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**Department of Defense
Fiscal Year (FY) 2021 Budget Estimates**

February 2020



Army

*Justification Book of
Aircraft Procurement, Army*

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Army • Budget Estimates FY 2021 • Procurement

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Cost Statement

The following Justification Books were prepared at a cost of \$460,860: 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, Budget Activity 7, and Budget Activity 8.

AIRCRAFT PROCUREMENT, ARMY

Appropriation Language

For construction, procurement, production, modification, and modernization of aircraft, equipment, including ordnance, ground handling equipment, spare parts, and accessories therefor; specialized equipment and training devices; expansion of public and private plants, including the land necessary therefor, 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, \$3,535,674,000 to remain available for obligation until September 30, 2023.

FY 2021 Overseas Contingency Operations funding can be separated into the following categories:

- OCO for Direct War Costs (\$435,340,000): Direct War costs are those combat or direct combat support costs that will not continue to be expended once combat operations end at major contingency locations.
- OCO for Enduring Requirements (\$25,740,000) OCO for Enduring Requirements are enduring in-theater and in-CONUS costs that will likely remain after combat operations cease, and have previously been funded in OCO.

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<u>Appropriation</u>	<u>FY 2019 (Base + OCO)</u>	<u>FY 2020 Base Enacted</u>	<u>FY 2020 Emergency</u>	<u>FY 2020 OCO Enacted</u>
Aircraft Procurement, Army	4,821,346	3,771,329		531,541
Total Department of the Army	4,821,346	3,771,329		531,541

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<u>Appropriation</u>	<u>FY 2020 Total Enacted (Base+Emerg+ OCO)</u>	<u>FY 2021 Base</u>	<u>FY 2021 OCO for Base Requirements</u>	<u>FY 2021 OCO for Direct War and Enduring Costs</u>
Aircraft Procurement, Army	4,302,870	3,074,594		461,080
Total Department of the Army	4,302,870	3,074,594		461,080

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<u>Appropriation</u>	<u>FY 2021 Total OCO</u>	<u>FY 2021 Total (Base + OCO)</u>
Aircraft Procurement, Army	461,080	3,535,674
Total Department of the Army	461,080	3,535,674

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29 Jan 2020

Appropriation: Aircraft Procurement, Army

Budget Activity -----	FY 2019 (Base + OCO) -----	FY 2020 Base Enacted -----	FY 2020 Emergency -----	FY 2020 OCO Enacted -----
01. Aircraft	3,369,475	2,925,223		169,000
02. Modification of Aircraft	1,108,878	498,052		221,012
04. Support Equipment and Facilities	342,993	348,054		141,529
Total Aircraft Procurement, Army	4,821,346	3,771,329		531,541

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Appropriation: Aircraft Procurement, Army

Budget Activity	FY 2020 Total Enacted (Base+Emerg+ OCO)	FY 2021 Base	FY 2021 OCO for Base Requirements	FY 2021 OCO for Direct War and Enduring Costs
01. Aircraft	3,094,223	2,165,782		119,626
02. Modification of Aircraft	719,064	498,004		156,864
04. Support Equipment and Facilities	489,583	410,808		184,590
Total Aircraft Procurement, Army	4,302,870	3,074,594		461,080

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Appropriation: Aircraft Procurement, Army

<u>Budget Activity</u>	<u>FY 2021 Total OCO</u>	<u>FY 2021 Total (Base + OCO)</u>
01. Aircraft	119,626	2,285,408
02. Modification of Aircraft	156,864	654,868
04. Support Equipment and Facilities	184,590	595,398
Total Aircraft Procurement, Army	461,080	3,535,674

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Appropriation: 2031A Aircraft Procurement, Army

Line No	Item Nomenclature	Ident Code	FY 2019 (Base + OCO)		FY 2020 Base Enacted		FY 2020 Emergency		FY 2020 OCO Enacted		S e c
			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	
Budget Activity 01: Aircraft											

Fixed Wing											
1	Utility F/W Aircraft		2	18,644							U
2	MQ-1 UAV	A	10	103,326					9	144,000	U
3	Future UAS Family	A				12,100					U
4	RQ-11 (RAVEN)	A		46,438		21,420					U
Rotary											
5	Spectrum Army Video	A		16,056							U
6	Helicopter, Light Utility (LUH)	A	4	34,000	3	37,000					U
7	AH-64 Apache Block IIIA Reman Less: Advance Procurement (PY)	A	48	(924,158) (-170,910)	49	(993,780) (-174,550)					U U
				753,248		819,230					
8	AH-64 Apache Block IIIA Reman Advance Procurement (CY) C (FY 2019 for FY 2020) (M) C (FY 2020 for FY 2021) (M) C (FY 2021 for FY 2022) (M)			174,550 (174,550)		190,870 (190,870)					U
9	AH-64 Apache Block IIIB New Build Less: Advance Procurement (PY)	A	18	(523,714) (-71,900)		(58,600) (-58,600)					U U
				451,814							
10	AH-64 Apache Block IIIB New Build Advance Procurement (CY) C (FY 2019 for FY 2020) (M)			58,600 (58,600)							U

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Appropriation: 2031A Aircraft Procurement, Army

Line No	Item Nomenclature	Ident Code	FY 2020 Total Enacted (Base+Emerg+OCO)		FY 2021 Base		FY 2021 OCO for Base Requirements		FY 2021 OCO for Direct War and Enduring Costs		S e c
			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	
Budget Activity 01: Aircraft											

Fixed Wing											
1	Utility F/W Aircraft										U
2	MQ-1 UAV	A	9	144,000							U
3	Future UAS Family	A		12,100		1,100					U
4	RQ-11 (RAVEN)	A		21,420		20,851					U
Rotary											
5	Spectrum Army Video	A									U
6	Helicopter, Light Utility (LUH)	A	3	37,000							U
7	AH-64 Apache Block IIIA Reman	A	49	(993,780)	50	(982,897)					U
	Less: Advance Procurement (PY)			(-174,550)		(-190,870)					U
				819,230		792,027					
8	AH-64 Apache Block IIIA Reman			190,870		169,460					U
	Advance Procurement (CY)										
	C (FY 2019 for FY 2020) (M)										
	C (FY 2020 for FY 2021) (M)			(190,870)							
	C (FY 2021 for FY 2022) (M)					(169,460)					
9	AH-64 Apache Block IIIB New Build	A		(58,600)					2	(69,154)	U
	Less: Advance Procurement (PY)			(-58,600)							U
										69,154	
10	AH-64 Apache Block IIIB New Build										U
	Advance Procurement (CY)										
	C (FY 2019 for FY 2020) (M)										

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Appropriation: 2031A Aircraft Procurement, Army

Line No	Item Nomenclature	Ident Code	FY 2021 Total OCO		FY 2021 Total (Base + OCO)		S e c
			Quantity	Cost	Quantity	Cost	
<u>Budget Activity 01: Aircraft</u>							
Fixed Wing							
1	Utility F/W Aircraft						U
2	MQ-1 UAV	A					U
3	Future UAS Family	A			1,100		U
4	RQ-11 (RAVEN)	A			20,851		U
Rotary							
5	Spectrum Army Video	A					U
6	Helicopter, Light Utility (LUH)	A					U
7	AH-64 Apache Block IIIA Reman Less: Advance Procurement (PY)	A			50	(982,897) (-190,870)	U U
						792,027	
8	AH-64 Apache Block IIIA Reman Advance Procurement (CY) C (FY 2019 for FY 2020) (M) C (FY 2020 for FY 2021) (M) C (FY 2021 for FY 2022) (M)					169,460 (169,460)	U U
9	AH-64 Apache Block IIIB New Build Less: Advance Procurement (PY)	A	2	(69,154)	2	(69,154)	U U
				69,154		69,154	
10	AH-64 Apache Block IIIB New Build Advance Procurement (CY) C (FY 2019 for FY 2020) (M)						U

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Line No	Item Nomenclature	Ident Code	FY 2019 (Base + OCO)		FY 2020 Base Enacted		FY 2020 Emergency		FY 2020 OCO Enacted		S e c
			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	
11	UH-60 Blackhawk M Model (MYP) Less: Advance Procurement (PY)		58	(1,239,408) (-80,587)	74	(1,530,167) (-111,563)					U U
				1,158,821		1,418,604					
12	UH-60 Blackhawk M Model (MYP) Advance Procurement (CY) C (FY 2019 for FY 2020) (M) C (FY 2020 for FY 2021) (M) C (FY 2021 for FY 2022) (M)			106,150 (106,150)		79,572 (79,572)					U
13	UH-60 Black Hawk L and V Models	A	18	148,138	25	169,290					U
14	CH-47 Helicopter Less: Advance Procurement (PY)	A	7	(137,098) (-17,820)	8	(151,729) (-20,778)			1	(25,000)	U U
				119,278		130,951				25,000	
15	CH-47 Helicopter Advance Procurement (CY) C (FY 2019 for FY 2020) (M) C (FY 2020 for FY 2021) (M) C (FY 2021 for FY 2022) (M)			20,778 (20,778)		46,186 (46,186)					U
16	Spectrum Army SUAS	A		159,634							U
Total Aircraft				3,369,475		2,925,223				169,000	
Budget Activity 02: Modification of Aircraft											
Modification of Aircraft											
17	MQ-1 Payload (MIP)	A									U
18	Universal Ground Control Equipment (UAS)	A		27,114		2,090					U
19	Gray Eagle Mods2	A		189,781		14,699					U

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Line No	Item Nomenclature	Ident Code	FY 2020 Total Enacted (Base+Emerg+ OCO)		FY 2021 Base		FY 2021 OCO for Base Requirements		FY 2021 OCO for Direct War and Enduring Costs		S e c
			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	
11	UH-60 Blackhawk M Model (MYP) Less: Advance Procurement (PY)		74	(1,530,167) (-111,563)	36	(824,486) (-81,488)					U U
				1,418,604		742,998					
12	UH-60 Blackhawk M Model (MYP) Advance Procurement (CY) C (FY 2019 for FY 2020) (M) C (FY 2020 for FY 2021) (M) C (FY 2021 for FY 2022) (M)			79,572 (79,572)		87,427 (87,427)					U
13	UH-60 Black Hawk L and V Models	A	25	169,290	24	172,797					U
14	CH-47 Helicopter Less: Advance Procurement (PY)	A	9	(176,729) (-20,778)	6	(206,936) (-46,186)			1	(50,472)	U U
				155,951		160,750				50,472	
15	CH-47 Helicopter Advance Procurement (CY) C (FY 2019 for FY 2020) (M) C (FY 2020 for FY 2021) (M) C (FY 2021 for FY 2022) (M)			46,186 (46,186)		18,372 (18,372)					U
16	Spectrum Army SUAS	A									U
Total Aircraft				3,094,223		2,165,782				119,626	

Budget Activity 02: Modification of Aircraft

Modification of Aircraft

17	MQ-1 Payload (MIP)	A							5,968		U
18	Universal Ground Control Equipment (UAS)	A		2,090		7,509					U
19	Gray Eagle Mods2	A		14,699		16,280					U

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Line No	Item Nomenclature	Ident Code	FY 2021 Total OCO		FY 2021 Total (Base + OCO)		S e c
			Quantity	Cost	Quantity	Cost	
11	UH-60 Blackhawk M Model (MYP) Less: Advance Procurement (PY)				36	(824,486) (-81,488)	U U
						742,998	
12	UH-60 Blackhawk M Model (MYP) Advance Procurement (CY) C (FY 2019 for FY 2020) (M) C (FY 2020 for FY 2021) (M) C (FY 2021 for FY 2022) (M)					87,427 (87,427)	U
13	UH-60 Black Hawk L and V Models	A			24	172,797	U
14	CH-47 Helicopter Less: Advance Procurement (PY)	A	1	(50,472)	7	(257,408) (-46,186)	U U
				50,472		211,222	
15	CH-47 Helicopter Advance Procurement (CY) C (FY 2019 for FY 2020) (M) C (FY 2020 for FY 2021) (M) C (FY 2021 for FY 2022) (M)					18,372 (18,372)	U
16	Spectrum Army SUAS	A					U
Total Aircraft				119,626		2,285,408	
Budget Activity 02: Modification of Aircraft							
Modification of Aircraft							
17	MQ-1 Payload (MIP)	A		5,968		5,968	U
18	Universal Ground Control Equipment (UAS)	A				7,509	U
19	Gray Eagle Mods2	A				16,280	U

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Line No	Item Nomenclature	Ident Code	FY 2019 (Base + OCO)		FY 2020 Base Enacted		FY 2020 Emergency		FY 2020 OCO Enacted		S e c
			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	
20	Multi Sensor ABN Recon (MIP)			128,084		35,189				80,260	U
21	AH-64 MODS	A		104,996		58,172					U
22	CH-47 Cargo Helicopter Mods (MYP)			27,807		11,785					U
23	GRCS SEMA Mods (MIP)	A		5,573		5,677				750	U
24	ARL SEMA Mods (MIP)	A		7,522		6,566					U
25	EMARSS SEMA Mods (MIP)	A		60,248		20,959				22,180	U
26	Utility/Cargo Airplane Mods			17,719		13,476				8,362	U
27	Utility Helicopter Mods			32,443		16,744					U
28	Network And Mission Plan	A		118,614		98,226				10	U
29	Comms, Nav Surveillance	A	208	156,969		164,315					U
30	Degraded Visual Environment	A		30,000						49,450	U
31	Aviation ASSURED PNT	A									U
32	GATM Rollup	A	338	26,848		30,966					U
33	RQ-7 UAV MODS	A		154,114		8,983				60,000	U
34	UAS MODS	A		21,046		10,205					U
Total Modification of Aircraft				1,108,878		498,052				221,012	
Budget Activity 04: Support Equipment and Facilities											
Ground Support Avionics											
35	Aircraft Survivability Equipment			46,338		52,297					U

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Line No	Item Nomenclature	Ident Code	FY 2020 Total Enacted (Base+Emerg+OCO)		FY 2021 Base		FY 2021 OCO for Base Requirements		FY 2021 OCO for Direct War and Enduring Costs		S e c
			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	
20	Multi Sensor ABN Recon (MIP)			115,449		35,864			122,520		U
21	AH-64 MODS	A		58,172		118,316					U
22	CH-47 Cargo Helicopter Mods (MYP)			11,785		15,548					U
23	GRCS SEMA Mods (MIP)	A		6,427		2,947					U
24	ARL SEMA Mods (MIP)	A		6,566		9,598					U
25	EMARSS SEMA Mods (MIP)	A		43,139		2,452			26,460		U
26	Utility/Cargo Airplane Mods			21,838		13,868					U
27	Utility Helicopter Mods			16,744		25,842					U
28	Network And Mission Plan	A		98,236		77,432					U
29	Comms, Nav Surveillance	A		164,315		101,355					U
30	Degraded Visual Environment	A		49,450					1,916		U
31	Aviation ASSURED PNT	A				54,609					U
32	GATM Rollup	A		30,966		12,180					U
33	RQ-7 UAV MODS	A		68,983							U
34	UAS MODS	A		10,205		4,204					U
Total Modification of Aircraft				719,064		498,004			156,864		
Budget Activity 04: Support Equipment and Facilities											
Ground Support Avionics											
35	Aircraft Survivability Equipment			52,297		49,455					U

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Line No	Item Nomenclature	Ident Code	FY 2021 Total OCO		FY 2021 Total (Base + OCO)		S e c
			Quantity	Cost	Quantity	Cost	
20	Multi Sensor ABN Recon (MIP)			122,520		158,384	U
21	AH-64 MODS	A				118,316	U
22	CH-47 Cargo Helicopter Mods (MYP)					15,548	U
23	GRCS SEMA Mods (MIP)	A				2,947	U
24	ARL SEMA Mods (MIP)	A				9,598	U
25	EMARSS SEMA Mods (MIP)	A		26,460		28,912	U
26	Utility/Cargo Airplane Mods					13,868	U
27	Utility Helicopter Mods					25,842	U
28	Network And Mission Plan	A				77,432	U
29	Comms, Nav Surveillance	A				101,355	U
30	Degraded Visual Environment	A		1,916		1,916	U
31	Aviation ASSURED PNT	A				54,609	U
32	GATM Rollup	A				12,180	U
33	RQ-7 UAV MODS	A					U
34	UAS MODS	A				4,204	U
Total Modification of Aircraft				156,864		654,868	
Budget Activity 04: Support Equipment and Facilities							
Ground Support Avionics							
35	Aircraft Survivability Equipment					49,455	U

