In	170	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	,	
Out	170	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

**UNCLASSIFIED** 

Exhibit P-3a, Indiv	vidual Modification: F	Y 2018 Army				<b>Date</b> : May 2017	
Appropriation / B 2032A / 03 / 10	udget Activity / Budge	et Sub Activity:	P-1 Line Item Nu CE8710 / AVENC			Modification Numb CE8710 / Avenger M	
ID Code (A=Service Read	y, B=Not Service Ready):			MDAP/MAIS C	Code:		
Modification Item 2 of	7: M3P Machine Gun						
Manufacturer Informa	tion						
Manufacturer Name: FN	N Herstal			Manufacturer Location: \	/irginia, South Carolina		
Administrative Leadtime	e (in Months): 1			Production Leadtime (in	Months): 5		
Dates	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Contract Dates		Feb 2016					
Delivery Dates		Sep 2016					

### Installation Information

Method of Implementation: Replacement in Field

	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	To Complete	Total
Installation Cost	Qty (Each) I Total Cost (\$ M)	Qty (Each) I Total Cost (\$ M										
Prior Years	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2016	0 / 0.000	126 / 0.037	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2017	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2018	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2019	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2020	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2021	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2022	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
To Complete	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
Total	0 / 0.000	126 / 0.037	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- / -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -

### Installation Schedule

				FY 2	2016			FY 2	2017			FY 2	018			FY 2	2019			FY 2	2020			FY 2	2021			FY 2	022			
		PYS	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	тс	Tot
In	1	-	0	0	0	126	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	,	
0	ut	-	0	0	0	126	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

**UNCLASSIFIED** 

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Exhibit P-3a, Indi	vidual Modification: F	Y 2018 Army				<b>Date:</b> May 2017	
<b>Appropriation / B</b> 2032A / 03 / 10	udget Activity / Budge	et Sub Activity:	P-1 Line Item Nu CE8710 / AVENG			Modification Numb CE8710 / Avenger M	
ID Code (A=Service Read	y, B=Not Service Ready):		•	MDAP/MAIS C	ode:	•	
Modification Item 3 of	7: Voice Intercommunication	n System					
Manufacturer Informa	tion						
Manufacturer Name: C	ECOM Managed Item			Manufacturer Location: T	obyhanna, PA		
Administrative Leadtime	e (in Months): 1			Production Leadtime (in I	Months): 9		
Dates	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Contract Dates			Aug 2018				
Delivery Dates			May 2019				

### Installation Information

Method of Implementation: Contractor Field Service Representative (CFSR) Installation

	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	To Complete	Total
Installation Cost	Qty (Each) I Total Cost (\$ M)											
Prior Years	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2016	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2017	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2018	0 / 0.000	0 / 0.000	0 / 0.000	196 / 0.344	- 1 -	196 / 0.344	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2019	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2020	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2021	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2022	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
To Complete	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
Total	0 / 0.000	0 / 0.000	0 / 0.000	196 / 0.344	- 1 -	196 / 0.344	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -

### Installation Schedule

			FY 2	2016			FY 2	2017			FY 2	2018			FY 2	2019			FY 2	2020			FY 2	021			FY 2	022			
	PYS	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	TC	Tot																
In	-	0	0	0	0	0	0	0	0	0	0	0	98	98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	197	393
Out	-	0	0	0	0	0	0	0	0	0	0	0	98	98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	197	393

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LI CE8710 - AVENGER MODS Page 10 of 14 P-1 Line #19 Army

Exhibit P-3a, Indiv	/idual Modification: F	Y 2018 Army				<b>Date:</b> May 2017	
Appropriation / Bi 2032A / 03 / 10	udget Activity / Budge	et Sub Activity:	P-1 Line Item Nu CE8710 / AVENG			Modification Numb CE8710 / Avenger N	
ID Code (A=Service Ready	y, B=Not Service Ready):			MDAP/MAIS (	Code:	,	
Modification Item 4 of	7: Avenger Fire Control Con	nputer					
Manufacturer Informat	tion						
Manufacturer Name: Bo	peing			Manufacturer Location: I	Everett, Washington		
Administrative Leadtime	e (in Months): 1			Production Leadtime (in	Months): 9		
Dates	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Contract Dates			Nov 2017				
Delivery Dates			Jul 2018				

### Installation Information

Method of Implementation: Integration and Installation in the Field

	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	To Complete	Total
Installation Cost	Qty (Each) I Total Cost (\$ M)											
Prior Years	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2016	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2017	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2018	0 / 0.000	0 / 0.000	0 / 0.000	170 / 1.190	- 1 -	170 / 1.190	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2019	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2020	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2021	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2022	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
To Complete	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
Total	0 / 0.000	0 / 0.000	0 / 0.000	170 / 1.190	- 1 -	170 / 1.190	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -

#### Installation Schedule

			FY 2	2016			FY 2	2017			FY 2	2018			FY 2	2019			FY 2	2020			FY 2	021			FY 2	022			
	PYS	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	TC	Tot																
In	-	0	0	0	0	0	0	0	0	0	0	0	80	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	170
Out	-	0	0	0	0	0	0	0	0	0	0	0	80	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	170

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P-1 Line #19

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Exhibit P-3a, Indiv	vidual Modification: F	Y 2018 Army				Date: May 2017	
Appropriation / Bu 2032A / 03 / 10	udget Activity / Budge	et Sub Activity:	P-1 Line Item Nu CE8710 / AVENG			Modification Numb CE8710 / Avenger N	
ID Code (A=Service Ready	, B=Not Service Ready):			MDAP/MAIS	Code:		
Modification Item 5 of	7: Mode 5/Identification Frie	nd or Foe		<u>.</u>			
Manufacturer Informat	tion						
Manufacturer Name: Bo	peing			Manufacturer Location:	Everett, Washington		
Administrative Leadtime	e (in Months): 1			Production Leadtime (in	Months): 5		
Dates	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Contract Dates		Jan 2017	Nov 2017				
Delivery Dates		May 2017	Apr 2018				

### Installation Information

Method of Implementation: Contractor Field Service Representative (CFSR) Installation

	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	To Complete	Total
Installation Cost	Qty (Each) I Total Cost (\$ M)											
Prior Years	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2016	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2017	0 / 0.000	0 / 0.000	131 / 1.340	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2018	0 / 0.000	0 / 0.000	0 / 0.000	161 / 1.690	- 1 -	161 / 1.690	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2019	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2020	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2021	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2022	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
To Complete	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
Total	0 / 0.000	0 / 0.000	131 / 1.340	161 / 1.690	- 1 -	161 / 1.690	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -

### Installation Schedule

			FY 2	2016			FY 2	2017			FY 2	018			FY 2	2019			FY 2	2020			FY 2	2021			FY 2	022			
	PYS	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	TC	Tot
In	-	0	0	0	0	0	0	66	65	0	0	81	80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	101	393
Out	-	0	0	0	0	0	0	66	65	0	0	81	80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	101	393

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LI CE8710 - AVENGER MODS Page 12 of 14 P-1 Line #19 Army