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Line No	Item Nomenclature	Ident Code	FY 2019 (Base + OCO)		FY 2020 Base Enacted		FY 2020 Emergency		FY 2020 OCO Enacted		S e c
			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	
36	Survivability CM			5,853		8,388					U
37	CMWS	A		97,883		13,999				130,219	U
38	Common Infrared Countermeasures (CIRCM)	A	33	60,899	81	168,784				9,310	U
Other Support											
39	Avionics Support Equipment			1,778		1,777					U
40	Common Ground Equipment			34,818		18,624					U
41	Aircrew Integrated Systems			27,243		48,255					U
42	Air Traffic Control		41	63,872		32,738					U
43	Industrial Facilities			1,417							U
44	Launcher, 2.75 Rocket			1,901		2,201					U
45	Launcher Guided Missile: Longbow Hellfire XM2	A		991		991				2,000	U
Total Support Equipment and Facilities				342,993		348,054				141,529	
Total Aircraft Procurement, Army				4,821,346		3,771,329				531,541	

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Line No	Item Nomenclature	Ident Code	FY 2020 Total Enacted (Base+Emerg+ OCO)		FY 2021 Base		FY 2021 OCO for Base Requirements		FY 2021 OCO for Direct War and Enduring Costs		S e c -
			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	
36	Survivability CM			8,388		8,035					U
37	CMWS	A		144,218		10,567			149,162		U
38	Common Infrared Countermeasures (CIRCM)	A	81	178,094	120	237,467			32,400		U
Other Support											
39	Avionics Support Equipment			1,777		1,789					U
40	Common Ground Equipment			18,624		17,584					U
41	Aircrew Integrated Systems			48,255		48,265			3,028		U
42	Air Traffic Control			32,738		26,408					U
43	Industrial Facilities										U
44	Launcher, 2.75 Rocket			2,201		2,256					U
45	Launcher Guided Missile: Longbow Hellfire XM2	A		2,991		8,982					U
Total Support Equipment and Facilities				489,583		410,808			184,590		
Total Aircraft Procurement, Army				4,302,870		3,074,594			461,080		

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Appropriation: 2031A Aircraft Procurement, Army

Line No	Item Nomenclature	Ident Code	FY 2021 Total OCO		FY 2021 Total (Base + OCO)		S e c
			Quantity	Cost	Quantity	Cost	
36	Survivability CM					8,035	U
37	CMWS	A		149,162		159,729	U
38	Common Infrared Countermeasures (CIRCM)	A		32,400	120	269,867	U
Other Support							
39	Avionics Support Equipment					1,789	U
40	Common Ground Equipment					17,584	U
41	Aircrew Integrated Systems			3,028		51,293	U
42	Air Traffic Control					26,408	U
43	Industrial Facilities						U
44	Launcher, 2.75 Rocket					2,256	U
45	Launcher Guided Missile: Longbow Hellfire XM2	A				8,982	U
Total Support Equipment and Facilities				184,590		595,398	
Total Aircraft Procurement, Army				461,080		3,535,674	

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2	01	10	9670A00005	MQ-1 UAV.....	2
3	01	10	9672A00510	Future UAS Family.....	3
4	01	10	9675A00010	RQ-11 (RAVEN).....	5
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6	01	20	4742A05001	Helicopter, Light Utility (LUH).....	14
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11	01	20	6771AA0005	UH-60 Blackhawk M Model (MYP).....	46
12	01	20	6771AA0005	UH-60 Blackhawk M Model (MYP), Advance Procurement.....	55
13	01	20	6773A05009	UH-60 Black Hawk L and V Models.....	59
14	01	20	6775A05101	CH-47 Helicopter.....	65
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Network And Mission Plan	8658AA0712	28	02	10.....	201
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Exhibit P-1M, Procurement Programs - Modification Summary
(Listing by Model)

Lookup Matrix by Model

Model:	UH-60 A and L	
P-3a Individual Modifications		
Modification Number	Modification Title	Applies to Multiple Models
A05009	UH-60 Black Hawk L and V Models	No

Model:	N/A	
P-3a Individual Modifications		
Modification Number	Modification Title	Applies to Multiple Models
A02707	Universal Products	No
A00002	GRAY EAGLE MODS	No

Model:	ARL	
P-3a Individual Modifications		
Modification Number	Modification Title	Applies to Multiple Models
AZ2050	ARL PAYLOADS (MIP)	No

Model:	See individual Mods	
P-3a Individual Modifications		
Modification Number	Modification Title	Applies to Multiple Models
AZ2052	Guardrail Payloads (MIP)	No

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

Model: EMARSS		
P-3a Individual Modifications		
Modification Number	Modification Title	Applies to Multiple Models
AZ2054	EMARSS Payloads (MIP)	No
A02112	EMARSS SEMA Mods (MIP)	No
AA0712	Network And Mission Plan	Yes

Model: Saturn Arch		
P-3a Individual Modifications		
Modification Number	Modification Title	Applies to Multiple Models
AZ2056	ABN ISR MODS (MIP)	No

Model: Longbow Apache		
P-3a Individual Modifications		
Modification Number	Modification Title	Applies to Multiple Models
AA6606	AH-64 APACHE MODS	No

Model: CH-47		
P-3a Individual Modifications		
Modification Number	Modification Title	Applies to Multiple Models
AA0252	CH-47 Cargo Helicopter Mods (MYP)	No

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

Model:	ARL SEMA Modifications	
P-3a Individual Modifications		
Modification Number	Modification Title	Applies to Multiple Models
A02110	ARL SEMA Mods (MIP)	No

Model:	All series Army fixed wing aircraft	
P-3a Individual Modifications		
Modification Number	Modification Title	Applies to Multiple Models
AA0270	Utility/Cargo Airplane Mods	No

Model:	UH-60L	
P-3a Individual Modifications		
Modification Number	Modification Title	Applies to Multiple Models
AA0492	UTILITY HELICOPTER MODS	No

Model:	AH-64D/E	
P-3a Individual Modifications		
Modification Number	Modification Title	Applies to Multiple Models
AA0712	Network And Mission Plan	Yes
AA0723	Comms, Nav Surveillance	Yes
A01006	Aviation ASSURED PNT	Yes

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

Model:	CH-47D/F	
P-3a Individual Modifications		
Modification Number	Modification Title	Applies to Multiple Models
AA0712	Network And Mission Plan	Yes

Model:	UH-60A/L/M/Q/V	
P-3a Individual Modifications		
Modification Number	Modification Title	Applies to Multiple Models
AA0712	Network And Mission Plan	Yes

Model:	HH-60L/M	
P-3a Individual Modifications		
Modification Number	Modification Title	Applies to Multiple Models
AA0712	Network And Mission Plan	Yes

Model:	UH-72	
P-3a Individual Modifications		
Modification Number	Modification Title	Applies to Multiple Models
AA0712	Network And Mission Plan	Yes

Model:	UAS	
P-3a Individual Modifications		
Modification Number	Modification Title	Applies to Multiple Models
AA0712	Network And Mission Plan	Yes
AA0723	Comms, Nav Surveillance	Yes
A01006	Aviation ASSURED PNT	Yes

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

Model:	UAS	
P-3a Individual Modifications		
Modification Number	Modification Title	Applies to Multiple Models
AA0704	GATM - Rotary Wing Aircraft	Yes

Model:	UH/HH-60A/L	
P-3a Individual Modifications		
Modification Number	Modification Title	Applies to Multiple Models
AA0723	Comms, Nav Surveillance	Yes
A01006	Aviation ASSURED PNT	Yes

Model:	UH/HH/MH-60M	
P-3a Individual Modifications		
Modification Number	Modification Title	Applies to Multiple Models
AA0723	Comms, Nav Surveillance	Yes
A01006	Aviation ASSURED PNT	Yes

Model:	CH-47D	
P-3a Individual Modifications		
Modification Number	Modification Title	Applies to Multiple Models
AA0723	Comms, Nav Surveillance	Yes
A01006	Aviation ASSURED PNT	Yes

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

Model:	CH/MH-47F	
P-3a Individual Modifications		
Modification Number	Modification Title	Applies to Multiple Models
AA0723	Comms, Nav Surveillance	Yes
A01006	Aviation ASSURED PNT	Yes

Model:	LUH	
P-3a Individual Modifications		
Modification Number	Modification Title	Applies to Multiple Models
AA0723	Comms, Nav Surveillance	Yes
A01006	Aviation ASSURED PNT	Yes

Model:	UH&HH60A/L	
P-3a Individual Modifications		
Modification Number	Modification Title	Applies to Multiple Models
AA0704	GATM - Rotary Wing Aircraft	Yes

Model:	CH47D/F	
P-3a Individual Modifications		
Modification Number	Modification Title	Applies to Multiple Models
AA0704	GATM - Rotary Wing Aircraft	Yes

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

Model: UH60M		
P-3a Individual Modifications		
Modification Number	Modification Title	Applies to Multiple Models
AA0704	GATM - Rotary Wing Aircraft	Yes

Model: MH47G		
P-3a Individual Modifications		
Modification Number	Modification Title	Applies to Multiple Models
AA0704	GATM - Rotary Wing Aircraft	Yes

Model: MH60M		
P-3a Individual Modifications		
Modification Number	Modification Title	Applies to Multiple Models
AA0704	GATM - Rotary Wing Aircraft	Yes

Model: A/MH6		
P-3a Individual Modifications		
Modification Number	Modification Title	Applies to Multiple Models
AA0704	GATM - Rotary Wing Aircraft	Yes

Model: AH64A/D/E		
P-3a Individual Modifications		
Modification Number	Modification Title	Applies to Multiple Models
AA0704	GATM - Rotary Wing Aircraft	Yes

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

Funding (\$ M)

P-3a Modification Title	PYS	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Exhibit P-3a										
UH-60 Black Hawk L and V Models	10,296.060	148.138	169.290	172.797	-	172.797	173.460	174.482	153.116	156.614
Universal Products	14.926	27.114	2.090	7.509	-	7.509	7.611	-	-	-
GRAY EAGLE MODS	74.085	189.781	14.699	16.280	-	16.280	10.365	8.580	8.674	-
ARL PAYLOADS (MIP)	1,110.165	86.029	77.895	33.561	45.000	78.561	39.218	36.046	18.324	27.834
Guardrail Payloads (MIP)	72.336	23.246	25.408	0.129	25.740	25.869	18.979	-	-	26.010
EMARSS Payloads (MIP)	60.460	18.809	12.146	2.174	10.000	12.174	17.757	7.911	10.511	10.813
ABN ISR MODS (MIP)	-	-	-	-	41.780	41.780	-	-	-	-
AH-64 APACHE MODS	8,890.883	104.996	58.172	118.316	-	118.316	84.420	82.084	64.619	4.954
CH-47 Cargo Helicopter Mods (MYP)	11,042.371	27.807	11.785	15.548	-	15.548	5.488	2.814	3.011	2.769
ARL SEMA Mods (MIP)	66.744	7.522	6.566	9.598	-	9.598	10.338	5.577	6.211	6.422
EMARSS SEMA Mods (MIP)	136.741	60.248	43.139	2.452	26.460	28.912	1.717	1.749	2.180	2.222
Utility/Cargo Airplane Mods	368.138	17.719	21.838	13.868	-	13.868	-	-	-	-
UTILITY HELICOPTER MODS	1,643.404	32.443	16.744	25.842	-	25.842	34.349	34.961	35.143	4.995
Network And Mission Plan	733.536	118.614	98.236	77.432	-	77.432	42.391	50.477	43.275	41.057
Comms, Nav Surveillance	721.662	156.969	164.315	101.355	-	101.355	63.669	71.084	83.360	62.916
Aviation ASSURED PNT	-	-	-	54.609	-	54.609	38.148	69.726	59.006	58.492
GATM - Rotary Wing Aircraft	707.504	26.848	30.966	12.180	-	12.180	9.034	7.668	6.141	4.933
Totals (Total Obligation Authority)										
Total Obligation Authority	35,939.015	1,046.283	753.289	663.650	148.980	812.630	556.944	553.159	493.571	410.031

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Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 01: Aircraft / BSA 10: Fixed Wing **P-1 Line Item Number / Title:** 9440A11300 / Utility F/W Aircraft

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

Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	40	2	-	-	-	-	-	-	-	-	-	42
Gross/Weapon System Cost (<i>\$ in Millions</i>)	394.057	18.644	-	-	-	-	-	-	-	-	-	412.701
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	394.057	18.644	-	-	-	-	-	-	-	-	-	412.701
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	394.057	18.644	-	-	-	-	-	-	-	-	-	412.701

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

Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Thousands</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Thousands</i>)	9,851.425	9,322.000	-	-	-	-	-	-	-	-	-	9,826.214

Description:

The budget line funds the acquisition of Army Fixed Wing Aircraft in support of mission requirements, training, and other support activities. Fixed Wing Aircraft will be capable of self-deploying over extended ranges; provide CONUS/OCONUS time sensitive movement of key personnel and equipment; support to homeland defense/security operations; support to civil and military authorities. This budget line also provides for the acquisition of new commercial-off-the-shelf (COTS), modified COTS, and non-developmental Fixed Wing Aircraft systems including used aircraft systems.

Secondary Distribution	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Army									
Quantity	2	-	-	-	-	-	-	-	-
Total Obligation Authority	18.644	-	-	-	-	-	-	-	-
Total:									
Secondary Distribution									
Quantity	2	-	-	-	-	-	-	-	-
Total Obligation Authority	18.644	-	-	-	-	-	-	-	-

Justification:

President's Budget 2021 submission for Utility F/W Aircraft is zero (\$0).

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Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 01: Aircraft / BSA 10: Fixed Wing **P-1 Line Item Number / Title:** 9670A00005 / MQ-1 UAV

ID Code (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0305204A, 0305219A

Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	258	10	9	-	-	-	-	-	-	-	-	277
Gross/Weapon System Cost (<i>\$ in Millions</i>)	3,503.093	103.326	144.000	-	-	-	-	-	-	-	-	3,750.419
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	3,503.093	103.326	144.000	-	-	-	-	-	-	-	-	3,750.419
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	3,503.093	103.326	144.000	-	-	-	-	-	-	-	-	3,750.419

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

Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Thousands</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Thousands</i>)	13,577.880	10,332.600	16,000.000	-	-	-	-	-	-	-	-	13,539.419

Description:

The MQ-1C Gray Eagle provides reconnaissance, surveillance, intelligence, target acquisition, communications relay, electronic warfare, attack, battle damage assessment, manned-unmanned teaming capabilities and command and control missions providing dedicated mission configured Unmanned Aircraft System (UAS) support to assigned and other Army/Joint Force units based upon commander's priorities. The MQ-1C Gray Eagle is a dedicated, multi-mission UAS fielded to 11 Army Combat Aviation Brigades (CAB), two (2) Army Intelligence and Security Command (INSCOM) units, and two (2) Army Special Operations Command (USASOC) units.

The MQ-1C Gray Eagle system consists of 12 Aircraft, 12 Satellite Communication (SATCOM) Air Data Terminals (SADT), six (6) Universal Ground Control Stations (UGCS), seven (7) Universal Ground Data Terminals (UGDT), three (3) Satellite Ground Data Terminals (SGDT), one (1) Mobile Ground Control Station (MGCS), three (3) Automatic Take-Off & Landing System's (ATLS), standard equipment package, Ground Based Sense And Avoid (GBSAA), and payloads to include; Electro-Optical/Infrared Laser Range Finder/Laser Designator (EO/IR/LD HD), Synthetic Aperture Radar/Ground Moving Target Indicator (SAR/GMTI), communication relay, and Government Furnished Equipment.