Exhibit P-3a, Indiv	idual Modification: F	7 2018 Army				Date: May 2017	
<b>Appropriation / Bu</b> 2032A / 03 / 10	idget Activity / Budge	t Sub Activity:	P-1 Line Item Nu CE8710 / AVENG			Modification Numb CE8710 / Avenger M	
ID Code (A=Service Ready,	, B=Not Service Ready) :		•	MDAP/MAIS C	Code:		
Modification Item 6 of	7: Targeting Console			<u>.                                      </u>			
Manufacturer Informati	ion						
Manufacturer Name: Bar	rco			Manufacturer Location: F	Rancho Cordova, Californi	а	
Administrative Leadtime	(in Months): 1			Production Leadtime (in	Months): 15		
Dates	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Contract Dates							
Delivery Dates	Sep 2016						

#### Installation Information

**Method of Implementation:** Contractor Field Service Representative (CFSR) Installation

	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	To Complete	Total
Installation Cost	Qty (Each) I Total Cost (\$ M)	Qty (Each) I Total Cost (\$ M										
Prior Years	0 / 0.000	170 / 0.016	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2016	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2017	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2018	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2019	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2020	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2021	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2022	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
To Complete	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
Total	0 / 0.000	170 / 0.016	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -

## Installation Schedule

				FY 2	2016			FY 2	2017			FY 2	018			FY 2	2019			FY 2	2020			FY 2	2021			FY 2	022			
		PYS	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	тс	Tot
In		-	0	0	0	170	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	,	
Οι	ut	-	0	0	0	170	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

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Exhibit P-3a, Indiv	idual Modification: F	Y 2018 Army				<b>Date</b> : May 2017	
<b>Appropriation / Bu</b> 2032A / 03 / 10	udget Activity / Budge	t Sub Activity:	P-1 Line Item Nui CE8710 / AVENG			Modification Numl CE8710 / Avenger	
ID Code (A=Service Ready	, B=Not Service Ready) :		•	MDAP/MAIS (	Code:	·	
Modification Item 7 of	7: Environmental Control Un	it/Prime Power Unit		<u>.</u>			
Manufacturer Informat	ion						
Manufacturer Name: AV	VCF Managed Item- Marvin L	and Systems		Manufacturer Location: I	nglewood, CA		
Administrative Leadtime	(in Months): 4			Production Leadtime (in	Months): 5		
Dates	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Contract Dates			Mar 2018				
Delivery Dates			Δυα 2018				

#### Installation Information

Method of Implementation: Contractor Field Service Representative (CFSR) Installation

	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	To Complete	Total
Installation Cost	Qty (Each) I Total Cost (\$ M)											
Prior Years	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2016	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2017	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2018	0 / 0.000	0 / 0.000	0 / 0.000	126 / 0.642	- 1 -	126 / 0.642	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2019	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2020	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2021	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2022	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
To Complete	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
Total	0 / 0.000	0 / 0.000	0 / 0.000	126 / 0.642	- 1 -	126 / 0.642	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -

### Installation Schedule

			FY 2	2016			FY 2	2017			FY 2	2018			FY 2	2019			FY 2	2020			FY 2	2021			FY 2	022			
	PYS	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	TC	Tot
In	-	0	0	0	0	0	0	0	0	0	0	0	126	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Out	-	0	0	0	0	0	0	0	0	0	0	0	126	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

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Exhibit P-40, Budget Line Item Justification: FY 2018 Army

Date: May 2017

Appropriation / Budget Activity / Budget Sub Activity:

P-1 Line Item Number / Title:

2032A: Missile Procurement, Army / BA 03: Modification of Missiles / BSA 10:

C61700 / ITAS/TOW Mods

Modifications

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

	Prior			FY 2018	FY 2018	FY 2018					То	
Resource Summary	Years	FY 2016	FY 2017	Base	oco	Total	FY 2019	FY 2020	FY 2021	FY 2022	Complete	Total
Procurement Quantity (Units in Each)	306	306	-	-	-	-	-	-	-	-	-	612
Gross/Weapon System Cost (\$ in Millions)	1,769.375	19.576	0.383	3.500	-	3.500	3.200	3.500	3.200	2.400	-	1,805.134
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	1,769.375	19.576	0.383	3.500	-	3.500	3.200	3.500	3.200	2.400	-	1,805.134
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	1,769.375	19.576	0.383	3.500	-	3.500	3.200	3.500	3.200	2.400	-	1,805.134
(The following	Resource Sumi	mary rows are fo	r informational p	urposes only. Th	e corresponding	budget request	s are documente	d elsewhere.)				
Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (\$ in Thousands)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	5,782.271	63.974	-	-	-	-	-	-	-	-	-	2,949.565

### **Description:**

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.

				FY 2018	FY 2018	FY 2018				
Secondary	/ Distribution	FY 2016	FY 2017	Base	oco	Total	FY 2019	FY 2020	FY 2021	FY 2022
Army	Quantity	306	-	-	-	-	-	-	-	-
	Total Obligation Authority	5.902	0.383	3.500	-	3.500	3.200	3.500	3.200	2.400
ANG	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	13.160	-	-	-	-	-	-	-	-
AR	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	0.514	-	-	-	-	-	-	-	-
Total:	Quantity	306	-	-	-	-	-	-	-	-
Secondary Distribution	Total Obligation Authority	19.576	0.383	3.500	-	3.500	3.200	3.500	3.200	2.400

Justification:

LI C61700 - ITAS/TOW Mods

Army

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P-1 Line #20

	UNCL	ASSIFIED		
Exhibit P-40, Budget Line Item Justification: FY	2018 Army		<b>Date</b> : May 2017	
Appropriation / Budget Activity / Budget Sub Ac 2032A: Missile Procurement, Army / BA 03: Modific Modifications		P-1 Line Item Nu C61700 / ITAS/T0		
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				
FY2018 Base Procurement dollars in the amount of \$3.500 mill management support for the Modified ITAS (MITAS) in the Stry	ion supports procurement of 26 Image ker Anti-Tank Guided Missile (Stryker	Enhancement Kits, require ATGM) vehicle. This procu	red subcomponents, the fielding of the kits and subcomponents, and program surement will field a single configuration across the US Army ITAS and MITAS	fleets.
In accordance with Section 1815 of the FY 2008 National Defer defense missions, domestic emergency responses, and providi	nse Authorization Act (P.L. 110-181), the ng military support to civil authorities.	nis item is necessary for us	ise by the active and reserve components of the Armed Forces for homeland	

Exhibit P-40, Budget Line Item Justification: FY 2018 Army

Date: May 2017

Appropriation / Budget Activity / Budget Sub Activity:

P-1 Line Item Number / Title:

2032A: Missile Procurement, Army / BA 03: Modification of Missiles / BSA 10:

C67500 / MLRS Mods

Modifications

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

Line item widar/wais code. N/A												
	Prior			FY 2018	FY 2018	FY 2018					То	
Resource Summary	Years	FY 2016	FY 2017	Base	oco	Total	FY 2019	FY 2020	FY 2021	FY 2022	Complete	Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	407.781	35.970	34.704	138.235	-	138.235	102.208	171.898	167.960	71.328	Continuing	Continuing
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	407.781	35.970	34.704	138.235	-	138.235	102.208	171.898	167.960	71.328	Continuing	Continuing
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	407.781	35.970	34.704	138.235	-	138.235	102.208	171.898	167.960	71.328	Continuing	Continuing
(The following	Resource Sumi	mary rows are fo	or informational p	urposes only. Th	e corresponding	g budget request	s are documente	d elsewhere.)				
Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (\$ in Thousands)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	-	-	-	-	-	-	-	-	-	-	-	-

### **Description:**

The Multiple Launch Rocket System (MLRS) launcher (M270A1) 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, counter-fire, 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 Multiple Launch Rocket System (MLRS) Family of Munitions (MFOM), to include the Guided Multiple Launch Rocket System (GMLRS) and the Army Tactical Missile System (ATACMS). These munitions are capable of engaging targets with precision at ranges up to 300 kilometers.

In FY2017, the Army decided to extend the operational life of the MLRS fleet until FY2050 or beyond and increase the size of the MLRS fleet by 160 launchers via Fleet Expansion. Fleet Expansion conducts carrier modifications to existing M270A0s and integrates the Improved Armored Cab and the FCS Mod Kit solution to build a M270A2 configured launcher. This decision to increase the fleet's life by more than 20 years drives numerous obsolescence mitigation, technology refresh, and future recapitalization activities of the launcher fleet beginning in FY2019. MLRS Mods address obsolescence mitigation and other design modifications via design, production, and implementation of Modification Kits to the MLRS fleet and supports Fleet Expansion through commonality with the Bradley platform.

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. First Unit Equipped (FUE) for M270A2 is projected for FY2021.

The next generation Fire Control System (FCS) eliminates obsolescence of the fielded M270A1 Improved Fire Control System (IFCS). First Unit Equipped (FUE) for an interim FCS solution is projected for FY2021. This system addresses the accelerated requirements associated with MLRS Fleet Expansion. FUE for the follow-on/long-term FCS Mod Kit solution, to include M-Code incorporation, is projected for FY2024. Benefits include a simplified design and increased reliability to reduce long-term operation & sustainment cost. Additionally, the capability to launch future munitions, such as GMLRS Insensitive Munitions Propulsion System (IMPS) missiles entering production, is enabled by this hardware upgrade, and associated organic tactical software, on a MLRS launcher. The government assumed responsibility for software development and maintenance from the prime contractor in FY2016. Organic software is defined as government developed, maintained, and owned software. The technology refresh enables capability to transition from legacy tactical software to current organic tactical software of the launcher.

Army Acquisition Objective is 225 MLRS launchers. 222 physical MLRS launchers remain within the fleet.

LI C67500 - MLRS Mods

Army

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P-1 Line #21

Exhibit P-40, Budget Line Item Justification: FY 2018 Army

**Date:** May 2017

Appropriation / Budget Activity / Budget Sub Activity:

P-1 Line Item Number / Title:

2032A: Missile Procurement, Army / BA 03: Modification of Missiles / BSA 10:

C67500 / MLRS Mods

Modifications

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

any Diotribution	EV 2016	EV 2017	FY 2018	FY 2018	FY 2018	EV 2010	EV 2020	EV 2024	FY 2022
ary Distribution	F1 2010	F1 2017	Dase		iotai	F1 2019	F1 2020	F1 2021	F1 2022
Quantity	-	-	-	-	-	-	24	23	-
Total Obligation Authority	35.970	34.704	138.235	-	138.235	102.208	171.898	167.960	60.242
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	-	-	-	-	-	-	-	-	11.086
Quantity	-	-	-	-	-	-	24	23	-
<b>Total Obligation Authority</b>	35.970	34.704	138.235	-	138.235	102.208	171.898	167.960	71.328
	Total Obligation Authority Quantity Total Obligation Authority Quantity	Quantity - Total Obligation Authority 35.970 Quantity - Total Obligation Authority - Quantity -	Quantity         -         -           Total Obligation Authority         35.970         34.704           Quantity         -         -           Total Obligation Authority         -         -           Quantity         -         -	Ary Distribution         FY 2016         FY 2017         Base           Quantity         -         -         -           Total Obligation Authority         35.970         34.704         138.235           Quantity         -         -         -           Total Obligation Authority         -         -         -           Quantity         -         -         -	Ary Distribution         FY 2016         FY 2017         Base         OCO           Quantity         -         -         -         -         -           Total Obligation Authority         35.970         34.704         138.235         -           Quantity         -         -         -         -           Total Obligation Authority         -         -         -         -           Quantity         -         -         -         -         -	Ary Distribution         FY 2016         FY 2017         Base         OCO         Total           Quantity         -         -         -         -         -           Total Obligation Authority         35.970         34.704         138.235         -         138.235           Quantity         -         -         -         -         -         -           Total Obligation Authority         -         -         -         -         -         -           Quantity         -         -         -         -         -         -         -	Ary Distribution         FY 2016         FY 2017         Base         OCO         Total         FY 2019           Quantity         - <t< td=""><td>Ary Distribution         FY 2016         FY 2017         Base         OCO         Total         FY 2019         FY 2020           Quantity         -         -         -         -         -         -         24           Total Obligation Authority         35.970         34.704         138.235         -         138.235         102.208         171.898           Quantity         -         -         -         -         -         -         -         -           Total Obligation Authority         -         -         -         -         -         -         -         -         -           Quantity         -</td><td>Ary Distribution         FY 2016         FY 2017         Base         OCO         Total         FY 2019         FY 2020         FY 2021           Quantity         -         -         -         -         -         -         24         23           Total Obligation Authority         35.970         34.704         138.235         -         138.235         102.208         171.898         167.960           Quantity         -         -         -         -         -         -         -         -         -           Total Obligation Authority         -</td></t<>	Ary Distribution         FY 2016         FY 2017         Base         OCO         Total         FY 2019         FY 2020           Quantity         -         -         -         -         -         -         24           Total Obligation Authority         35.970         34.704         138.235         -         138.235         102.208         171.898           Quantity         -         -         -         -         -         -         -         -           Total Obligation Authority         -         -         -         -         -         -         -         -         -           Quantity         -	Ary Distribution         FY 2016         FY 2017         Base         OCO         Total         FY 2019         FY 2020         FY 2021           Quantity         -         -         -         -         -         -         24         23           Total Obligation Authority         35.970         34.704         138.235         -         138.235         102.208         171.898         167.960           Quantity         -         -         -         -         -         -         -         -         -           Total Obligation Authority         -

**UNCLASSIFIED** LI C67500 - MLRS Mods 152 Page 2 of 12 Army P-1 Line #21

Exhibit P-40, Budget Line Item Justification: FY 2018 Army

Date: May 2017

Appropriation / Budget Activity / Budget Sub Activity:

P-1 Line Item Number / Title:

2032A: Missile Procurement, Army / BA 03: Modification of Missiles / BSA 10:

C67500 / MLRS Mods

Modifications

Program Elements for Code B Items: N/A

Other Related Program Elements: 0603778A

Line Item MDAP/MAIS Code: N/A

ID Code (A=Service Ready, B=Not Service Ready):

	Exhibits Schedule				Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/ MAIS Code	Quantity / Total Cost (Each) / (\$ M)					
P-3a	C67500 / Multiple Launch Rocket System (MLRS) Modifications (.)				- / 407.781	- / 35.970	- / 34.704	- / 138.235	- / -	- / 138.235
P-40	Total Gross/Weapon System Cost	-			- / 407.781	- / 35.970	- / 34.704	- / 138.235	- 1 -	- / 138.235
	Exhibits Schedule				FY 2019	FY 2020	FY 2021	FY 2022	To Complete	Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/ MAIS Code	Quantity / Total Cost (Each) / (\$ M)					
P-3a	C67500 / Multiple Launch Rocket System (MLRS) Modifications (.)				- / -	- / -	- / -	- / -	- / -	- / -
P-40	Total Gross/Weapon System Cost				- / 102.208	- / 171.898	- / 167.960	- / 71.328	Continuing	Continuing

<sup>\*</sup>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:

FY2018 Base procurement dollars in the amount of \$138.235 million support Improved Armored Cab (IAC) Modification Kit production, Non-Recurring Engineering design of the next generation Fire Control System (FCS) Modification Kit, MLRS Fleet Expansion, and routine obsolescence mitigation of the M270 Multiple Launch Rocket System (MLRS) launcher design to retain the ability for long-term sustainment of the MLRS launcher fleet.