4 May 2017, the Army approved an Army Acquisition Objective (AAO) adjustment to bring the total requirement to 204 MQ-1C Gray Eagle aircraft.

Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Army	Quantity	10	9	-	-	-	-	-	-	-
	Total Obligation Authority	103.326	144.000	-	-	-	-	-	-	-
Total: Secondary Distribution	Quantity	10	9	-	-	-	-	-	-	-
	Total Obligation Authority	103.326	144.000	-	-	-	-	-	-	-

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Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 01: Aircraft / BSA 10: Fixed Wing **P-1 Line Item Number / Title:** 9672A00510 / Future UAS Family

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

Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	-	-	12.100	1.100	-	1.100	25.320	52.668	79.937	130.227	-	301.352
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	-	12.100	1.100	-	1.100	25.320	52.668	79.937	130.227	-	301.352
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	-	12.100	1.100	-	1.100	25.320	52.668	79.937	130.227	-	301.352

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

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

Description:

Note - FY2020, this effort was executed under budget line item 0013A01310 / Tactical Unmanned Aircraft System (TUAS).

The Future Unmanned Aircraft System (FUAS) is a critical system in the multi-domain operations concept that will employ cross-domain capabilities at all echelons and allow ground based forces to project power from land into other domains to defeat highly capable enemies, secure terrain, and consolidate gains. FUAS encompasses an array of capabilities from platoon soldiers to Division Commanders.

The Future Vertical Lift Cross Functional Team (FVL CFT) is overseeing a demonstration effort in FY19-21 that will inform the Future Tactical Unmanned Aircraft System (FTUAS) requirement to develop capability that will ultimately replace the RQ-7Bv2 Shadow TUAS within the Brigade Combat Team (BCT) formation. The demonstration effort will focus on conducting analysis and obtaining field data that will inform the FTUAS Capability Development Document (CDD). As part of the program development, a Materiel Development Decision (MDD) review will be held in FY2021 followed by a decision that will identify the appropriate entry into the Milestone Decision process.

The FVL CFT FUAS line of effort will be comprised of multiple components including the FTUAS for the BCT, Air Launched Effects (ALE) and Scalable Control Interface (SCI). The FTUAS seeks to replace the RQ-7Bv2 Shadow assets within the BCTs. Key attributes of the FTUAS focus on Rapid Deployability, Expeditionary Maneuver, and Mobility for adaptive and agile operations. FTUAS will consist of an aircraft subsystem that will include the airframe, propulsion, avionics, communications, navigation, and software systems; aircraft-specific ground support equipment including power generation, transportation, or command and control equipment; aircraft software; and required engineering, logistics, and programmatic support. Manned, optionally- manned, and unmanned systems will penetrate defense-in-depth environments by employing ALE with teaming and swarming effects to detect, decoy, jam RADAR and communications, conduct cyber-attack, spoof and jam GPS, and kinetic engagement.

Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	-	12.100	1.100	-	1.100	25.320	52.668	79.937	130.227
Total: Secondary Distribution	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	-	12.100	1.100	-	1.100	25.320	52.668	79.937	130.227

UNCLASSIFIED

Exhibit P-40, Budget Line Item Justification: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 01: Aircraft / BSA 10: Fixed Wing		P-1 Line Item Number / Title: 9672A00510 / Future UAS Family
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: FY2021 base procurement dollars in the amount of \$1.101 million supports the FVL CFT FTUAS demonstration: Specifically PM support necessary to conclude the FTUAS Demonstration. In accordance with Section 1815 of the FY 2008 National Defense Authorization Act (P.L. 110-181), this item is necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities.		

UNCLASSIFIED

Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 01: Aircraft / BSA 10: Fixed Wing **P-1 Line Item Number / Title:** 9675A00010 / RQ-11 (RAVEN)

ID Code (A=Service Ready, B=Not Service Ready): **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0305232A, 0604101A, 0605205A

Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	253.122	46.438	21.420	20.851	-	20.851	16.397	16.581	21.342	21.560	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	253.122	46.438	21.420	20.851	-	20.851	16.397	16.581	21.342	21.560	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	253.122	46.438	21.420	20.851	-	20.851	16.397	16.581	21.342	21.560	Continuing	Continuing
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Thousands</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Thousands</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

The Rucksack Portable Unmanned Aircraft System (RPUAS) Family of Small Unmanned Aircraft Systems (FoSUAS) provides the battalion and below ground maneuver elements with an organic, on-demand, asset to develop situational awareness, enhance force protection, and secure routes, points, and areas. The system provides the small unit commander an organic and responsive reconnaissance and targeting capability with real-time Full Motion Video and sensor data. The RPUAS FoSUAS includes a combination of three separate hand-launched mission specific configurable aircraft that do not require an improved launch/recovery. The three separate mission specific configurable Unmanned Aircraft (UA) are the Short Range Reconnaissance (SRR), the Medium Range Reconnaissance (MRR), and the Long Range Reconnaissance (LRR).

Secondary Distribution	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Army									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	39.958	21.420	20.851	-	20.851	16.397	6.583	8.555	8.672
ANG									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	6.480	-	-	-	-	-	6.583	8.575	8.693
AR									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	-	-	-	-	-	-	3.415	4.212	4.195
Total: Secondary Distribution									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	46.438	21.420	20.851	-	20.851	16.397	16.581	21.342	21.560

UNCLASSIFIED

Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 01: Aircraft / BSA 10: Fixed Wing **P-1 Line Item Number / Title:** 9675A00010 / RQ-11 (RAVEN)

ID Code (A=Service Ready, B=Not Service Ready): **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0305232A, 0604101A, 0605205A

Line Item MDAP/MAIS Code: N/A

Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	A00010 / RQ-11 (RAVEN)	P-5a, P-21			- / 253.122	- / 46.438	- / 21.420	- / 20.851	- / -	- / 20.851
P-40	Total Gross/Weapon System Cost				- / 253.122	- / 46.438	- / 21.420	- / 20.851	- / -	- / 20.851

*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:
 Justification: FY2021 Base procurement dollars in the amount of \$20.581 million supports procurement of 438 Short Range Reconnaissance (SRR) Systems (system consists of 2 air vehicles, 1 Handheld Ground Control Station (HGCS), Digital Data Link (DDL) and Electro-Optical/Infrared (EO/IR) Payload). Remaining funding is for initial spares packages, training, fielding, technical and program support.

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

UNCLASSIFIED

Exhibit P-5, Cost Analysis: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 01 / 10	P-1 Line Item Number / Title: 9675A00010 / RQ-11 (RAVEN)	Item Number / Title [DODIC]: A00010 / RQ-11 (RAVEN)

ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	253.122	46.438	21.420	20.851	-	20.851
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	253.122	46.438	21.420	20.851	-	20.851
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	253.122	46.438	21.420	20.851	-	20.851

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

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

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

Cost Elements	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Flyaway Cost																		
Recurring Cost																		
RQ-11 B Raven Air Vehicle, GCS/RVT, EO	9.856	6,525	64.309	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RQ-11B Raven Initial Spares Package (ISP)	2.525	6,525	16.477	-	-	8.600	-	-	-	-	-	-	-	-	-	-	-	-
RQ-11B Raven Operator Training	-	-	17.051	-	-	1.000	-	-	-	-	-	-	-	-	-	-	-	-
RQ-11B Other System Hardware	-	-	22.271	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RQ-11B Digital Data Link Retrofit	41.665	1,318	54.914	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RQ-11B Gimbal Payload Retrofit	33.690	1,128	38.002	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RQ-11B Government Furnished Equipment (GFE)	-	-	6.825	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RQ-11B Other Government Agencies/ Core	-	-	12.457	-	-	0.406	-	-	-	-	-	-	-	-	-	-	-	-
RQ-11B Technical	-	-	10.836	-	-	0.455	-	-	-	-	-	-	-	-	-	-	-	-
RQ-11B Logistics (fielding)	-	-	9.980	-	-	0.555	-	-	-	-	-	-	-	-	-	-	-	-
SRR Initial Spares Package (ISP)	-	-	-	-	-	-	-	-	4.500	-	-	4.310	-	-	-	-	-	4.310

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Exhibit P-5, Cost Analysis: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 01 / 10		P-1 Line Item Number / Title: 9675A00010 / RQ-11 (RAVEN)
		Item Number / Title [DODIC]: A00010 / RQ-11 (RAVEN)

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

Cost Elements	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
SRR Training	-	-	-	-	-	-	-	-	0.405	-	-	0.723	-	-	-	-	-	0.723
SRR Logistics (Fielding)	-	-	-	-	-	-	-	-	0.405	-	-	0.388	-	-	-	-	-	0.388
SRR Technical Spt	-	-	-	-	-	-	-	-	0.180	-	-	0.172	-	-	-	-	-	0.172
SRR Program Spt	-	-	-	-	-	-	-	-	0.180	-	-	0.173	-	-	-	-	-	0.173
SFAB Adjustment Funding	-	-	-	-	-	0.022	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	253.122	-	-	11.038	-	-	5.670	-	-	5.766	-	-	-	-	-	5.766
<i>Subtotal: Flyaway Cost</i>	-	-	253.122	-	-	11.038	-	-	5.670	-	-	5.766	-	-	-	-	-	5.766
Hardware Cost																		
Recurring Cost																		
RQ-11B Raven Systems ^(†)	-	-	-	177.000	200	35.400	-	-	-	-	-	-	-	-	-	-	-	-
Short Range Reconnaissance (SRR) Air Vehicles ^(†)	-	-	-	-	-	-	35.000	450	15.750	34.441	438	15.085	-	-	-	34.441	438	15.085
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	35.400	-	-	15.750	-	-	15.085	-	-	-	-	-	15.085
<i>Subtotal: Hardware Cost</i>	-	-	-	-	-	35.400	-	-	15.750	-	-	15.085	-	-	-	-	-	15.085
Gross/Weapon System Cost	-	-	253.122	-	-	46.438	-	-	21.420	-	-	20.851	-	-	-	-	-	20.851

Remarks:

FY2019 actuals have increased by 22,000 beyond the amount actually received. SRR hardware unit cost (35,000) is for 1 SRR system (1 system consists of 2 SRR air vehicles, 1 Handheld Ground Control Station (HGCS), Digital Data Link (DDL) and Electro-Optical/Infrared (EO/IR) Payload).

Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Army	Quantity	-	-	-	-	-
	Total Obligation Authority	39.958	21.420	20.851	-	20.851
ANG	Quantity	-	-	-	-	-
	Total Obligation Authority	6.480	-	-	-	-
Total: Secondary Distribution	Quantity	-	-	-	-	-
	Total Obligation Authority	46.438	21.420	20.851	-	20.851

^(†) indicates the presence of a P-5a

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Exhibit P-5a, Procurement History and Planning: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 01 / 10	P-1 Line Item Number / Title: 9675A00010 / RQ-11 (RAVEN)	Item Number / Title [DODIC]: A00010 / RQ-11 (RAVEN)
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Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty <i>(Each)</i>	Unit Cost <i>(\$ K)</i>	Specs Avail Now?	Date Revision Available	RFP Issue Date
RQ-11B Raven Systems		2019	AeroVironment, INC / Simi Valley, CA	SS / IDIQ	ACC - New Jersey	Feb 2019	Jul 2019	200	177.000	Y	Jul 2018	Jan 2019
Short Range Reconnaissance (SRR) Air Vehicles ^(f)		2020	TBD: Competitive / TBD	C / IDIQ	TBD	Feb 2020	Aug 2020	450	35.000	N		Aug 2019
Short Range Reconnaissance (SRR) Air Vehicles ^(f)		2021	TBD: Competitive / TBD	C / IDIQ	TBD	Feb 2021	Aug 2021	438	34.441	N		Aug 2020

^(f) indicates the presence of a P-21

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Exhibit P-21, Production Schedule: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 01 / 10	P-1 Line Item Number / Title: 9675A00010 / RQ-11 (RAVEN)	Item Number / Title [DODIC]: A00010 / RQ-11 (RAVEN)
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Cost Elements <i>(Units in Each)</i>						Fiscal Year 2019																Fiscal Year 2020												BALANCE
						Calendar Year 2019																Calendar Year 2020												
						O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S					
CT	OV	EC	AN	EB	AR	PR	AY	UN	UL	UG	EP	CT	OV	EC	AN	EB	AR	PR	AY	UN	UL	UG	EP											
Short Range Reconnaissance (SRR) Air Vehicles																																		
1	2020	ARMY	450	0	450																	A	-	-	-	-	-	-	-	-	-	35	35	380
1	2021	ARMY	438	0	438																													438

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Exhibit P-21, Production Schedule: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 01 / 10 **P-1 Line Item Number / Title:** 9675A00010 / RQ-11 (RAVEN) **Item Number / Title [DODIC]:** A00010 / RQ-11 (RAVEN)

Cost Elements <i>(Units in Each)</i>						Fiscal Year 2021											Fiscal Year 2022											BALANCE		
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEP T P R I O R T O 1 O C T 2 0 2 0	BAL D U E A S O F 1 O C T	Calendar Year 2021											Calendar Year 2022												
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N		J U L	A U G
Short Range Reconnaissance (SRR) Air Vehicles																														
	1	2020	ARMY	450	70	380	35	35	35	35	40	40	40	40	40	40													0	
	1	2021	ARMY	438	0	438					A	-	-	-	-	-	36	36	36	36	36	36	36	37	37	37	37	37	37	0
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P

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Exhibit P-21, Production Schedule: PB 2021 Army								Date: February 2020				
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 01 / 10				P-1 Line Item Number / Title: 9675A00010 / RQ-11 (RAVEN)				Item Number / Title [DODIC]: A00010 / RQ-11 (RAVEN)				
MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Month)			Procurement Leadtime (Months)							
		MSR For 2021	1-8-5 For 2021	MAX For 2021	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	TBD: Competitive - TBD	30	60	80	3	4	6	10	0	3	6	9

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

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

UNCLASSIFIED

Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 01: Aircraft / BSA 20: Rotary **P-1 Line Item Number / Title:** 3167A09999 / Spectrum Army Video

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

Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	11.966	16.056	-	-	-	-	-	-	-	-	-	28.022
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	11.966	16.056	-	-	-	-	-	-	-	-	-	28.022
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	11.966	16.056	-	-	-	-	-	-	-	-	-	28.022

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

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

Description:

The Commercial Spectrum Enhancement Act (CSEA) Title II, Public Law 108-494, dated December 23, 2004, established the Spectrum Relocation Fund (SRF) to provide Federal agencies a mechanism to recover the costs associated with relocating communication systems from spectrum bands which were auctioned for commercial purposes.

- The SRF is funded with proceeds from Federal Communications Commission (FCC) conducted auctions of spectrum licenses.
- SRF funds have an indefinite obligation period and remain available until expended (X Year).
- The Department of Defense (DoD) Information Officer (CIO) executes oversight of the DoD spectrum relocation and sharing efforts.

Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	16.056	-	-	-	-	-	-	-	-
Total: Secondary Distribution	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	16.056	-	-	-	-	-	-	-	-

Justification:

The Tactical-Video (TAC-V) Downlink system is an integral component of the Security and Support (S&S) mission set of capabilities. The system consists of the video transmitter and antenna suite which are mounted on the UH-72 Lakota aircraft, the ground-based receiver antenna array, and a ground operator handheld receiver/display device for dismounted operations.

The systems allows the platform to transmit streaming video to the operator on the ground that receives, records, displays, and can play back real-time full motion video imagery and moving map metadata. This system is utilized in the support of state and federal law enforcement agencies, emergency first responders, and border patrol and customs agencies and as such, it is vital that this capability remain available to those agencies.