The IAC Modification Kit contract Option 1 will produce 76 IAC Modification Kits. IAC development completed in FY2016 and the IAC Request for Proposal (RFP) was released in July 2016. Contract award is anticipated in 4QFY2017 for Production Verification Units and 3QFY18 for Option 1.

The Non-Recurring Engineering of the interim next generation FCS Modification Kit is on-track to complete by the end of FY2019. The FCS is a required upgrade for the M270A1 to eliminate obsolescence. The FCS also enables future munition support, such as the GMLRS Insensitive Munitions Propulsion System (IMPS) missile beginning production, and serves as a key hardware enabler for future transition to organic tactical launcher software. Non-recurring engineering efforts for the M993 carrier addresses numerous mechanical and technical obsolescence issues within the M993 carrier power train used on the MLRS system. The mitigation will increase commonality with the Bradley platform (configuration manager of the M993 carrier) and retain the ability to sustain the MLRS fleet. Both obsolescence efforts are critical to address prior to execution of a recapitalization program for the current MLRS fleet expansion initiatives.

MLRS Mods address obsolescence mitigation and other design modifications via design, production, and implementation of Modification Kits to the MLRS fleet and supports Fleet Expansion through commonality with the Bradley platform.

For FY2018, the P-3a exhibit is restructured to include better fidelity of cost elements within the Field Artillery Launchers (FAL) Product Office unique to the M270 MLRS launcher required to sustain the 222 launcher fleet.

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.

LI C67500 - MLRS Mods

Army

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P-1 Line #21

Exhibit P-3a, Individual Modification: FY 2018 Army		Date: May 2017	
Appropriation / Budget Activity / Budget Sub Activity:	P-1 Line Item Number / Title:	Modification Number / Title:	
2032A / 03 / 10	C67500 / MLRS Mods	C67500 / Multiple Launch Rocket System	
		(MLRS) Modifications	

ID Code (A=Service Ready, B=Not Service Ready)	:					MDAP/MAI	S Code:					
Resource Summary	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	To Complete	Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-	-	-	-	-	-	
Gross/Weapon System Cost (\$ in Millions)	407.781	35.970	34.704	138.235	-	138.235	-	-	-	-	-	-
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	
Net Procurement (P-1) (\$ in Millions)	407.781	35.970	34.704	138.235	-	138.235	-	-	-	-	-	
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	
Total Obligation Authority (\$ in Millions)	407.781	35.970	34.704	138.235	-	138.235	-	-	-	-	-	
(The following	Resource Sumi	mary rows are fo	r informational p	urposes only. Th	ne corresponding	budget requests	s are documente	ed elsewhere.)		:		
Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	
Gross/Weapon System Unit Cost (\$ in Thousands)	-	-	-	-	-	-	-	-	-	-	-	

#### **Description:**

The Multiple Launch Rocket System (MLRS) launcher (M270A1) 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, counter-fire, 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 Multiple Launch Rocket System (MLRS) Family of Munitions (MFOM), to include the Guided Multiple Launch Rocket System (GMLRS) and the Army Tactical Missile System (ATACMS). These munitions are capable of engaging targets with precision at ranges up to 300 kilometers.

In FY2017, the Army decided to extend the operational life of the MLRS fleet until FY2050 or beyond and increase the size of the MLRS fleet by 160 launchers via Fleet Expansion. Fleet Expansion conducts carrier modifications to existing M270A0s and integrates the Improved Armored Cab and the FCS Mod Kit solution to build a M270A2 configured launcher. This decision to increase the fleet's life by more than 20 years drives numerous obsolescence mitigation, technology refresh, and future recapitalization activities of the launcher fleet beginning in FY2019. MLRS Mods address obsolescence mitigation and other design modifications via design, production, and implementation of Modification Kits to the MLRS fleet and supports Fleet Expansion through commonality with the Bradley platform.

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. First Unit Equipped (FUE) for M270A2 is projected for FY2021.

The next generation Fire Control System (FCS) eliminates obsolescence of the fielded M270A1 Improved Fire Control System (IFCS). First Unit Equipped (FUE) for an interim FCS solution is projected for FY2021. This system addresses the accelerated requirements associated with MLRS Fleet Expansion. FUE for the follow-on/long-term FCS Mod Kit solution, to include M-Code incorporation, is projected for FY2024. Benefits include a simplified design and increased reliability to reduce long-term operation & sustainment cost. Additionally, the capability to launch future munitions, such as GMLRS Insensitive Munitions Propulsion System (IMPS) missiles entering production, is enabled by this hardware upgrade, and associated organic tactical software, on a MLRS launcher. The government assumed responsibility for software development and maintenance from the prime contractor in FY2016. Organic software is defined as government developed, maintained, and owned software. The technology refresh enables capability to transition from legacy tactical software to current organic tactical software of the launcher.

Army Acquisition Objective is 225 MLRS launchers. 222 physical MLRS launchers remain within the fleet.

Secondar	y Distribution	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022
Army	Quantity		-	-	-	-	-	-	-	-

LI C67500 - MLRS Mods

Army

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P-1 Line #21

Exhibit P-3a, Individual Modification: FY 2018 Army		<b>Date:</b> May 2017
Appropriation / Budget Activity / Budget Sub Activity: 2032A / 03 / 10	P-1 Line Item Number / Title: C67500 / MLRS Mods	Modification Number / Title: C67500 / Multiple Launch Rocket System (MLRS) Modifications
ID Code (A-Sonico Poody, B-Net Sonico Poody)	MDAP/MAIS Code:	·

ID Code (A=Service Ready	y, B=Not Service Ready) .				IVIDAP/IVIA	us code:				
Second	dary Distribution	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022
	Total Obligation Authority	35.970	34.704	138.235	-	138.235	-	-	-	-
ANG	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	-	-	-	-	-	-	-	-	-
Total:	Quantity	-	-	-	-	-	-	-	-	-
Secondary Distribution	<b>Total Obligation Authority</b>	35.970	34.704	138.235	-	138.235	-	-		-

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Exhibit P-3a, Individual Modification: FY 2018 Army Date: May 2017 Appropriation / Budget Activity / Budget Sub Activity: **Modification Number / Title:** P-1 Line Item Number / Title: 2032A / 03 / 10 C67500 / MLRS Mods C67500 / Multiple Launch Rocket System (MLRS) Modifications MDAP/MAIS Code: ID Code (A=Service Ready, B=Not Service Ready): Models of Systems Affected: M270A1 **Modification Type:** Related RDT&E PEs: FY 2018 FY 2018 FY 2018 To **Prior Years** FY 2016 FY 2017 Base oco Total FY 2019 **FY 2020** FY 2021 FY 2022 Complete Total Qtv (Each) I **Financial Plan** Total Cost (\$ M) Total Total Cost (\$ M) Total Cost (\$ M) **Procurement** Modification Item 1 of 5: Inactive Mods A Kits Recurring - 1 -- 1 -Drivers Vision Enhancements(DVE) 0 / 7.300 0 / 0.000 0 / 0.000 0/0.000 0 / 0.000 0/0.000 - 1 -- 1 -- / -- 1 -Equipment 9 / 277.344 0 / 0.020 0 / 0.000 0/0.000 0 / 0.000 0 / 0.000 - 1 -- 1 -- 1 -- 1 -- 1 -- 1 -M993A1 0 / 7.333 0 / 0.000 0 / 0.000 0 / 0.000 0 / 0.000 0 / 0.000 - 1 -- 1 -- 1 -- 1 -- 1 -- 1 -0 / 0.000 0 / 0.000 - 1 -- 1 -- 1 -- 1 -- 1 -Global Positioning System (GPS) Upgrades 0 / 0.430 0 / 0.000 0 / 0.000 0 / 0.000 - 1 -Auxiliary Power Unit/Environmental Contr 0 / 15.600 0/0.000 0 / 0.000 0 / 0.000 0 / 0.000 0 / 0.000 - / -- 1 -- 1 -- / -- 1 -- 1 -Enhanced Command and Control (C2) 0 / 22.994 0 / 0.000 0 / 0.000 0/0.000 0 / 0.000 0 / 0.000 - 1 -- 1 -- 1 -- 1 -- 1 -Subtotal: Recurring - /331.001 - /0.020 - /0.000 - /0.000 - /0.000 - /0.000 - / -- / -- / -- / -- / -- / -Subtotal: Inactive Mods 9/331.001 0/0.020 0/0.000 0/0.000 0/0.000 0/0.000 - / -- / -- / -- / -- / -- / -Modification Item 2 of 5: Obsolescence Mitigations/ ECP Reliability Into A Kits Recurring 0 / 1.700 0 / 1.700 0 / 0.000 0 / 0.000 0 / 0.000 Equipment 0 / 36.092 - 1 -- 1 -- 1 -- 1 -- / -- / -- /36.092 - /1.700 - /1.700 - /0.000 - /0.000 - /0.000 - / -- / -- / -- / -- / -- / -Subtotal: Recurring Subtotal: Obsolescence Mitigations/ECP Reliability Intg 0/36.092 0/1.700 0 / 1.700 0/0.000 0/0.000 0/0.000 - / -- / -- / -- / -- / -- / -Modification Item 3 of 5: M270A1 Mods A Kits Non-Recurring Obsolescence Mitigation 0 / 0.000 0/0.000 0/0.000 0 / 29.134 0 / 0.000 0 / 29.134 - / -- 1 -- 1 -- 1 -- 1 -- 1 -Program Management 0 / 0.000 0/0.000 0 / 0.000 0/2.986 0 / 0.000 0/2.986 - / -- 1 -- 1 -- / -- 1 -- 1 -0 / 0.000 0 / 0.000 0 / 5.571 0 / 0.000 0 / 5.571 - 1 -- 1 -- 1 -- 1 -- 1 -- 1 -Systems Engineering 0 / 0.000 - / -Test & Evaluation 0 / 0.000 0 / 0.000 0 / 0.000 0 / 2.757 0 / 0.000 0 / 2.757 - / -- / -- / -- / -- / -Training 0 / 0.000 0 / 0.000 0 / 0.000 0 / 1.519 0 / 0.000 0 / 1.519 - 1 -- 1 -- 1 -- 1 -- 1 -- 1 -Peculiar Support Equipment 0 / 0.000 0 / 0.000 0 / 0.000 0 / 0.402 0 / 0.000 0 / 0.402 - 1 -- 1 -- 1 -- 1 -- 1 -- 1 -- 1 -Industrial Facilities 0 / 0.000 0 / 0.000 0.7.0.000 0 / 1 608 0 / 0.000 0 / 1.608 - 1 -- 1 -- 1 -- 1 -- 1 -- / -- /0.000 - /0.000 - /0.000 - /43.977 - /0.000 - /43.977 - / -- / -- / -- / -- / -Subtotal: Non-Recurring 0/0.000 0/0.000 0/0.000 0/43.977 0/0.000 0 / 43.977 - / -- / -- / -- / -- / -- / -Subtotal: M270A1 Mods

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Exhibit P-3a, Individual Modification: FY 2018 Army Date: May 2017 Appropriation / Budget Activity / Budget Sub Activity: P-1 Line Item Number / Title: **Modification Number / Title:** 2032A / 03 / 10 C67500 / MLRS Mods C67500 / Multiple Launch Rocket System (MLRS) Modifications MDAP/MAIS Code: ID Code (A=Service Ready, B=Not Service Ready): Models of Systems Affected: M270A1 **Modification Type:** Related RDT&E PEs: FY 2018 FY 2018 FY 2018 To **Prior Years** FY 2016 FY 2017 Base oco Total FY 2019 FY 2020 FY 2021 FY 2022 Complete Total Qtv (Each) I Qty (Each) I Qtv (Each) I **Financial Plan** Total Cost (\$ M) | Total Cost (\$ Modification Item 4 of 5: Improved Armored Cab (IAC) A Kits Recurring 0 / 0.000 0 / 0.000 76 / 83.613 0 / 0.000 76 / 83.613 - / -- / -- 1 -- / -- 1 -Production 6 / 18.169 - 1 -- /0.000 - /0.000 - /18.169 - /83.613 - /0.000 - /83.613 - / -- / -- / -- / -- / -Subtotal: Recurring - / -Non-Recurring Obsolescence Mitigation 0/7.716 0 / 21.904 0 / 0.000 0/0.000 0 / 0.000 0 / 0.000 - 1 -- 1 -- 1 -- 1 -- 1 -- 1 -- /7.716 - /21.904 - /0.000 - /0.000 - /0.000 - /0.000 - / -- / -- / -- / -- / -- / -Subtotal: Non-Recurring - / -0/7.716 0 / 21.904 6 / 18.169 76 / 83.613 0/0.000 76 / 83.613 - / -- / -- / -- / -- / -Subtotal: Improved Armored Cab (IAC) Modification Item 5 of 5: Fire Control System (FCS) A Kits Non-Recurring Obsolescence Mitigation 0 / 0.000 0 / 12.346 0 / 14.835 0 / 10.645 0 / 0.000 0 / 10.645 - / -- 1 -- 1 -- / -- 1 -- / -- /0.000 - /12.346 - /14.835 - /10.645 - /0.000 - /10.645 - / -- / -- / -- / -- / -- / -Subtotal: Non-Recurring - / -- / -Subtotal: Fire Control System (FCS) 0/0.000 0 / 12.346 0 / 14.835 0 / 10.645 0/0.000 0 / 10.645 - / -- / -- / -- / -Subtotal: Procurement, All Modification Items 9/374.809 0/35.970 6 / 34.704 76 / 138.235 0/0.000 76 / 138.235 - / -- / -- / -- / -- / -Installation 9 / 32.972 0 / 0.000 0 / 0.000 0/0.000 - 1 -0 / 0.000 - 1 -- 1 -- 1 -- 1 -Modification Item 1 of 5: Inactive Mods - 1 -- 1 -0.000 - 1 -0 / 0.000 0.000 0 / 0.000 0.000 - 1 -- 1 -- 1 -- 1 -Modification Item 2 of 5: Obsolescence Mitigations/ECP Reliability Intg Modification Item 3 of 5: M270A1 Mods 0 / 0.000 0/0.000 0 / 0.000 0/0.000 - 1 -0/0.000 - / -- / -- 1 -- 1 -- 1 -- 1 -0 / 0.000 0/0.000 0 / 0.000 0/0.000 - 1 -0/0.000 - 1 -- 1 -- 1 -- 1 -- 1 -Modification Item 4 of 5: Improved Armored Cab (IAC)