UNCLASSIFIED

Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 01: Aircraft / BSA 20: Rotary **P-1 Line Item Number / Title:** 4742A05001 / Helicopter, Light Utility (LUH)

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

Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	472	4	3	-	-	-	-	-	-	-	-	479
Gross/Weapon System Cost (<i>\$ in Millions</i>)	3,115.978	34.000	37.000	-	-	-	-	-	-	-	-	3,186.978
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	3,115.978	34.000	37.000	-	-	-	-	-	-	-	-	3,186.978
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	3,115.978	34.000	37.000	-	-	-	-	-	-	-	-	3,186.978

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

Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Thousands</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Thousands</i>)	6,601.648	8,500.000	12,333.333	-	-	-	-	-	-	-	-	6,653.399

Description:

The UH-72 platform will provide the flexibility to respond to Homeland Security (HLS) requirements, conduct civil search and rescue operations, support damage assessment, support test and training centers, perform generating force missions, augment the HH-60 Medical Evacuation (MEDEVAC) aircraft, and provide support to CONUS counterdrug operations. The UH-72 will conduct general support utility helicopter missions and execute tasks as part of an integrated effort with other joint services, government agencies, and non-governmental organizations. The UH-72 provides time-sensitive transport of supplies or key personnel, air mobility to assist civil authorities through the execution of search and rescue or disaster relief operations, advanced warning/detection of external threats to include threats to our borders, augmentation of air ambulance capabilities, and limited command and control operations in the conduct of HLS. As part of the Aviation Restructure Initiative (ARI) the UH-72 became the primary training aircraft at the US Army Aviation Center of Excellence (USAACE) in Ft Rucker. The UH-72 program is currently in full rate production.

Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Army	Quantity	4	3	-	-	-	-	-	-	-
	Total Obligation Authority	34.000	37.000	-	-	-	-	-	-	-
Total: Secondary Distribution	Quantity	4	3	-	-	-	-	-	-	-
	Total Obligation Authority	34.000	37.000	-	-	-	-	-	-	-

Justification:

-- FY20 \$37 million via Congressional funding supports procurement of 3 UH-72 Lakota aircraft and \$10M for expandable rotorcraft diagnostics
 -- FY19 \$34 million via Congressional funding supports procurement of 4 UH-72 Lakota aircraft.
 -- FY18 base procurement dollars in the amount of \$197.501 million supports procurement of 23 UH-72 Lakota aircraft, fielding, and program management for one year. \$90 million of the \$197.501 million arrived via Congressional funding and supports procurement of 11 UH-72 Lakota aircraft.

-- Of the "Prior years" quantity,
 16 of the FY16 aircraft buy were delivered in FY17-FY18,
 23 of the FY17 aircraft buy were delivered in FY18-FY19,

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Exhibit P-40, Budget Line Item Justification: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 01: Aircraft / BSA 20: Rotary		P-1 Line Item Number / Title: 4742A05001 / Helicopter, Light Utility (LUH)
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		
<p>12 of the FY18 aircraft buy will be delivered in FY19-FY20, and 11 of the FY18 aircraft buy will be delivered in FY21-FY22 (pending contract negotiations). 4 of the FY19 aircraft buy will be delivered in FY21-FY22 (pending contract negotiations). 3 of the FY20 aircraft buy will be delivered in FY21-FY22 (pending contract negotiations).</p> <p>-- Current Army Acquisition Objective is 478 aircraft and the current Army Procurement Objective is 477 aircraft. -- Total procurement quantity of 477 includes two attrited aircraft. Two High-Altitude Army National Guard Aviation Training Site aircraft procured with National Guard Bureau funding are not included in total quantity.</p> <p>In accordance with section 1815 of the FY 2008 National Defense Authorization Act (P.L. 110-181), this item is necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses and providing military support to civil authorities.</p>		

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Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 01: Aircraft / BSA 20: Rotary **P-1 Line Item Number / Title:** 5757A05111 / AH-64 Apache Block IIIA Reman

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

Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	334	48	49	50	-	50	31	34	42	32	Continuing	Continuing
Gross/Weapon System Cost (<i>\$ in Millions</i>)	6,933.203	924.158	993.780	982.897	-	982.897	682.765	701.834	974.726	571.077	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	1,227.186	170.910	174.550	190.870	-	190.870	169.460	192.230	169.218	-	Continuing	Continuing
Net Procurement (P-1) (<i>\$ in Millions</i>)	5,706.017	753.248	819.230	792.027	-	792.027	513.305	509.604	805.508	571.077	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	1,398.096	174.550	190.870	169.460	-	169.460	192.230	169.218	-	-	Continuing	Continuing
Total Obligation Authority (<i>\$ in Millions</i>)	7,104.113	927.798	1,010.100	961.487	-	961.487	705.535	678.822	805.508	571.077	Continuing	Continuing

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

Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Thousands</i>)	95.870	18.210	18.780	17.270	-	17.270	18.800	0.000	0.000	0.000	Continuing	Continuing
Gross/Weapon System Unit Cost (<i>\$ in Thousands</i>)	20,758.093	19,253.292	20,281.224	19,657.940	-	19,657.940	22,024.677	20,642.176	23,207.762	17,846.156	Continuing	Continuing

Description:

AH-64E Reman is a complete remanufacture using a new airframe and meets all the requirements for Army and Joint interoperability goals for the future and adds significant combat capability while addressing obsolescence issues, ensuring the aircraft remains a viable combat multiplier beyond its lifecycle. The Army's only heavy attack helicopter, the AH-64E is fully digital with the latest technologies, adding significant combat capability to the aircraft. The AH-64E Apache is implementing an incremental design and fielding strategy as noted in the approved Capability Production Document (CPD). AH-64E Capability Version 1 includes Improved Drive and Propulsion System, Composite Main Rotor Blades (CMRB), Unmanned Aircraft System (UAS) Level III-IV Control, Improved Communications Suite, Improved Electronics / Modular Open Systems Approach, and Radar Electronics Unit (REU). Capability Version 4 includes Link 16, Air to Air to Ground (AAG) Video Relay, System Level Embedded Diagnostics (SLED), and provisions for Reduced-Size Crashworthy External Fuel Systems (RCEFS). Capability Version 6 includes Fire Control Radar (FCR) enhancements, Maritime Targeting Mode, Expanded Link-16, Image Blending, Multi-Mode Laser (MML), and Interactive Electronic Technical Manual (IETM) Upgrade. Production Lots 1-4 are Version 1 capable, Production Lots 5-8 are Version 4 capable, and Version 6 is planned for inclusion into the remaining Production Lots beginning with Production Lot 9. Upgrades are integrated as incremental block modifications. Other associated Government Furnished Equipment (GFE) such as the, Modernized Radar Frequency Interferometer (M-RFI), Radar Electronics Unit (REU), and Manned/Unmanned Teaming Extended Capability (MUMT-X) will be procured and provided in accordance with the basis of issue plan. The program addresses operational shortfalls identified during real-world combat missions, meets Apache Capability Production Document (CPD) requirements for modernization, and provides necessary training, initial spares, and Peculiar Ground Support Equipment (PGSE). AH-64E aircraft entered the fleet in 2012.

"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."

Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Army	Quantity	48	25	26	-	26	31	10	18	32
	Total Obligation Authority	927.798	505.050	499.513	-	499.513	705.535	199.172	344.765	571.077
ANG	Quantity	-	24	24	-	24	-	24	24	-
	Total Obligation Authority	-	505.050	461.974	-	461.974	-	479.650	460.743	-
Total: Secondary Distribution	Quantity	48	49	50	-	50	31	34	42	32
	Total Obligation Authority	927.798	1,010.100	961.487	-	961.487	705.535	678.822	805.508	571.077

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Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 01: Aircraft / BSA 20: Rotary **P-1 Line Item Number / Title:** 5757A05111 / AH-64 Apache Block IIIA Reman

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

Line Item MDAP/MAIS Code: N/A

Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	A05111 / AH-64 Apache Block IIIA Reman	P-5a, P-21			334 / 6,933.203	48 / 924.158	49 / 993.780	50 / 982.897	- / -	50 / 982.897
P-40	Total Gross/Weapon System Cost				334 / 6,933.203	48 / 924.158	49 / 993.780	50 / 982.897	- / -	50 / 982.897

*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:
 FY21 Base procurement dollars in the amount of \$961.487 millions supports Advance Procurement (AP), Full Rate Production (FRP) of AH-64E Apache Reman aircraft and associated support. This program was restructured in 2010 from the single AH-64E Apache (A05111) into two separate programs, AH-64E Apache Reman (A05111) and AH-64E Apache New Build (A05133).
 The Apache Reman Program assumes a cost sharing with the New Build Program in accordance with the New Build Army Program Baseline (APB).
 The current AH-64E Apache Remanufacture and New Build Army Procurement Objective (APO) is 791 Aircraft. The total AH-64E (Remanufacture and New Build) Army Acquisition Objective (AAO) is 812 Aircraft.
 The Apache Reman Program quantities and associated funding include a Multi-year contract from FY17- FY21 and assumes approval for a subsequent Multi-year contract in FY22 through FY26. The Apache Reman and New Build Programs are planning continued production of aircraft through FY2027 to meet the Army Procurement Objective (APO).
 Currently the total lead time (time from when first materials must be committed to aircraft delivery) is in excess of 24 months. The Cost Assessment and Program Evaluation (CAPE) Independent Cost Estimate (ICE) utilized 18% to 22% for Advance Procurement (AP). Each year's AP can be divided into 2 segments: 1) Government Furnished Equipment (GFE) such as engines, sensors and avionics and 2) Contractor Furnished Equipment (CFE). Material includes production components to support deliveries, provisioning material, pre-modification effort, and any potential termination liability costs. Long lead items include, but not limited to, such items as the Main Rotor Drive Shaft, Composite Main Rotor Blade, Improved Drive System, and Composite Stabilator IAW Financial Management Regulation (FMR) 7000.14-R.
 The Economical Production Rate of 98 aircraft per year is the maximum capacity at Full Rate Production assuming a 1-8-5 shift. This requirement is driven primarily by the production rate associated with current fuselage tooling capabilities. In order to increase the 1-8-5 (single shift) production rate, additional tooling must be procured. Capacity can be expanded to 144 aircraft per year with additional investment.

Comments:
 "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: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 01 / 20		P-1 Line Item Number / Title: 5757A05111 / AH-64 Apache Block IIIA Reman
		Item Number / Title [DODIC]: A05111 / AH-64 Apache Block IIIA Reman

ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Procurement Quantity (Units in Each)	334	48	49	50	-	50
Gross/Weapon System Cost (\$ in Millions)	6,933.203	924.158	993.780	982.897	-	982.897
Less PY Advance Procurement (\$ in Millions)	1,227.186	170.910	174.550	190.870	-	190.870
Net Procurement (P-1) (\$ in Millions)	5,706.017	753.248	819.230	792.027	-	792.027
Plus CY Advance Procurement (\$ in Millions)	1,398.096	174.550	190.870	169.460	-	169.460
Total Obligation Authority (\$ in Millions)	7,104.113	927.798	1,010.100	961.487	-	961.487

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

Initial Spares (\$ in Millions)	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	20,758.093	19,253.292	20,281.224	19,657.940	-	19,657.940

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

Cost Elements	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Flyaway Cost																		
Recurring Cost																		
CFE ^(†)	15,180.144	340	5,161.249	13,794.229	48	662.123	13,969.796	49	684.520	13,891.740	50	694.587	-	-	-	13,891.740	50	694.587
GFE	2,751.418	340	935.482	3,739.646	48	179.503	3,784.592	49	185.445	3,656.380	50	182.819	-	-	-	3,656.380	50	182.819
Non-Recurring Costs	-	-	434.379	-	-	3.588	-	-	3.723	-	-	3.860	-	-	-	-	-	3.860
Support Equipment	-	-	82.357	-	-	20.608	-	-	21.741	-	-	19.828	-	-	-	-	-	19.828
Other Costs	-	-	245.254	-	-	48.602	-	-	84.899	-	-	66.901	-	-	-	-	-	66.901
Initial Spares	-	-	74.482	-	-	9.734	-	-	13.452	-	-	14.902	-	-	-	-	-	14.902
<i>Subtotal: Recurring Cost</i>	<i>-</i>	<i>-</i>	<i>6,933.203</i>	<i>-</i>	<i>-</i>	<i>924.158</i>	<i>-</i>	<i>-</i>	<i>993.780</i>	<i>-</i>	<i>-</i>	<i>982.897</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>982.897</i>
<i>Subtotal: Flyaway Cost</i>	<i>-</i>	<i>-</i>	<i>6,933.203</i>	<i>-</i>	<i>-</i>	<i>924.158</i>	<i>-</i>	<i>-</i>	<i>993.780</i>	<i>-</i>	<i>-</i>	<i>982.897</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>982.897</i>
Gross/Weapon System Cost	20,758.093	334	6,933.203	19,253.292	48	924.158	20,281.224	49	993.780	19,657.940	50	982.897	-	-	-	19,657.940	50	982.897

Secondary Distribution	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Army	Quantity 48	25	26	-	26
	Total Obligation Authority 927.798	505.050	499.513	-	499.513
ANG	Quantity -	24	24	-	24
	Total Obligation Authority -	505.050	461.974	-	461.974
Total:	Quantity 48	49	50	-	50

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Exhibit P-5, Cost Analysis: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 01 / 20	P-1 Line Item Number / Title: 5757A05111 / AH-64 Apache Block IIIA Reman	Item Number / Title [DODIC]: A05111 / AH-64 Apache Block IIIA Reman

ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Secondary Distribution	Total Obligation Authority	927.798	1,010.100	961.487	-	961.487

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

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Exhibit P-5a, Procurement History and Planning: PB 2021 Army							Date: February 2020					
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 01 / 20			P-1 Line Item Number / Title: 5757A05111 / AH-64 Apache Block IIIA Reman				Item Number / Title [DODIC]: A05111 / AH-64 Apache Block IIIA Reman					

Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty <i>(Each)</i>	Unit Cost <i>(\$ K)</i>	Specs Avail Now?	Date Revision Available	RFP Issue Date
CFE ^(†)		2014	The Boeing Company / Mesa, AZ	SS / FPIF	AMCOM	Mar 2014	Feb 2015	35	15,570.229	Y		Jul 2012
CFE ^(†)		2015	The Boeing Company / Mesa, AZ	SS / FPIF	AMCOM	Mar 2015	Feb 2016	53	14,679.510	Y		Aug 2014
CFE ^(†)		2016	The Boeing Company / Mesa, AZ	SS / FPIF	AMCOM	Mar 2016	Jan 2017	64	13,759.470	Y		Aug 2014
CFE		2017	The Boeing Company / Mesa, AZ	SS / FFP	AMCOM	Mar 2017	Jan 2019	52	13,565.810	Y		Aug 2015
CFE ^(†)		2018	The Boeing Company / Mesa, AZ	SS / FFP	AMCOM	Mar 2018	Jul 2019	48	12,956.958	Y		Aug 2015
CFE ^(†)		2019	The Boeing Company / Mesa, AZ	SS / FFP	AMCOM	Mar 2019	Jul 2020	48	13,794.229	Y		Aug 2015
CFE ^(†)		2020	The Boeing Company / Mesa, AZ	SS / FFP	AMCOM	Mar 2020	May 2021	49	13,969.796	Y		Aug 2015
CFE ^(†)		2021	The Boeing Company / Mesa, AZ	SS / FFP	AMCOM	Mar 2021	Jun 2022	50	13,891.740	Y		Aug 2015

^(†) indicates the presence of a P-21

Remarks:

Major Contractor Furnished Equipment (CFE) cost drivers include, but not limited to, the Fuselage, Transmission, and Composite Main Rotor Blades. Major Government Furnished Equipment (GFE) includes engines, Embedded Global Positioning System Inertial Navigation Systems (EGIs), Radar Electronics Unit (REU), Modernized Target Acquisition Designation System (MTADS)/Pilot Night Vision System (PNVS) and Manned/Unmanned Teaming Extended Capability (MUMT-X). Other Cost includes Support Equipment, Peculiar Ground Support Equipment (PGSE), and Government Program Management Support.

Delivery schedules appear to extend beyond the 12 month period for the following reasons: Yearly procurement consist of AH-64E Remanufactured and New Build aircraft. Both variants are awarded on different contract line items. While each of these efforts deliver all of their aircraft within a 12 month span, they do not deliver within the same 12 month time period.

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Exhibit P-21, Production Schedule: PB 2021 Army			Date: February 2020				
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 01 / 20		P-1 Line Item Number / Title: 5757A05111 / AH-64 Apache Block IIIA Reman			Item Number / Title [DODIC]: A05111 / AH-64 Apache Block IIIA Reman		

Cost Elements (Units in Each)					Fiscal Year 2014												Fiscal Year 2015												B A L A N C E		
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2013	BAL DUE AS OF 1 OCT	Calendar Year 2014												Calendar Year 2015												
							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
CFE																															
Prior Years Deliveries: 88																															
1		2014	ARMY	35	0	35																								9	
1		2015	ARMY	53	0	53																								53	
1		2016	ARMY	64	0	64																								64	
1		2018	ARMY	48	0	48																								48	
1		2019	ARMY	48	0	48																								48	
1		2020	ARMY	49	0	49																								49	
1		2021	ARMY	50	0	50																								50	

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Exhibit P-21, Production Schedule: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 01 / 20		P-1 Line Item Number / Title: 5757A05111 / AH-64 Apache Block IIIA Reman
		Item Number / Title [DODIC]: A05111 / AH-64 Apache Block IIIA Reman

Cost Elements <i>(Units in Each)</i>					Fiscal Year 2016													Fiscal Year 2017													B A L A N C E		
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2015	BAL DUE AS OF 1 OCT	Calendar Year 2016													Calendar Year 2017													
							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			
CFE																																	
Prior Years Deliveries: 88																																	
1		2014	ARMY	35	26	9	3	3	3																				0				
1		2015	ARMY	53	0	53	-	-	-	-	3	4	4	3	2	3	2	2	2	3	4	3	-	-	-	-	-	-	18				
1		2016	ARMY	64	0	64																1	4	4	4	5	5	5	5	26			
1		2018	ARMY	48	0	48																							48				
1		2019	ARMY	48	0	48																							48				
1		2020	ARMY	49	0	49																							49				
1		2021	ARMY	50	0	50																							50				
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P			

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Exhibit P-21, Production Schedule: PB 2021 Army			Date: February 2020				
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 01 / 20		P-1 Line Item Number / Title: 5757A05111 / AH-64 Apache Block IIIA Reman			Item Number / Title [DODIC]: A05111 / AH-64 Apache Block IIIA Reman		

Cost Elements <i>(Units in Each)</i>						Fiscal Year 2018														Fiscal Year 2019														BALANCE	
O C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2017	BAL DUE AS OF 1 OCT	Calendar Year 2018														Calendar Year 2019														
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					
CFE																																			
Prior Years Deliveries: 88																																			
1	2014	ARMY		35	35	0																													0
1	2015	ARMY		53	35	18	-	-	-	-	1	6	6	5																					0
1	2016	ARMY		64	38	26	5	5	5	6	5																								0
1	2018	ARMY		48	0	48						A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	4	4	39
1	2019	ARMY		48	0	48																													48
1	2020	ARMY		49	0	49																													49
1	2021	ARMY		50	0	50																													50
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					

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Exhibit P-21, Production Schedule: PB 2021 Army				Date: February 2020							
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 01 / 20				P-1 Line Item Number / Title: 5757A05111 / AH-64 Apache Block IIIA Reman				Item Number / Title [DODIC]: A05111 / AH-64 Apache Block IIIA Reman			

Cost Elements <i>(Units in Each)</i>						Fiscal Year 2020										Fiscal Year 2021										BALANCE				
O C O #	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2019	BAL DUE AS OF 1 OCT	Calendar Year 2020										Calendar Year 2021													
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R		M A Y	J U N	J U L	A U G
CFE																														
Prior Years Deliveries: 88																														
1		2014	ARMY	35	35	0																						0		
1		2015	ARMY	53	53	0																						0		
1		2016	ARMY	64	64	0																						0		
1		2018	ARMY	48	9	39	5	4	4	5	4	4	4	4	5													0		
1		2019	ARMY	48	0	48	-	-	-	-	-	-	-	-	5	5	5	5	4	4	5	5	5	5				0		
1		2020	ARMY	49	0	49																						24		
1		2021	ARMY	50	0	50																						50		
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P

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Exhibit P-21, Production Schedule: PB 2021 Army															Date: February 2020														
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 01 / 20										P-1 Line Item Number / Title: 5757A05111 / AH-64 Apache Block IIIA Reman										Item Number / Title [DODIC]: A05111 / AH-64 Apache Block IIIA Reman									

Cost Elements <i>(Units in Each)</i>						Fiscal Year 2022												Fiscal Year 2023												BALANCE	
O C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2021	BAL DUE AS OF 1 OCT	Calendar Year 2022												Calendar Year 2023												
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G		S E P

CFE																														
Prior Years Deliveries: 88																														
1	2014	ARMY	35	35	0																								0	
1	2015	ARMY	53	53	0																								0	
1	2016	ARMY	64	64	0																								0	
1	2018	ARMY	48	48	0																								0	
1	2019	ARMY	48	48	0																								0	
1	2020	ARMY	49	25	24		5	4	4	5	5	1																	0	
1	2021	ARMY	50	0	50		-	-	-	-	-	-	-	4	4	4	5	4	4	4	4	4	4	4	5	4			0	
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P

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Exhibit P-21, Production Schedule: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 01 / 20		P-1 Line Item Number / Title: 5757A05111 / AH-64 Apache Block IIIA Reman
		Item Number / Title [DODIC]: A05111 / AH-64 Apache Block IIIA Reman

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Month)			Procurement Leadtime (Months)							
		MSR For 2021	1-8-5 For 2021	MAX For 2021	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	The Boeing Company - Mesa, AZ	48	98	144	0	11	13	24	0	6	12	18

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

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

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Exhibit P-40, Advance Procurement Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 01: Aircraft / BSA 20: Rotary	P-1 Line Item Number / Title: 5757A05111 / AH-64 Apache Block IIIA Reman
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Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Gross/Weapon System Cost (<i>\$ in Millions</i>)	1,398.096	174.550	190.870	169.460	-	169.460	192.230	169.218	-	-	Continuing	Continuing
Net Procurement (P-1) (<i>\$ in Millions</i>)	1,398.096	174.550	190.870	169.460	-	169.460	192.230	169.218	-	-	Continuing	Continuing
Total Obligation Authority (<i>\$ in Millions</i>)	1,398.096	174.550	190.870	169.460	-	169.460	192.230	169.218	-	-	Continuing	Continuing

Description:

AH-64E Reman is a complete remanufacture using a new airframe and meets all the requirements for Army and Joint interoperability goals for the future and adds significant combat capability while addressing obsolescence issues, ensuring the aircraft remains a viable combat multiplier beyond its lifecycle. The Army's only heavy attack helicopter, the AH-64E is fully digital with the latest technologies, adding significant combat capability to the aircraft. The AH-64E Apache is implementing an incremental design and fielding strategy as noted in the approved Capability Production Document (CPD). AH-64E Capability Version 1 includes Improved Drive and Propulsion System, Composite Main Rotor Blades (CMRB), Unmanned Aircraft System (UAS) Level III-IV Control, Improved Communications Suite, Improved Electronics / Modular Open Systems Approach, and Radar Electronics Unit (REU). Capability Version 4 includes Link 16, Air to Air to Ground (AAG) Video Relay, System Level Embedded Diagnostics (SLED), and provisions for Reduced-Size Crashworthy External Fuel Systems (RCEFS). Capability Version 6 includes Fire Control Radar (FCR) enhancements, Maritime Targeting Mode, Expanded Link-16, Image Blending, Multi-Mode Laser (MML), and Interactive Electronic Technical Manual (IETM) Upgrade. Production Lots 1-4 are Version 1 capable, Production Lots 5-8 are Version 4 capable, and Version 6 is planned for inclusion into the remaining Production Lots beginning with Production Lot 9. Upgrades are integrated as incremental block modifications. Other associated Government Furnished Equipment (GFE) such as the, Modernized Radar Frequency Interferometer (M-RFI), Radar Electronics Unit (REU), and Manned/Unmanned Teaming Extended Capability (MUMT-X) will be procured and provided in accordance with the basis of issue plan. The program addresses operational shortfalls identified during real-world combat missions, meets Apache Capability Production Document (CPD) requirements for modernization, and provides necessary training, initial spares, and Peculiar Ground Support Equipment (PGSE). AH-64E aircraft entered the fleet in 2012.

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Exhibit P-40, Advance Procurement Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 01: Aircraft / BSA 20: Rotary **P-1 Line Item Number / Title:** 5757A05111 / AH-64 Apache Block IIIA Reman

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 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-10	A05111 / AH-64 Apache Block IIIA Reman			334 / 1,398.096	48 / 174.550	49 / 190.870	50 / 169.460	- / -	50 / 169.460
P-40	Total Gross/Weapon System Cost			334 / 1,398.096	48 / 174.550	49 / 190.870	50 / 169.460	- / -	50 / 169.460

*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:
 FY21 Base procurement dollars in the amount of \$961.487 millions supports Advance Procurement (AP), Full Rate Production (FRP) of AH-64E Apache Reman aircraft and associated support. This program was restructured in 2010 from the single AH-64E Apache (A05111) into two separate programs, AH-64E Apache Reman (A05111) and AH-64E Apache New Build (A05133).
 The Apache Reman Program assumes a cost sharing with the New Build Program in accordance with the New Build Army Program Baseline (APB).
 The current AH-64E Apache Remanufacture and New Build Army Procurement Objective (APO) is 791 Aircraft. The total AH-64E (Remanufacture and New Build) Army Acquisition Objective (AAO) is 812 Aircraft.
 The Apache Reman Program quantities and associated funding include a Multi-year contract from FY17- FY21 and assumes approval for a subsequent Multi-year contract in FY22 through FY26. The Apache Reman and New Build Programs are planning continued production of aircraft through FY2027 to meet the Army Procurement Objective (APO).
 Currently the total lead time (time from when first materials must be committed to aircraft delivery) is in excess of 24 months. The Cost Assessment and Program Evaluation (CAPE) Independent Cost Estimate (ICE) utilized 18% to 22% for Advance Procurement (AP). Each year's AP can be divided into 2 segments: 1) Government Furnished Equipment (GFE) such as engines, sensors and avionics and 2) Contractor Furnished Equipment (CFE). Material includes production components to support deliveries, provisioning material, pre-modification effort, and any potential termination liability costs. Long lead items include, but not limited to, such items as the Main Rotor Drive Shaft, Composite Main Rotor Blade, Improved Drive System, and Composite Stabilator IAW Financial Management Regulation (FMR) 7000.14-R.
 The Economical Production Rate of 98 aircraft per year is the maximum capacity at Full Rate Production assuming a 1-8-5 shift. This requirement is driven primarily by the production rate associated with current fuselage tooling capabilities. In order to increase the 1-8-5 (single shift) production rate, additional tooling must be procured. Capacity can be expanded to 144 aircraft per year with additional investment.

Comments:
 "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-10, Advance Procurement Requirements Analysis (page 1 - Budget Funding Justification): PB 2021 Army					Date: February 2020	
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 01 / 20		P-1 Line Item Number / Title: 5757A05111 / AH-64 Apache Block IIIA Reman			P-5 Number / Title: A05111 / AH-64 Apache Block IIIA Reman	
First System (2021) Award Date: July 2009		First System (2021) Completion Date: November 2011			Interval Between Systems: 1 Months	
AH-64 Apache Block IIIA Reman		Production Leadtime <i>(Months)</i>	Prior Years <i>(Each)</i>	FY 2019 <i>(Each)</i>	FY 2020 <i>(Each)</i>	FY 2021 <i>(Each)</i>
Quantity			334	48	49	50
Cost Elements		When Required <i>(Months)</i>	Prior Years <i>(\$ M)</i>	FY 2019 <i>(\$ M)</i>	FY 2020 <i>(\$ M)</i>	FY 2021 <i>(\$ M)</i>
Other						
CFE		6	977.222	115.203	190.870	111.843
GFE		6	420.874	59.347	-	57.617
<i>Total: Other</i>			<i>1,398.096</i>	<i>174.550</i>	<i>190.870</i>	<i>169.460</i>
Total Advance Procurement/Obligation Authority			1,398.096	174.550	190.870	169.460

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Exhibit P-10, Advance Procurement Requirements Analysis (page 2 - Budget Funding Justification): PB 2021 Army						Date: February 2020	
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 01 / 20		P-1 Line Item Number / Title: 5757A05111 / AH-64 Apache Block IIIA Reman				P-5 Number / Title: A05111 / AH-64 Apache Block IIIA Reman	
		FY 2021					
Cost Elements	QPA (Each)	Production Leadtime (Months)	Unit Cost (\$ K)	Contract Forecast Date	2021 Qty (Each)	For FY	Total Cost Request (\$ M)
Other							
CFE	26						111.843
GFE	26						57.617
<i>Total: Other</i>							169.460
Total Advance Procurement/Obligation Authority							169.460

Description:
 Currently the total lead time (time from when first materials must be committed to aircraft delivery) is in excess of 24 months. The Cost Assessment and Program Evaluation (CAPE) Independent Cost Estimate (ICE) utilized 18% to 22% for Advance Procurement (AP) for single year contracts. Each year's AP can be divided into 2 segments: 1) Government Furnished Equipment (GFE) such as engines, sensors and avionics and 2) Contractor Furnished Equipment (CFE). Material includes production components to support deliveries, provisioning material, pre-modification effort, and any potential termination liability costs. Long lead items include the Main Rotor Drive Shaft, Composite Main Rotor Blade, Improved Drive System, and Composite Stabilator.

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Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 01: Aircraft / BSA 20: Rotary **P-1 Line Item Number / Title:** 5840A05133 / AH-64 Apache Block IIIB New Build

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: 437

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	61	18	-	-	2	2	-	-	-	-	Continuing	Continuing
Gross/Weapon System Cost (<i>\$ in Millions</i>)	1,833.014	523.714	58.600	0.000	69.154	69.154	-	-	-	-	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	156.307	71.900	58.600	-	-	-	-	-	-	-	Continuing	Continuing
Net Procurement (P-1) (<i>\$ in Millions</i>)	1,676.707	451.814	0.000	0.000	69.154	69.154	-	-	-	-	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	228.207	58.600	-	-	-	-	-	-	-	-	Continuing	Continuing
Total Obligation Authority (<i>\$ in Millions</i>)	1,904.914	510.414	0.000	0.000	69.154	69.154	-	-	-	-	Continuing	Continuing
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Thousands</i>)	65.910	27.810	21.990	34.120	0.000	34.120	-	-	-	-	Continuing	Continuing
Gross/Weapon System Unit Cost (<i>\$ in Thousands</i>)	30,049.410	29,095.222	-	-	34,577.000	34,577.000	-	-	-	-	Continuing	Continuing

Description:

The AH-64E Apache New Build aircraft is the same configuration as the AH-64E Remanufacture aircraft and procured using the same contracts. While the AH-64E Remanufacture program inducts aging AH-64D aircraft into a remanufacture production line, the AH-64E New Build program assembles all new components resulting in completely new aircraft at the end of the production process. These aircraft are procured at a significantly higher cost because they include all new components. A new build Modernized Target Acquisition Designation Sight / Pilot Night Vision Sensor (MTADS/PNVS) system will be procured and provided with each aircraft. Other associated Government Furnished Equipment (GFE) such as the Fire Control Radar (FCR), Modernized Radar Frequency Interferometer (M-RFI), Radar Electronics Unit (REU), and Manned/Unmanned Teaming Extended Capability (MUMT-X) will be procured and provided in accordance with the basis of issue plan.