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Modification Item 5 of 5: Fire Control System (FCS)

Total Cost (Procurement + Support + Installation)

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Exhibit P-3a, Indivi	dual Modific	ation: FY 2	018 Army								Date: N	lay 2017		
Appropriation / Bu 2032A / 03 / 10	dget Activity	/ Budget S	Sub Activity		Line Item 7500 / MLR			itle:			C67500	ation Num / Multiple L Modificatio	aunch Roc	ket System
ID Code (A=Service Ready,	B=Not Service Ready)	:						MDAP/MA	IS Code:		·			
Modification Item 1 of 5	: Inactive Mods							•						
Manufacturer Informati	on													
Manufacturer Name: TBD	)					N	Manuf	acturer Location	on: TBD					
Administrative Leadtime	(in Months):					F	Produc	ction Leadtime	(in Months):					
Dates	FY 20°	16	FY 2017		FY 2018			FY 2019		FY 2020	F	Y 2021	FY	2022
Contract Dates														
Delivery Dates														
Installation Information														
Method of Implementat	ion: TBD													
		Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 20 OCC	- 1	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	To Complete	Total
Installation (	Cost	Qty (Each) I Total Cost (\$ M)	Qty (Eac Total Cost		Qty (Each) I Total Cost (\$ M)	Qty (Each) I Total Cost (\$ M)	Qty (Each) I Total Cost (\$ M							
Prior Years		9 / 32.972	0 / 0.000	0 / 0.000	0 / 0.000	-	1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2016		0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	-	1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -

FY 2021	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- / -	-
FY 2022	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- / -	-
To Complete	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	-
Total	9 / 32.972	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- / -	-

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FY 2018

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FY 2020

Installation Schedule

		PYS Q1 Q2 Q3 Q			-		FY	2017	_		FY 2	2018	-		FY:	2019	_		FY 2	2020	-		FY 2	2021			FY 2	2022	-		
	PYS	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	тс	Tot
In	9	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Out	9	0	0	0	0	0	0	0	0	0	0	0	0	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_		

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Exhibit P-3a, Indiv	idual Modific	ation: FY 20	018 Army								Date: N	lay 2017		
<b>Appropriation / B</b> 2032A / 03 / 10	udget Activity	/ / Budget S	ub Activity		1 Line Item 37500 / MLR						C67500		ber / Title: _aunch Roc	ket System
ID Code (A=Service Read	y, B=Not Service Ready	y) :					MDA	P/MA	IS Code:		·			
Modification Item 2 of	5: Obsolescence	Mitigations/ECI	P Reliability In	tg			•							
Manufacturer Informa	tion													
Manufacturer Name: TE	BD					N	Manufacturer	Location	on: TBD					
Administrative Leadtime	e (in Months):					F	Production Le	eadtime	e (in Months):					
Dates	FY 20	16	FY 2017		FY 2018		FY 2	019		FY 2020	F	Y 2021	FY	2022
Contract Dates														
Delivery Dates														
Installation Information	n													
Method of Implementa	ation: TBD													
		Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 20 OC	-	2018 otal	FY 2019	FY 2020	FY 2021	FY 2022	To Complete	Total
		Oty (Fach) I	Oty (Fach) I	Oty (Fach) I	Oty (Fach) I	Oty (Fa	ch) / Otv //	Each) I	Oty (Fach) I	Oty (Fach) I	Oty (Fach) I	Oty (Fach) I	Oty (Fach) I	Oty (Fach) I

	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	To Complete	Total
Installation Cost	Qty (Each) I Total Cost (\$ M)											
Prior Years	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2016	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2017	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2018	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2019	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2020	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2021	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2022	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
To Complete	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
Total	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -

### Installation Schedule

			FY 2	2016			FY 2	2017			FY 2	2018			FY	2019			FY 2	2020			FY 2	2021			FY 2	2022			
	PYS	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	тс	Tot
In	1	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Out	1	0	0	0	0	0	0	0	0	0	0	0	0	-	-	_	-	-	-	-	-	-	-	-	-	-	-	-	-		

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P-1 Line #21

Exhil	oit P	P-3a, Ir	ndivi	dua	al Mo	lifica	tion	: FY	201	8 Arm	าง												I	Date: M	ay 201	7			
		<b>iation</b> 03 / 10		dge	et Act	vity /	Bu	dget	Suk	o Acti	vity:		-			Number / 6 Mods	Title:								/ Multip	le La	er / Title: aunch Rock as	ket Sys	ster
ID Co	de (A	A=Service	Ready, E	3=No	t Service	Ready):											ME	DAP/MA	IS Cod	le:									
Modifi	catio	on Item	3 of 5	: M2	270A1 N	lods																							
Manuf	actur	rer Info	rmatic	n																									
Manuf	acture	er Name	e: Pred	isic	n Fires	Rocke	t & M	lissile	Syste	ems Pro	oiect C	Office				Man	ufactur	er Locati	on: Red	stone /	Arser	al, AL							_
		ive Lead							- <b>,</b>		,					Proc	uction	Leadtime	(in Mo	nths):		- ,							
		ates	(			Y 2016				FY 2	2017			FY 2	2018			2019	(		FY 2	2020		F\	Y 2021		FY	2022	
Contra	ict Da	ates																											
Delive				$\vdash$																									
	,																												
Install	ation	Inform	ation																										
Metho	d of I	Implem	entati	on:	Field A	rtillery	Laun	chers	Prod	luct Off	ice																		_
		-					Prior	· Year	s	FY 201	6	FY 20	17	FY 2		FY 2018 OCO		Y 2018 Total	FY 2	2019	F'	Y 2020	F'	Y 2021	FY 20	22	To Complete	Tot	al
		Installa	ition C	cos	t			(Each) I Cost (\$ I		Qty (Eacl		Qty (Ead Total Cost		Qty (Ea		Qty (Each) I Total Cost (\$ A		y (Each) I Cost (\$ M)	Qty (E	ach) I st (\$ M)	Qt Tota	y (Each) I I Cost (\$ M		y (Each) I I Cost (\$ M)	Qty (Eac Total Cost		Qty (Each) I Total Cost (\$ M)	Qty (Ea	
Prior Yea	ars							0/0.0	00	070	0.000	0 /	0.000	0	0.000	- 1 -		0 / 0.000		- 1 -		- 1 -		- 1 -	-	1 -	- 1 -	-	. / .
FY 2016								0/0.0	00	0/0	0.000	0 /	0.000	0	0.000	- 1 -		0 / 0.000		- 1 -		- 1 -		- 1 -	-	1 -	- 1 -	-	. 1 -
FY 2017								0/0.0	00	0/0	0.000	0 /	0.000	0	0.000	- 1 -		0 / 0.000		- 1 -		- 1 -		- 1 -	-	1 -	- 1 -	-	. / -
FY 2018								0/0.0	00	0/0	0.000	0 /	0.000	0	0.000	- 1 -		0 / 0.000		- 1 -		- 1 -		- 1 -	-	1 -	- 1 -	-	. / -
FY 2019								0/0.0	_		0.000		0.000		0.000	- 1 -		0 / 0.000	1	- / -		- 1 -		- 1 -		1 -	- 1 -		. / -
FY 2020								0/0.0	_		0.000		0.000		0.000	- 1 -		0 / 0.000	-	- / -	-	- 1 -		- 1 -		1 -	- 1 -		. / -
FY 2021								0/0.0	_		0.000	0 /	0.000		0.000	- 1 -		0 / 0.000		- 1 -		- 1 -		- 1 -		1 -	- 1 -	-	. 1 -
FY 2022												_						0 / 0.000		- / -		- 1 -		- 1 -	-				
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Exhibit P-3a, Indivi	idual Modification: FY	′ 2018 Army				Date: May 2017	
<b>Appropriation / Bu</b> 2032A / 03 / 10	dget Activity / Budge	t Sub Activity:	P-1 Line Item Nu C67500 / MLRS N			Modification Numb C67500 / Multiple La (MLRS) Modification	aunch Rocket System
ID Code (A=Service Ready,	B=Not Service Ready):			MDAP/MAIS (	Code:		
Modification Item 4 of 5	: Improved Armored Cab (IA	(C)		<u>.</u>			
Manufacturer Informati	on						
Manufacturer Name: TBI	)			Manufacturer Location:	ГВD		
Administrative Leadtime	(in Months): 3			Production Leadtime (in	Months): 12		
Dates	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Contract Dates		Sep 2017	May 2018				
Delivery Dates		Dec 2018	Aug 2019				