Secondary Distribution	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Army									
Quantity	18	-	-	2	2	-	-	-	-
Total Obligation Authority	510.414	-	-	69.154	69.154	-	-	-	-
Total:									
Secondary Distribution									
Quantity	18	-	-	2	2	-	-	-	-
Total Obligation Authority	510.414	-	-	69.154	69.154	-	-	-	-

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Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 01: Aircraft / BSA 20: Rotary **P-1 Line Item Number / Title:** 5840A05133 / AH-64 Apache Block IIIB New Build

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: 437

Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	A05133 / AH-64 Apache Block IIIB New Build	P-5a, P-21			61 / 1,833.014	18 / 523.714	- / 58.600	- / 0.000	2 / 69.154	2 / 69.154
P-40	Total Gross/Weapon System Cost				61 / 1,833.014	18 / 523.714	- / 58.600	- / 0.000	2 / 69.154	2 / 69.154

*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:

FY2021 Overseas Contingency Operations (OCO) procurement dollars in the amount of \$69.154 million supports war time replacement aircraft and associated support.

This program was restructured in 2010 from the single AH-64E Apache (A05111) into two separate programs, AH-64E Apache Reman (A05111) and AH-64E Apache New Build (A05133).

The current AH-64E Apache Remanufacture and New Build Army Procurement Objective (APO) is 791 Aircraft. The total AH-64E (Remanufacture and New Build) Army Acquisition Objective (AAO) is 812 Aircraft.

Additionally, the New Build program funding includes Congressionally appropriated Overseas Contingency Operations (OCO) funding to procure New Build aircraft to fill aircraft shortages due to combat attrition and training loss. OCO funding does not provide advance procurement for long lead items for these aircraft.

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Exhibit P-5, Cost Analysis: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 01 / 20		P-1 Line Item Number / Title: 5840A05133 / AH-64 Apache Block IIIB New Build
		Item Number / Title [DODIC]: A05133 / AH-64 Apache Block IIIB New Build

ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Procurement Quantity (Units in Each)	61	18	-	-	2	2
Gross/Weapon System Cost (\$ in Millions)	1,833.014	523.714	58.600	0.000	69.154	69.154
Less PY Advance Procurement (\$ in Millions)	156.307	71.900	58.600	-	-	-
Net Procurement (P-1) (\$ in Millions)	1,676.707	451.814	0.000	0.000	69.154	69.154
Plus CY Advance Procurement (\$ in Millions)	228.207	58.600	-	-	-	-
Total Obligation Authority (\$ in Millions)	1,904.914	510.414	0.000	0.000	69.154	69.154

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

Initial Spares (\$ in Millions)	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	30,049.410	29,095.222	-	-	34,577.000	34,577.000

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

Cost Elements	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Flyaway Cost																		
Recurring Cost																		
CFE ^(†)	20,155.068	59	1,189.149	16,573.778	18	298.328	-	-	58.600	-	-	-	19,855.500	2	39.711	19,855.500	2	39.711
GFE	8,779.915	59	518.015	10,934.833	18	196.827	-	-	-	-	-	-	11,970.500	2	23.941	11,970.500	2	23.941
Other Costs	-	-	103.097	-	-	22.572	-	-	-	-	-	-	-	-	4.812	-	-	4.812
Initial Spares	-	-	12.753	-	-	5.987	-	-	-	-	-	-	-	-	0.690	-	-	0.690
<i>Subtotal: Recurring Cost</i>	-	-	<i>1,823.014</i>	-	-	<i>523.714</i>	-	-	<i>58.600</i>	-	-	-	-	-	<i>69.154</i>	-	-	<i>69.154</i>
Non Recurring Cost																		
Non-Recurring Cost	-	-	10.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Non Recurring Cost</i>	-	-	<i>10.000</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Flyaway Cost</i>	-	-	<i>1,833.014</i>	-	-	<i>523.714</i>	-	-	<i>58.600</i>	-	-	-	-	-	<i>69.154</i>	-	-	<i>69.154</i>
Gross/Weapon System Cost	30,049.410	61	1,833.014	29,095.222	18	523.714	-	-	58.600	-	-	0.000	34,577.000	2	69.154	34,577.000	2	69.154

Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Army	Quantity	18	-	-	2	2
	Total Obligation Authority	510.414	-	-	69.154	69.154
Total:	Quantity	18	-	-	2	2

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Exhibit P-5, Cost Analysis: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 01 / 20	P-1 Line Item Number / Title: 5840A05133 / AH-64 Apache Block IIIB New Build	Item Number / Title [DODIC]: A05133 / AH-64 Apache Block IIIB New Build

ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Secondary Distribution	Total Obligation Authority	510.414	0.000	0.000	69.154	69.154

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

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Exhibit P-5a, Procurement History and Planning: PB 2021 Army							Date: February 2020					
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 01 / 20			P-1 Line Item Number / Title: 5840A05133 / AH-64 Apache Block IIIB New Build				Item Number / Title [DODIC]: A05133 / AH-64 Apache Block IIIB New Build					

Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$ K)	Specs Avail Now?	Date Revision Available	RFP Issue Date
CFE ^(†)		2013	The Boeing Company / Mesa	SS / FPIF	AMCOM	Mar 2014	Sep 2014	13	16,375.300	Y		Jul 2012
CFE		2014	The Boeing Company / Mesa	SS / FPIF	AMCOM	Sep 2014	Nov 2016	4	16,873.700	Y		Jul 2014
CFE ^(†)		2017	The Boeing Company / Mesa	SS / FFP	AMCOM	Sep 2017	Dec 2019	8	17,850.380	Y		Apr 2015
CFE ^(†)		2018	The Boeing Company / Mesa	SS / FFP	AMCOM	Aug 2018	Sep 2020	31	20,401.387	Y		Apr 2015
CFE ^(†)		2019	The Boeing Company / Mesa	SS / FFP	AMCOM	Jan 2019	Feb 2022	18	16,573.778	Y		Apr 2015
CFE ^(†)	✓	2021	The Boeing Company / Mesa	SS / FFP	AMCOM	Feb 2021	Dec 2022	2	19,855.500	Y		Apr 2015

^(†) indicates the presence of a P-21

Remarks:

Major Contractor Furnished Equipment (CFE) cost drivers include the Fuselage, Transmission, and Composite Main Rotor Blades. Government Furnished Equipment (GFE) includes engines, Embedded Global Positioning System Inertial Navigation Systems (EGIs), Radar Electronics Unit (REU), Modernized Target Acquisition Designation System (MTADS)/Pilot Night Vision System (PNVS) and Manned/Unmanned Teaming Extended Capability (MUMT-X). Other Cost includes Support Equipment, Peculiar Ground Support (PGSE), and Government Program Management Support.

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Exhibit P-21, Production Schedule: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 01 / 20	P-1 Line Item Number / Title: 5840A05133 / AH-64 Apache Block IIIB New Build	Item Number / Title [DODIC]: A05133 / AH-64 Apache Block IIIB New Build
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Cost Elements <i>(Units in Each)</i>					Fiscal Year 2014													Fiscal Year 2015													B A L A N C E
O C C O	M F R #	F Y	S E R V I C E	P R O C Q T Y	A C C E P T P R I O R T O 1 O C T 2 0 1 3	B A L D U E A S O F 1 O C T 1	Calendar Year 2014												Calendar Year 2015												
							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	
CFE																															
Prior Years Deliveries: 3																															
	1	2013	ARMY	13	0	13																								3	
	1	2017	ARMY	8	0	8					A	-	-	-	-	-	2	2	2	2	-	-	-	-	-	-	-	2	-	-	8
	1	2018	ARMY	31	0	31																								31	
	1	2019	ARMY	18	0	18																								18	
✓	1	2021	ARMY	2	0	2																								2	

UNCLASSIFIED

Exhibit P-21, Production Schedule: PB 2021 Army															Date: February 2020														
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 01 / 20										P-1 Line Item Number / Title: 5840A05133 / AH-64 Apache Block IIIB New Build										Item Number / Title [DODIC]: A05133 / AH-64 Apache Block IIIB New Build									

Cost Elements <i>(Units in Each)</i>						Fiscal Year 2016												Fiscal Year 2017												BALANCE	
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2015	BAL DUE AS OF 1 OCT	Calendar Year 2016												Calendar Year 2017												
							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
CFE																															
Prior Years Deliveries: 3																															
	1	2013	ARMY	13	10	3	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2								0		
	1	2017	ARMY	8	0	8																						A -	8		
	1	2018	ARMY	31	0	31																							31		
	1	2019	ARMY	18	0	18																							18		
✓	1	2021	ARMY	2	0	2																							2		

UNCLASSIFIED

Exhibit P-21, Production Schedule: PB 2021 Army															Date: February 2020														
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 01 / 20										P-1 Line Item Number / Title: 5840A05133 / AH-64 Apache Block IIIB New Build										Item Number / Title [DODIC]: A05133 / AH-64 Apache Block IIIB New Build									

Cost Elements <i>(Units in Each)</i>						Fiscal Year 2018													Fiscal Year 2019													B A L A N C E			
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2017	BAL DUE AS OF 1 OCT	Calendar Year 2018													Calendar Year 2019															
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					
CFE																																			
Prior Years Deliveries: 3																																			
	1	2013	ARMY	13	13	0																													
	1	2017	ARMY	8	0	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1	2018	ARMY	31	0	31										A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	1	2019	ARMY	18	0	18																													
✓	1	2021	ARMY	2	0	2																													
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					

UNCLASSIFIED

Exhibit P-21, Production Schedule: PB 2021 Army															Date: February 2020														
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 01 / 20										P-1 Line Item Number / Title: 5840A05133 / AH-64 Apache Block IIIB New Build										Item Number / Title [DODIC]: A05133 / AH-64 Apache Block IIIB New Build									

Cost Elements <i>(Units in Each)</i>						Fiscal Year 2020														Fiscal Year 2021														BALANCE	
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2019	BAL DUE AS OF 1 OCT	Calendar Year 2020														Calendar Year 2021														
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					
CFE																																			
Prior Years Deliveries: 3																																			
	1	2013	ARMY	13	13	0																													0
	1	2017	ARMY	8	0	8	-	-	1	1	-	1	2	-	1	2																			0
	1	2018	ARMY	31	0	31	-	-	-	-	-	-	-	-	-	-	1	1	2	2	1	1	2	2	2	2	2	2	2	2	2	2	2	9	
	1	2019	ARMY	18	0	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	
✓	1	2021	ARMY	2	0	2																													2
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					

UNCLASSIFIED

Exhibit P-21, Production Schedule: PB 2021 Army															Date: February 2020														
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 01 / 20										P-1 Line Item Number / Title: 5840A05133 / AH-64 Apache Block IIIB New Build										Item Number / Title [DODIC]: A05133 / AH-64 Apache Block IIIB New Build									

Cost Elements <i>(Units in Each)</i>						Fiscal Year 2022														Fiscal Year 2023														BALANCE	
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2021	BAL DUE AS OF 1 OCT	Calendar Year 2022														Calendar Year 2023														
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					
CFE																																			
Prior Years Deliveries: 3																																			
	1	2013	ARMY	13	13	0																													0
	1	2017	ARMY	8	8	0																													0
	1	2018	ARMY	31	22	9	2	2	3	2																									0
	1	2019	ARMY	18	0	18	-	-	-	-	3	1	2	2	1	2	2	1	2	2															0
✓	1	2021	ARMY	2	0	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2		0

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Exhibit P-21, Production Schedule: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 01 / 20		P-1 Line Item Number / Title: 5840A05133 / AH-64 Apache Block IIIB New Build
		Item Number / Title [DODIC]: A05133 / AH-64 Apache Block IIIB New Build

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2021	1-8-5 For 2021	MAX For 2021	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	The Boeing Company - Mesa	48	98	144	1	11	32	43	1	6	32	38

Remarks:
 The Economical Production Rate of 98 aircraft per year is the maximum capacity at Full Rate Production assuming a 1-8-5 shift. This requirement is driven primarily by the production rate associated with current fuselage tooling capabilities. In order to increase the 1-8-5 (single shift) production rate, additional tooling must be procured. The minimum rate of 48 aircraft per year is based upon Combined Remanufacture and New Build quantities.

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

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

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Exhibit P-40, Advance Procurement Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 01: Aircraft / BSA 20: Rotary	P-1 Line Item Number / Title: 5840A05133 / AH-64 Apache Block IIIB New Build
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Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: 437

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Gross/Weapon System Cost (<i>\$ in Millions</i>)	228.207	58.600	-	-	-	-	-	-	-	-	Continuing	Continuing
Net Procurement (P-1) (<i>\$ in Millions</i>)	228.207	58.600	-	-	-	-	-	-	-	-	Continuing	Continuing
Total Obligation Authority (<i>\$ in Millions</i>)	228.207	58.600	-	-	-	-	-	-	-	-	Continuing	Continuing

Description:

The AH-64E Apache New Build aircraft is the same configuration as the AH-64E Remanufacture aircraft and procured using the same contracts. While the AH-64E Remanufacture program inducts aging AH-64D aircraft into a remanufacture production line, the AH-64E New Build program assembles all new components resulting in completely new aircraft at the end of the production process. These aircraft are procured at a significantly higher cost because they include all new components. A new build Modernized Target Acquisition Designation Sight / Pilot Night Vision Sensor (MTADS/PNVS) system will be procured and provided with each aircraft. Other associated Government Furnished Equipment (GFE) such as the Fire Control Radar (FCR), Modernized Radar Frequency Interferometer (M-RFI), Radar Electronics Unit (REU), and Manned/Unmanned Teaming Extended Capability (MUMT-X) will be procured and provided in accordance with the basis of issue plan.

UNCLASSIFIED

Exhibit P-40, Advance Procurement Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 01: Aircraft / BSA 20: Rotary **P-1 Line Item Number / Title:** 5840A05133 / AH-64 Apache Block IIIB New Build

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

Line Item MDAP/MAIS Code: 437

Exhibits Schedule				Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-10	A05133 / AH-64 Apache Block IIIB New Build			61 / 228.207	18 / 58.600	- / -	- / -	2 / -	2 / -
P-40	Total Gross/Weapon System Cost			61 / 228.207	18 / 58.600	- / -	- / -	2 / -	2 / -

*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 New Build program funding includes Congressionally appropriated Overseas Contingency Operations (OCO) funding to procure New Build aircraft to fill aircraft shortages due to combat attrition and training loss. OCO funding does not provide advance procurement for long lead items for these aircraft.

UNCLASSIFIED

Exhibit P-10, Advance Procurement Requirements Analysis (page 1 - Budget Funding Justification): PB 2021 Army					Date: February 2020	
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 01 / 20		P-1 Line Item Number / Title: 5840A05133 / AH-64 Apache Block IIIB New Build			P-5 Number / Title: A05133 / AH-64 Apache Block IIIB New Build	
First System (2021) Award Date: July 2009		First System (2021) Completion Date: November 2011			Interval Between Systems: 1 Months	
AH-64 Apache Block IIIB New Build		Production Leadtime <i>(Months)</i>	Prior Years <i>(Each)</i>	FY 2019 <i>(Each)</i>	FY 2020 <i>(Each)</i>	FY 2021 <i>(Each)</i>
Quantity			61	18	-	2
Cost Elements		When Required <i>(Months)</i>	Prior Years <i>(\$ M)</i>	FY 2019 <i>(\$ M)</i>	FY 2020 <i>(\$ M)</i>	FY 2021 <i>(\$ M)</i>
Other						
AH-64E Apache New Build		12	228.207	58.600	-	-
<i>Total: Other</i>			228.207	58.600	-	-
Total Advance Procurement/Obligation Authority			228.207	58.600	-	-

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Exhibit P-10, Advance Procurement Requirements Analysis (page 2 - Budget Funding Justification): PB 2021 Army						Date: February 2020	
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 01 / 20		P-1 Line Item Number / Title: 5840A05133 / AH-64 Apache Block IIIB New Build			P-5 Number / Title: A05133 / AH-64 Apache Block IIIB New Build		
		FY 2021					
Cost Elements	QPA (Each)	Production Leadtime (Months)	Unit Cost (\$ K)	Contract Forecast Date	2021 Qty (Each)	For FY	Total Cost Request (\$ M)
Other							
AH-64E Apache New Build		-					-
<i>Total: Other</i>							-
Total Advance Procurement/Obligation Authority							-

Description:
 Currently the total lead time (time from when first materials must be committed to aircraft delivery) is in excess of 24 months. The Cost Assessment and Program Evaluation (CAPE) Independent Cost Estimate (ICE) utilized 18% to 22% for Advance Procurement (AP) for single year contracts. Each year's AP can be divided into 2 segments: 1) Government Furnished Equipment (GFE) such as engines, sensors and avionics and 2) Contractor Furnished Equipment (CFE). Material includes production components to support deliveries, provisioning material, pre-modification effort, and any potential termination liability costs. Long lead items include the Main Rotor Drive Shaft, Composite Main Rotor Blade, Improved Drive System, and Composite Stabilator.