### Installation Information

Method of Implementation: Depot

	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	To Complete	Total
Installation Cost	Qty (Each) I Total Cost (\$ M)	Qty (Each) I Total Cost (\$ M										
Prior Years	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- / -
FY 2016	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2017	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2018	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2019	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2020	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2021	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2022	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
To Complete	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
Total	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -

## Installation Schedule

			FY 2	2016			FY 2	2017			FY 2	2018			FY 2	2019			FY 2	2020			FY 2	021			FY 2	022			
	PYS	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	TC	Tot																
In	-	0	0	0	0	0	0	0	0	0	0	0	0	6	0	9	9	9	9	9	9	9	9	4	0	0	0	0	0	296	378
Out	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	13	13	13	13	13	4	0	296	378

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Exhibit P-3a, Indiv	idual Modification: F	Y 2018 Army				<b>Date</b> : May 2017	
<b>Appropriation / Bu</b> 2032A / 03 / 10	idget Activity / Budg	et Sub Activity:	P-1 Line Item Nu C67500 / MLRS			Modification Numb C67500 / Multiple La (MLRS) Modification	aunch Rocket System
ID Code (A=Service Ready	, B=Not Service Ready):		1	MDAP/MAIS	Code:		
Modification Item 5 of	5: Fire Control System (FCS	S)		<u>'</u>			
Manufacturer Informat	ion						
Manufacturer Name: Ha	rris			Manufacturer Location: I	Melbourne, FL		
Administrative Leadtime	(in Months): 3			Production Leadtime (in	Months): 12		
Dates	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Contract Dates							
Delivery Dates							
Installation Information	n						

Method of Implementation: TBD

				FY 2018	FY 2018	FY 2018					То	
	Prior Years	FY 2016	FY 2017	Base	осо	Total	FY 2019	FY 2020	FY 2021	FY 2022	Complete	Total
Installation Cost	Qty (Each) I Total Cost (\$ M)											
Prior Years	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2016	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2017	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2018	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2019	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2020	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2021	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
FY 2022	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
To Complete	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
Total	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- 1 -	0 / 0.000	- 1 -	- / -	- 1 -	- / -	- 1 -	- 1 -

## Installation Schedule

			FY 2	2016			FY 2	2017			FY 2	2018			FY 2	2019			FY 2	2020			FY 2	2021			FY 2	022			
	PYS	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	TC	Tot																				
In	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	225	225
Out	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	225	225

LI C67500 - MLRS Mods
Army

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P-1 Line #21

Exhibit P-40, Budget Line Item Justification: FY 2018 Army **Date:** May 2017

Appropriation / Budget Activity / Budget Sub Activity:

P-1 Line Item Number / Title:

2032A: Missile Procurement, Army / BA 03: Modification of Missiles / BSA 10:

C67501 / HIMARS Modifications

Modifications

Program Elements for Code B Items: N/A Other Related Program Elements: 0210600A, 0603778A, 0210602A

P-1 Line #22

Line Item MDAP/MAIS Code: N/A

ID Code (A=Service Ready, B=Not Service Ready):

	Prior			FY 2018	FY 2018	FY 2018					То	
Resource Summary	Years	FY 2016	FY 2017	Base	oco	Total	FY 2019	FY 2020	FY 2021	FY 2022	Complete	Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	220.510	3.148	27.847	9.566	-	9.566	10.456	12.768	6.320	7.546	Continuing	Continuing
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	220.510	3.148	27.847	9.566	-	9.566	10.456	12.768	6.320	7.546	Continuing	Continuing
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	220.510	3.148	27.847	9.566	-	9.566	10.456	12.768	6.320	7.546	Continuing	Continuing
(The following	Resource Sumi	mary rows are fo	r informational p	urposes only. Th	e corresponding	p budget request	s are documente	d elsewhere.)			ĺ	
Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (\$ in Thousands)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	-	-	-	-	-	-	-	-	-	-	-	-

### 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/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 Guided Multiple Launch Rocket System (GMLRS) and the Army Tactical Missile System (ATACMS). These munitions are capable of engaging targets with precision at ranges up to 300 kilometers.

In FY2017, the Army decided to extend the operational life of the HIMARS fleet until FY2050 or beyond. This decision to increase the fleet's life by >20yrs drives numerous obsolescence mitigation, technology refresh, and future recapitalization activities of the launcher fleet.

Army Acquisition Objective is 363 HIMARS launchers.

#### Justification:

FY2018 Base procurement dollars in the amount of \$9.566 million support obsolescence mitigation of the M142 High Mobility Artillery Rocket System (HIMARS) launcher design and long-term sustainment of the HIMARS launcher fleet. HIMARS Mods address obsolescence mitigation and other design modifications via design, production, and implementation of Modification Kits to the HIMARS fleet.

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: FY 2018 Army

**Date:** May 2017

Appropriation / Budget Activity / Budget Sub Activity:

P-1 Line Item Number / Title:

2032A: Missile Procurement, Army / BA 04: Spares and Repair Parts / BSA 10:

CA0250 / Spares And Repair Parts

Spares And Repair Parts

Program Elements for Code B Items: N/A

Other Related Program Elements: N/A

Line Item MDAP/MAIS Code: N/A

ID Code (A=Service Ready, B=Not Service Ready):

	Prior			FY 2018	FY 2018	FY 2018					То	
Resource Summary	Years	FY 2016	FY 2017	Base	oco	Total	FY 2019	FY 2020	FY 2021	FY 2022	Complete	Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	270.910	33.778	34.487	18.915	-	18.915	27.979	26.679	5.141	16.329	Continuing	Continuing
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	270.910	33.778	34.487	18.915	-	18.915	27.979	26.679	5.141	16.329	Continuing	Continuing
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	270.910	33.778	34.487	18.915	-	18.915	27.979	26.679	5.141	16.329	Continuing	Continuing
(The following	Resource Sumi	mary rows are fo	r informational p	urposes only. Th	e corresponding	g budget request	s are documente	d elsewhere.)				1
Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (\$ in Thousands)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	-	-	-	-	-	-	-	-	-	-	-	-

## **Description:**

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

Seconda	ary Distribution	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	33.566	34.487	18.915	-	18.915	27.979	26.679	5.141	16.329
ANG	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	0.212	-	-	-	-	-	-	-	-
Total:	Quantity	-	-	-	-	-	-	-	-	-
Secondary Distribution	Total Obligation Authority	33.778	34.487	18.915	-	18.915	27.979	26.679	5.141	16.329

#### Justification:

FY2018 base procurement dollars in the amount of \$18.915 million supports 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.