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Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 01: Aircraft / BSA 20: Rotary **P-1 Line Item Number / Title:** 6771AA0005 / UH-60 Blackhawk M Model (MYP)

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

Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	991	58	74	36	-	36	24	33	28	24	Continuing	Continuing
Gross/Weapon System Cost (<i>\$ in Millions</i>)	17,541.499	1,239.408	1,530.167	824.486	-	824.486	710.009	851.415	780.689	740.476	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	4,097.591	80.587	111.563	81.488	-	81.488	87.427	146.068	68.147	92.494	Continuing	Continuing
Net Procurement (P-1) (<i>\$ in Millions</i>)	13,443.908	1,158.821	1,418.604	742.998	-	742.998	622.582	705.347	712.542	647.982	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	4,185.507	106.150	79.572	87.427	-	87.427	146.068	68.147	92.494	58.170	Continuing	Continuing
Total Obligation Authority (<i>\$ in Millions</i>)	17,629.415	1,264.971	1,498.176	830.425	-	830.425	768.650	773.494	805.036	706.152	Continuing	Continuing

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

Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Thousands</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Thousands</i>)	17,700.806	21,369.103	20,677.932	22,902.389	-	22,902.389	29,583.708	25,800.455	27,881.750	30,853.167	Continuing	Continuing

Description:

The UH-60M Black Hawk Helicopter serves as the Army's utility helicopter for the near and midterm force and is in line with the Army's Modernization Strategy, the National Military Strategy, and the National Defense Strategy. The UH-60M Black Hawk is a digital networked platform with greater range and lift to support maneuver Commanders through air assault, general support command and control, and aeromedical evacuation. Full rate production for this new build helicopter began in 2007. The current UH-60 Army Acquisition Objective (AAO) is 2,135 which will be obtained by procuring a combination 1375 UH-60M and 760 UH-60L to UH-60V conversion models. The UH-60M Black Hawk, with the integrated Medical Evacuation (MEDEVAC) Mission Equipment Package (MEP) kit, provides day/night and adverse weather emergency evacuation of casualties. The integration of the MEDEVAC MEP into the UH-60M changes the nomenclature to HH-60M.

Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Army	Quantity	30	8	13	-	13	-	-	-	-
	Total Obligation Authority	650.331	225.602	338.420	-	338.420	317.819	126.348	266.954	255.321
ANG	Quantity	28	66	23	-	23	24	33	28	24
	Total Obligation Authority	614.640	1,272.574	492.005	-	492.005	450.831	647.146	538.082	450.831
Total:	Quantity	58	74	36	-	36	24	33	28	24
Secondary Distribution	Total Obligation Authority	1,264.971	1,498.176	830.425	-	830.425	768.650	773.494	805.036	706.152

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Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 01: Aircraft / BSA 20: Rotary **P-1 Line Item Number / Title:** 6771AA0005 / UH-60 Blackhawk M Model (MYP)

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

Line Item MDAP/MAIS Code: N/A

Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	A05002 / UH-60 BLACK HAWK (MYP)	P-5a, P-21			991 / 17,541.499	58 / 1,239.408	74 / 1,530.167	36 / 824.486	- / -	36 / 824.486
P-40	Total Gross/Weapon System Cost				991 / 17,541.499	58 / 1,239.408	74 / 1,530.167	36 / 824.486	- / -	36 / 824.486

*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 2021 Base procurement dollars in the amount of \$830,183 million supports procurement of 36 aircraft (21 UH-60M and 15 HH-60M).

FY 2020 Appropriations Conference Mark included 1 additional A/C, an increase of \$20.864 million to replace a National Guard training loss, increasing the total to 74 A/C for FY 2020.

Note: The multi-year 9 contract versus 5 single year contracts for FY 2017 through FY 2021 is projected to yield a 15.4% cost avoidance (\$638.292 million).

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.

Two additional aircraft in FY 2015 and three additional aircraft in FY 2016 were procured as a result of the Black Hawk Exchange and Sales Team (BEST) program. The Army Acquisition Executive approved BEST program avoids demilitarization and divestment cost and applies non-appropriated funding proceeds received from the divestiture of non-excess, obsolete H-60 aircraft towards the procurement of replacement H-60M aircraft. The authorities and policies to execute and administer the BEST program are provided in section 503, title 40, U.S. Code and Army Regulation 725-1.

Four UH-60M aircraft were procured utilizing proceeds from the BEST program reprogrammed to FY 2017 funding on the A05002 funding line.

One UH-60M aircraft will be procured utilizing proceeds from the BEST program reprogrammed to FY 2018 funding on the A05002 funding line.

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Exhibit P-5, Cost Analysis: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 01 / 20	P-1 Line Item Number / Title: 6771AA0005 / UH-60 Blackhawk M Model (MYP)	Item Number / Title [DODIC]: A05002 / UH-60 BLACK HAWK (MYP)

ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Procurement Quantity (<i>Units in Each</i>)	991	58	74	36	-	36
Gross/Weapon System Cost (<i>\$ in Millions</i>)	17,541.499	1,239.408	1,530.167	824.486	-	824.486
Less PY Advance Procurement (<i>\$ in Millions</i>)	4,097.591	80.587	111.563	81.488	-	81.488
Net Procurement (P-1) (<i>\$ in Millions</i>)	13,443.908	1,158.821	1,418.604	742.998	-	742.998
Plus CY Advance Procurement (<i>\$ in Millions</i>)	4,185.507	106.150	79.572	87.427	-	87.427
Total Obligation Authority (<i>\$ in Millions</i>)	17,629.415	1,264.971	1,498.176	830.425	-	830.425

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

Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Thousands</i>)	17,700.806	21,369.103	20,677.932	22,902.389	-	22,902.389

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

Cost Elements	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Flyaway Cost																		
Recurring Cost																		
Airframes/CFE ^(†)	12,056.436	995	11,996.154	15,554.431	58	902.157	14,910.554	74	1,103.381	15,805.694	36	569.005	-	-	-	15,805.694	36	569.005
Engines/Accessories	708.488	1,990	1,409.891	767.233	116	88.999	816.824	148	120.890	817.875	72	58.887	-	-	-	817.875	72	58.887
Avionics (GFE)	-	-	663.816	-	-	40.824	-	-	63.275	-	-	17.946	-	-	-	-	-	17.946
Other GFE	-	-	379.703	-	-	19.170	-	-	25.431	-	-	10.459	-	-	-	-	-	10.459
Subtotal: Recurring Cost	-	-	14,449.564	-	-	1,051.150	-	-	1,312.977	-	-	656.297	-	-	-	-	-	656.297
Non Recurring Cost																		
ECO (All FLYAWAY Components)	-	-	478.589	-	-	31.154	-	-	49.331	-	-	21.549	-	-	-	-	-	21.549
Other Costs (Mission Equipment)	-	-	738.282	-	-	34.341	-	-	34.828	-	-	26.729	-	-	-	-	-	26.729
Tooling Equipment	-	-	99.486	-	-	0.153	-	-	0.179	-	-	0.031	-	-	-	-	-	0.031
Other Nonrecurring Cost	-	-	86.085	-	-	1.023	-	-	1.494	-	-	0.661	-	-	-	-	-	0.661
Subtotal: Non Recurring Cost	-	-	1,402.442	-	-	66.671	-	-	85.832	-	-	48.970	-	-	-	-	-	48.970
Subtotal: Flyaway Cost	-	-	15,852.006	-	-	1,117.821	-	-	1,398.809	-	-	705.267	-	-	-	-	-	705.267
Support - Data Cost																		
Technical Publications	-	-	35.267	-	-	3.705	-	-	3.801	-	-	3.804	-	-	-	-	-	3.804
Subtotal: Support - Data Cost	-	-	35.267	-	-	3.705	-	-	3.801	-	-	3.804	-	-	-	-	-	3.804
Support - Fielding Cost																		

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Exhibit P-5, Cost Analysis: PB 2021 Army												Date: February 2020					
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 01 / 20						P-1 Line Item Number / Title: 6771AA0005 / UH-60 Blackhawk M Model (MYP)						Item Number / Title [DODIC]: A05002 / UH-60 BLACK HAWK (MYP)					
ID Code (A=Service Ready, B=Not Service Ready) :												MDAP/MAIS Code:					

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

Cost Elements	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Fielding	-	-	740.593	-	-	59.375	-	-	64.006	-	-	54.530	-	-	-	-	-	54.530
<i>Subtotal: Support - Fielding Cost</i>	-	-	740.593	-	-	59.375	-	-	64.006	-	-	54.530	-	-	-	-	-	54.530
Support - Program Management Cost																		
Government Management	-	-	466.605	-	-	24.447	-	-	30.450	-	-	29.599	-	-	-	-	-	29.599
<i>Subtotal: Support - Program Management Cost</i>	-	-	466.605	-	-	24.447	-	-	30.450	-	-	29.599	-	-	-	-	-	29.599
Support - Training Cost																		
Equipment	-	-	447.028	-	-	34.060	-	-	33.101	-	-	31.286	-	-	-	-	-	31.286
<i>Subtotal: Support - Training Cost</i>	-	-	447.028	-	-	34.060	-	-	33.101	-	-	31.286	-	-	-	-	-	31.286
Gross/Weapon System Cost	17,700.806	991	17,541.499	21,369.103	58	1,239.408	20,677.932	74	1,530.167	22,902.389	36	824.486	-	-	-	22,902.389	36	824.486

Remarks:

FY 2020 Appropriations Conference Mark included 1 additional A/C, an increase of \$20.864 million to replace a National Guard training loss, increasing the total to 74 A/C for FY 2020.

FY 2020 Fielding increase accelerates divestment of H-60A helicopters from the Army inventory.

Core Civilian Manpower was moved to a separate Acquisition O&M funding line in FY 2019 reducing the Support - Program Management Cost requirement for A05002 UH-60 Black Hawk (MYP) funding line.

Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Army	Quantity	30	8	13	-	13
	Total Obligation Authority	650.331	225.602	338.420	-	338.420
ANG	Quantity	28	66	23	-	23
	Total Obligation Authority	614.640	1,272.574	492.005	-	492.005
Total:	Quantity	58	74	36	-	36
Secondary Distribution	Total Obligation Authority	1,264.971	1,498.176	830.425	-	830.425

(†) indicates the presence of a P-5a

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Exhibit P-5a, Procurement History and Planning: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 01 / 20	P-1 Line Item Number / Title: 6771AA0005 / UH-60 Blackhawk M Model (MYP)	Item Number / Title [DODIC]: A05002 / UH-60 BLACK HAWK (MYP)
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Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty <i>(Each)</i>	Unit Cost <i>(\$ K)</i>	Specs Avail Now?	Date Revision Available	RFP Issue Date
Airframes/CFE ^(†)		2017	Sikorsky Aircraft / Stratford CT	SS / FFP	AMCOM	Jun 2017	Oct 2017	61	14,150.710	Y		Apr 2014
Airframes/CFE ^(†)		2018	Sikorsky Aircraft / Stratford CT	SS / FFP	AMCOM	Dec 2017	Jul 2018	57	14,706.193	Y		Apr 2014
Airframes/CFE ^(†)		2019	Sikorsky Aircraft / Stratford CT	SS / FFP	AMCOM	Dec 2018	Jul 2019	58	15,554.431	Y		Apr 2014
Airframes/CFE ^(†)		2020	Sikorsky Aircraft / Stratford CT	SS / FFP	AMCOM	Dec 2019	Jul 2020	74	14,910.554	Y		Apr 2014
Airframes/CFE ^(†)		2021	Sikorsky Aircraft / Stratford CT	SS / FFP	AMCOM	Dec 2020	Jul 2021	36	15,805.694	Y		Apr 2014

^(†) indicates the presence of a P-21

Remarks:

FY 2017 began the current five (5) year multi-year (MY9) contract for the H-60Ms.

Delivery schedules appear to extend beyond the 12 month period for the following reasons:

Yearly procurements consist of UH-60M, HH-60M and supplemental aircraft. Each of the three are awarded on different contract line items. While each of these efforts deliver all of their aircraft within a 12 month span, they do not deliver within the same 12 month time period.

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Exhibit P-21, Production Schedule: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 01 / 20 **P-1 Line Item Number / Title:** 6771AA0005 / UH-60 Blackhawk M Model (MYP) **Item Number / Title [DODIC]:** A05002 / UH-60 BLACK HAWK (MYP)

Cost Elements <small>(Units in Each)</small>					Fiscal Year 2017													Fiscal Year 2018													BALANCE								
OC	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2016	BAL DUE AS OF 1 OCT	Calendar Year 2017													Calendar Year 2018																			
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP									
Airframes/CFE																																							
Prior Years Deliveries: 877																																							
1		2017	ARMY	61	0	61																																	
		2017	FMS (*)	6	0	6															A	-	-	-	-	2	3	3	-	8	9	7	9	8	6	6	-	0	
		2017 Total		67	0	67															-	-	-	-	-	2	3	3	-	8	9	7	9	8	6	6	-	6	
1		2018	ARMY	57	0	57																																	
		2018	FMS (*)	19	0	19																																	
		2018 Total		76	0	76																																	
1		2019	ARMY	58	0	58																																	
		2019	FMS (*)	12	0	12																																	
		2019 Total		70	0	70																																	
1		2020	ARMY	74	0	74																																	
		2020	FMS (*)	12	0	12																																	
		2020 Total		86	0	86																																	
1		2021	ARMY	36	0	36																																	
		2021	FMS (*)	6	0	6																																	
		2021 Total		42	0	42																																	

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Exhibit P-21, Production Schedule: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 01 / 20 **P-1 Line Item Number / Title:** 6771AA0005 / UH-60 Blackhawk M Model (MYP) **Item Number / Title [DODIC]:** A05002 / UH-60 BLACK HAWK (MYP)

Cost Elements <i>(Units in Each)</i>					Fiscal Year 2019													Fiscal Year 2020													BALANCE		
O C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2018	BAL DUE AS OF 1 OCT	Calendar Year 2019													Calendar Year 2020													
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P			
Airframes/CFE																																	
Prior Years Deliveries: 877																																	
1	2017	ARMY	61	61	0	-	-	-	-																				0				
1	2017	FMS (†)	6	0	6	-	2	3	1																				0				
1	2017	Total	67	61	6	-	2	3	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0				
1	2018	ARMY	57	15	42	8	6	5	4	5	4	3	3	4															0				
1	2018	FMS (†)	19	5	14	-	-	-	1	2	2	4	3	2															0				
1	2018	Total	76	20	56	8	6	5	5	7	6	7	6	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0				
1	2019	ARMY	58	0	58										7	7	7	6	4	3	4	5	4	4	4	3			0				
1	2019	FMS (†)	12	0	12															2	2	1	1	2	2	1	1		0				
1	2019	Total	70	0	70										7	7	7	6	6	5	5	6	6	6	5	4	-	-	0				
1	2020	ARMY	74	0	74																					6	6	6	56				
1	2020	FMS (†)	12	0	12																					1	1	3	7				
1	2020	Total	86	0	86																					7	7	9	63				
1	2021	ARMY	36	0	36																								36				
1	2021	FMS (†)	6	0	6																								6				
1	2021	Total	42	0	42																								42				
						O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P				

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Exhibit P-21, Production Schedule: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 01 / 20 **P-1 Line Item Number / Title:** 6771AA0005 / UH-60 Blackhawk M Model (MYP) **Item Number / Title [DODIC]:** A05002 / UH-60 BLACK HAWK (MYP)

Cost Elements <i>(Units in Each)</i>						Fiscal Year 2021													Fiscal Year 2022													BALANCE	
O C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2020	BAL DUE AS OF 1 OCT	Calendar Year 2021													Calendar Year 2022													
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P			
Airframes/CFE																																	
Prior Years Deliveries: 877																																	
1		2017	ARMY	61	61	0																							0				
1		2017	FMS (†)	6	6	0																							0				
1		2017	Total	67	67	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0				
1		2018	ARMY	57	57	0																							0				
1		2018	FMS (†)	19	19	0																							0				
1		2018	Total	76	76	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0				
1		2019	ARMY	58	58	0																							0				
1		2019	FMS (†)	12	12	0																							0				
1		2019	Total	70	70	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0				
1		2020	ARMY	74	18	56	6	6	6	6	6	7	7	6															0				
1		2020	FMS (†)	12	5	7	1	1	1	1	1	2	-	-															0				
1		2020	Total	86	23	63	7	7	7	7	7	8	7	7	6	-	-	-	-	-	-	-	-	-	-	-	-	-	0				
1		2021	ARMY	36	0	36				A	-	-	-	-	-	-	3	3	3	3	3	3	3	3	3	3	3	0					
1		2021	FMS (†)	6	0	6				A2	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	0					
1		2021	Total	42	0	42				2	-	-	-	-	2	-	-	-	3	3	3	3	3	3	3	3	3	0					
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P			

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Exhibit P-21, Production Schedule: PB 2021 Army	Date: February 2020
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Appropriation / Budget Activity / Budget Sub Activity: 2031A / 01 / 20	P-1 Line Item Number / Title: 6771AA0005 / UH-60 Blackhawk M Model (MYP)	Item Number / Title [DODIC]: A05002 / UH-60 BLACK HAWK (MYP)
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MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2021	1-8-5 For 2021	MAX For 2021	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	Sikorsky Aircraft - Stratford CT	18	96	120	8	3	6	9	0	3	6	9

Remarks:
Please refer to President's Budget 2017 Exhibit MYP-1, Multiyear Procurement Criteria, UH-60M/HH-60M BLACK HAWK Helicopter Multiyear IX (ARMY) for minimum and maximum procurement quantities under the Multi-Year IX Contract.