LI CA0250 - Spares And Repair Parts Army

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Page 1 of 1

Exhibit P-40, Budget Line Item Justification: FY 2018 Army **Date:** May 2017

Appropriation / Budget Activity / Budget Sub Activity:

P-1 Line Item Number / Title:

2032A: Missile Procurement, Army / BA 05: Support Equipment and Facilities / BSA | C93000 / Air Defense Targets

10: Support Equipment & Facilities 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

	Prior			FY 2018	FY 2018	FY 2018					То	
Resource Summary	Years	FY 2016	FY 2017	Base	oco	Total	FY 2019	FY 2020	FY 2021	FY 2022	Complete	Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	426.726	3.717	4.915	5.728	-	5.728	6.473	6.667	6.867	6.809	Continuing	Continuing
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	426.726	3.717	4.915	5.728	-	5.728	6.473	6.667	6.867	6.809	Continuing	Continuing
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	426.726	3.717	4.915	5.728	-	5.728	6.473	6.667	6.867	6.809	Continuing	Continuing
(The following	Resource Sumi	mary rows are fo	or informational p	urposes only. Th	e corresponding	g budget request	s are documente	d elsewhere.)				
Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (\$ in Thousands)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	-	-	-	-	-	-	-	-	-	-	-	-

### **Description:**

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.

Secondar	ry Distribution	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	3.717	4.915	5.728	-	5.728	6.473	6.667	6.867	6.809
Total:	Quantity	-	-	-	-	-	-	-	-	-
Secondary Distribution	Total Obligation Authority	3.717	4.915	5.728	-	5.728	6.473	6.667	6.867	6.809

#### Justification:

FY 2018 Base procurement dollars in the amount of \$5.728 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.

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 LI C93000 - Air Defense Targets 165 Page 1 of 2 P-1 Line #24 Army

Exhibit P-40, Budget Line Item Justification	n: FY 2018 Army			Date: May 2017		
Appropriation / Budget Activity / Budget St 2032A: Missile Procurement, Army / BA 05: S 10: Support Equipment & Facilities	ub Activity: upport Equipment and Facilities / BSA	P-1 Line Item N C93000 / Air De				
ID Code (A=Service Ready, B=Not Service Ready):	Program Elements for Code B It	ems: N/A	Other Related	Program Elements: N/A		
Line Item MDAP/MAIS Code: N/A						

LI C93000 - Air Defense Targets Army

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Exhibit P-40, Budget Line Item Justification: FY 2018 Army **Date:** May 2017

Appropriation / Budget Activity / Budget Sub Activity:

P-1 Line Item Number / Title:

2032A: Missile Procurement, Army / BA 05: Support Equipment and Facilities / BSA | CL2000 / Items Less Than \$5.0m (Missiles)

10: Support Equipment & Facilities 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

	Prior			FY 2018	FY 2018	FY 2018					То	
Resource Summary	Years	FY 2016	FY 2017	Base	oco	Total	FY 2019	FY 2020	FY 2021	FY 2022	Complete	Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	52.949	1.544	-	-	-	-	-	-	-	-	-	54.493
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	52.949	1.544	-	-	-	-	-	-	-	-	-	54.493
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	52.949	1.544	-	-	-	-	-	-	-	-	-	54.493
(The following	Resource Sum	mary rows are fo	r informational p	ourposes only. Th	ne corresponding	g budget request	s are documente	ed elsewhere.)	1			
Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (\$ in Thousands)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	-	-	-	-	-	-	-	-	-	-	-	-

### **Description:**

Provides for the procurement of various tools and shop sets to perform missile maintenance repair tasks on the Army's missile systems worldwide. The U.S. Army Aviation and Missile Life Cycle Management Command (AMCOM-LCMC) provides materiel support to U.S. Army combat units. Under the AMCOM-LCMC, the Program Executive Office, Missiles and Space (PEO MS) is required to build new toolkits and shop sets and replenish unserviceable toolkits and shop sets.

errop dete arra repression										
Seconda	ry Distribution	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	1.544	-	-	-	-	-	-	-	-
Total:	Quantity	-	-	-	-	-	-	-	-	-
Secondary Distribution	Total Obligation Authority	1.544	-	-	-	-	-	-	-	-

Justification:

There is no FY18 funding.

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Exhibit P-40, Budget Line Item Justification: FY 2018 Army

**Date:** May 2017

Appropriation / Budget Activity / Budget Sub Activity:

P-1 Line Item Number / Title:

2032A: Missile Procurement, Army / BA 05: Support Equipment and Facilities / BSA CA0100 / Production Base Support

10: Support Equipment & Facilities 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

D	Prior	EV 0040	EV 0047	FY 2018	FY 2018	FY 2018	EV 0040	EV 0000	EV 0004	EV 0000	To	Tatal
Resource Summary	Years	FY 2016	FY 2017	Base	oco	Total	FY 2019	FY 2020	FY 2021	FY 2022	Complete	Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	364.169	4.704	1.154	1.189	-	1.189	1.212	1.087	1.047	1.855	Continuing	Continuing
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	364.169	4.704	1.154	1.189	-	1.189	1.212	1.087	1.047	1.855	Continuing	Continuing
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	364.169	4.704	1.154	1.189	-	1.189	1.212	1.087	1.047	1.855	Continuing	Continuing
(The following	Resource Sumi	mary rows are fo	or informational p	urposes only. Th	e corresponding	budget request	s are documente	d elsewhere.)				
Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (\$ in Thousands)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	-	-	-	-	-	-	-	-	-	-	-	-

### **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 is technologically and/or economically obsolete. Modernization of test instrumentation and equipment provides increased automation and efficiencies, improved data quality and cost avoidances 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, NM and Redstone Test Center (RTC), Huntsville, AL.

Secondar	ry Distribution	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	4.704	1.154	1.189	-	1.189	1.212	1.087	1.047	1.855
Total:	Quantity	-	-	-	-	-	-	-	-	-
Secondary Distribution	Total Obligation Authority	4.704	1.154	1.189	-	1.189	1.212	1.087	1.047	1.855

#### Justification:

ATEC: FY 2018 Base procurement dollars in the amount of \$1.189 million support the following: At WSTC, provides lifecycle replacement of optical systems (high definition digital cameras, video recorders, video streamers, tracking and support cameras) to provide a reliable test capability for the collection of Time. Space and Position Information (TSPI) data as well as surveillance of all open air missile testing conducted at the test range. At 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; also upgrades telemetry ground stations to reliably communicate with and track missiles in flight. The majority of the instrumentation being upgraded or replaced is obsolete and has met or exceeded its economic life. 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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