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

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

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Exhibit P-40, Advance Procurement Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 01: Aircraft / BSA 20: Rotary	P-1 Line Item Number / Title: 6771AA0005 / UH-60 Blackhawk M Model (MYP)
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Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Gross/Weapon System Cost (<i>\$ in Millions</i>)	4,185.507	106.150	79.572	87.427	-	87.427	146.068	68.147	92.494	58.170	Continuing	Continuing
Net Procurement (P-1) (<i>\$ in Millions</i>)	4,185.507	106.150	79.572	87.427	-	87.427	146.068	68.147	92.494	58.170	Continuing	Continuing
Total Obligation Authority (<i>\$ in Millions</i>)	4,185.507	106.150	79.572	87.427	-	87.427	146.068	68.147	92.494	58.170	Continuing	Continuing

Description:

The Advance Procurement for the UH-60 Black Hawk contains funding for the airframe and engine contracts as well as funding for Government Furnished Equipment (GFE) to support the UH-60 aircraft and mission kit production. GFE (in addition to the engine) currently requiring advance procurement includes numerous communication, navigation, and Aircraft Survivability Equipment items procured by the Communications and Electronics Command (CECOM).

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Exhibit P-40, Advance Procurement Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 01: Aircraft / BSA 20: Rotary **P-1 Line Item Number / Title:** 6771AA0005 / UH-60 Blackhawk M Model (MYP)

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 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-10	A05002 / UH-60 BLACK HAWK (MYP)			991 / 4,185.507	58 / 106.150	74 / 79.572	36 / 87.427	- / -	36 / 87.427
P-40	Total Gross/Weapon System Cost			991 / 4,185.507	58 / 106.150	74 / 79.572	36 / 87.427	- / -	36 / 87.427

*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:
 FY 2020 Appropriations Conference Mark included 1 additional A/C, an increase of \$20.864 million to replace a National Guard training loss, increasing the total to 74 A/C for FY 2020.

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Exhibit P-10, Advance Procurement Requirements Analysis (page 1 - Budget Funding Justification): PB 2021 Army					Date: February 2020	
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 01 / 20		P-1 Line Item Number / Title: 6771AA0005 / UH-60 Blackhawk M Model (MYP)			P-5 Number / Title: A05002 / UH-60 BLACK HAWK (MYP)	
First System (2021) Award Date: May 2005		First System (2021) Completion Date: June 2006			Interval Between Systems: 18 Months	
UH-60 BLACK HAWK (MYP)		Production Leadtime <i>(Months)</i>	Prior Years <i>(Each)</i>	FY 2019 <i>(Each)</i>	FY 2020 <i>(Each)</i>	FY 2021 <i>(Each)</i>
Quantity			991	58	74	36
Cost Elements		When Required <i>(Months)</i>	Prior Years <i>(\$ M)</i>	FY 2019 <i>(\$ M)</i>	FY 2020 <i>(\$ M)</i>	FY 2021 <i>(\$ M)</i>
Other						
Prior Year		-	2,531.426	-	-	-
CFE Airframe		6	806.518	35.500	25.893	31.330
Auxiliary Power Unit		3	40.797	3.600	2.735	2.858
Engines		3	632.039	55.410	42.100	43.997
EGI		3	98.625	8.937	6.790	7.096
Heads Up Display AVS-7		3	31.492	2.703	2.054	2.146
Hover Infrared Suppressor		1	28.959	-	-	-
Miscellaneous		1	15.651	-	-	-
<i>Total: Other</i>			4,185.507	106.150	79.572	87.427
Total Advance Procurement/Obligation Authority			4,185.507	106.150	79.572	87.427

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Exhibit P-10, Advance Procurement Requirements Analysis (page 2 - Budget Funding Justification): PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 01 / 20	P-1 Line Item Number / Title: 6771AA0005 / UH-60 Blackhawk M Model (MYP)	P-5 Number / Title: A05002 / UH-60 BLACK HAWK (MYP)
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Cost Elements	QPA <i>(Each)</i>	FY 2021					Total Cost Request <i>(\$ M)</i>
		Production Leadtime <i>(Months)</i>	Unit Cost <i>(\$ K)</i>	Contract Forecast Date	2021 Qty <i>(Each)</i>	For FY	
Other							
Prior Year	-						-
CFE Airframe	1						31.330
Auxiliary Power Unit	1						2.858
Engines	2						43.997
EGI	2						7.096
Heads Up Display AVS-7	1						2.146
Hover Infrared Suppressor	-						-
Miscellaneous	-						-
<i>Total: Other</i>							87.427
Total Advance Procurement/Obligation Authority							87.427

Description:
N/A

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Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 01: Aircraft / BSA 20: Rotary **P-1 Line Item Number / Title:** 6773A05009 / UH-60 Black Hawk L and V Models

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

Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	1,116	18	25	24	-	24	36	36	38	38	-	1,331
Gross/Weapon System Cost (<i>\$ in Millions</i>)	10,296.060	148.138	169.290	172.797	-	172.797	173.460	174.482	153.116	156.614	-	11,443.957
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	10,296.060	148.138	169.290	172.797	-	172.797	173.460	174.482	153.116	156.614	-	11,443.957
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	10,296.060	148.138	169.290	172.797	-	172.797	173.460	174.482	153.116	156.614	-	11,443.957

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

Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Thousands</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Thousands</i>)	9,225.860	8,229.889	6,771.600	7,199.875	-	7,199.875	4,818.333	4,846.722	4,029.368	4,121.421	-	8,598.014

Description:

UH-60 A and L Models include UH-60 A to L conversions in FY16 through FY18 and UH-60L Digital, now designated as UH-60V. Production for UH-60V began in FY18. The UH-60 BLACKHAWK helicopter is the Army's utility helicopter for the near and midterm force. It is a twin engine, single rotor, four bladed utility helicopter used for air assault, general support, command & control, and aero-medical evacuations (MEDEVAC). The UH-60 is joint force capable, providing 24 hour/day support including operations at night and in adverse weather conditions. The UH-60 is designed to carry a crew of four plus eleven combat equipped troops or an external load up to 9,000 pounds. The UH-60 BLACK HAWK was fielded in 1978 as a replacement for the UH-1. From 1978 to 1988, UH-60As were produced. In 1989 production of UH-60Ls with improved engines and drive train began. In 2007, full rate production of UH-60Ms began which provided a digital cockpit, digital Flight Management System (FMS), improved engine, and wide-cord main rotor blades. The UH-60V provides an integrated digital map, integrated performance planning, common functionality and commonality of training with UH-60M. Re-allocation of UH-60 V kits will be accomplished during future Army prioritization efforts.

Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Army	Quantity	8	2	10	-	10	4	-	8	-
	Total Obligation Authority	65.839	13.543	71.898	-	71.898	19.119	-	32.116	-
ANG	Quantity	10	23	14	-	14	32	36	30	8
	Total Obligation Authority	82.299	155.747	100.899	-	100.899	154.341	174.482	121.000	33.004
AR	Quantity	-	-	-	-	-	-	-	-	30
	Total Obligation Authority	-	-	-	-	-	-	-	-	123.610
Total:	Quantity	18	25	24	-	24	36	36	38	38
Secondary Distribution	Total Obligation Authority	148.138	169.290	172.797	-	172.797	173.460	174.482	153.116	156.614

UNCLASSIFIED

Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 01: Aircraft / BSA 20: Rotary **P-1 Line Item Number / Title:** 6773A05009 / UH-60 Black Hawk L and V Models

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

Line Item MDAP/MAIS Code: N/A

Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-3a	A05009 / UH-60 Black Hawk L and V Models (Operational)				1,116 / 10,296.060	18 / 148.138	25 / 169.290	24 / 172.797	- / -	24 / 172.797
P-40	Total Gross/Weapon System Cost				1,116 / 10,296.060	18 / 148.138	25 / 169.290	24 / 172.797	- / -	24 / 172.797

Exhibits Schedule					FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-3a	A05009 / UH-60 Black Hawk L and V Models (Operational)				36 / 173.460	36 / 174.482	38 / 153.116	38 / 156.614	- / -	1,331 / 11,443.957
P-40	Total Gross/Weapon System Cost				36 / 173.460	36 / 174.482	38 / 153.116	38 / 156.614	- / -	1,331 / 11,443.957

*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:
 FY21 base procurement dollars in the amount of \$172.797 million will procure 24 UH-60Vs. The UH-60 A to L conversion program expands the current UH-60 A to A recapitalization/rebuild program to a UH-60 A to L recapitalization/rebuild program. Effective in FY16, all A to L conversions and UH-60V conversions will be procured under this line, A05009. Prior to FY16 the funding for UH-60 A to L conversions was utilized under Black Hawk Modifications line AA0492.

The current H-60 Black Hawk Army Acquisition Objective (AAO) is 2,135 which is obtained by procuring a combination of 1,375 new 60M and 760 Recapitalized (A/LV) aircraft.

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.

Re-allocation of UH-60 V kits will be accomplished during future Army prioritization efforts.

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 01 / 20	P-1 Line Item Number / Title: 6773A05009 / UH-60 Black Hawk L and V Models	Modification Number / Title: A05009 / UH-60 Black Hawk L and V Models

ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	1,116	18	25	24	-	24	36	36	38	38	-	1,331
Gross/Weapon System Cost (<i>\$ in Millions</i>)	10,296.060	148.138	169.290	172.797	-	172.797	173.460	174.482	153.116	156.614	-	11,443.957
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	10,296.060	148.138	169.290	172.797	-	172.797	173.460	174.482	153.116	156.614	-	11,443.957
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	10,296.060	148.138	169.290	172.797	-	172.797	173.460	174.482	153.116	156.614	-	11,443.957

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

Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Thousands</i>)	9,225.860	8,229.889	6,771.600	7,199.875	-	7,199.875	4,818.333	4,846.722	4,029.368	4,121.421	-	8,598.014

Description:

UH-60 A and L Models includes UH-60 A to L conversions and the UH-60L Digital conversions, now designated as UH-60V.

UH-60V aircraft cost includes all digital components and their associated cost, as well as Engineering Changes, Systems Engineering and Program Management, Trainers, Data and Fielding.

Secondary Distribution	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Army									
Quantity	8	2	10	-	10	4	-	8	-
Total Obligation Authority	65.839	13.543	71.898	-	71.898	19.119	-	32.116	-
ANG									
Quantity	10	23	14	-	14	32	36	30	8
Total Obligation Authority	82.299	155.747	100.899	-	100.899	154.341	174.482	121.000	33.004
AR									
Quantity	-	-	-	-	-	-	-	-	30
Total Obligation Authority	-	-	-	-	-	-	-	-	123.610
Total: Secondary Distribution	18	25	24	-	24	36	36	38	38
Total Obligation Authority	148.138	169.290	172.797	-	172.797	173.460	174.482	153.116	156.614

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army										Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 01 / 20					P-1 Line Item Number / Title: 6773A05009 / UH-60 Black Hawk L and V Models					Modification Number / Title: A05009 / UH-60 Black Hawk L and V Models			
ID Code (A=Service Ready, B=Not Service Ready) :							MDAP/MAIS Code:						
Models of Systems Affected: UH-60 A and L				Modification Type: Operational				Related RDT&E PEs:					
Financial Plan	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
Procurement													
<i>Modification Item 1 of 2: UH-60A to UH-60L Conversions</i>													
A Kits													
Recurring													
Other													
	1,110 / 10,257.307	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1,110 / 10,257.307	
<i>Subtotal: Recurring</i>													
	1,110 / 10,257.307	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1,110 / 10,257.307	
<i>Subtotal: UH-60A to UH-60L Conversions</i>													
	1,110 / 10,257.307	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1,110 / 10,257.307	
<i>Modification Item 2 of 2: UH-60V</i>													
A Kits													
Recurring													
Other													
	6 / 30.855	18 / 132.991	25 / 149.898	24 / 154.909	- / -	24 / 154.909	36 / 152.730	36 / 153.338	38 / 130.351	38 / 133.393	- / -	221 / 1,038.465	
<i>Subtotal: Recurring</i>													
	6 / 30.855	18 / 132.991	25 / 149.898	24 / 154.909	- / -	24 / 154.909	36 / 152.730	36 / 153.338	38 / 130.351	38 / 133.393	- / -	221 / 1,038.465	
<i>Subtotal: UH-60V</i>													
	6 / 30.855	18 / 132.991	25 / 149.898	24 / 154.909	- / -	24 / 154.909	36 / 152.730	36 / 153.338	38 / 130.351	38 / 133.393	- / -	221 / 1,038.465	
<i>Subtotal: Procurement, All Modification Items</i>													
	1,116 / 10,288.162	18 / 132.991	25 / 149.898	24 / 154.909	- / -	24 / 154.909	36 / 152.730	36 / 153.338	38 / 130.351	38 / 133.393	- / -	1,331 / 11,295.772	
Installation													
<i>Modification Item 1 of 2: UH-60A to UH-60L Conversions</i>													
	1,110 / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1,110 / -	
<i>Modification Item 2 of 2: UH-60V</i>													
	6 / 7.898	18 / 15.147	25 / 19.392	24 / 17.888	- / -	24 / 17.888	36 / 20.730	36 / 21.144	38 / 22.765	38 / 23.221	- / -	221 / 148.185	
<i>Subtotal: Installation</i>													
	1,116 / 7.898	18 / 15.147	25 / 19.392	24 / 17.888	- / -	24 / 17.888	36 / 20.730	36 / 21.144	38 / 22.765	38 / 23.221	- / -	1,331 / 148.185	
Total													
Total Cost (Procurement + Support + Installation)													
	10,296.060	148.138	169.290	172.797	-	172.797	173.460	174.482	153.116	156.614	-	11,443.957	

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 01 / 20	P-1 Line Item Number / Title: 6773A05009 / UH-60 Black Hawk L and V Models	Modification Number / Title: A05009 / UH-60 Black Hawk L and V Models

ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Modification Item 1 of 2: UH-60A to UH-60L Conversions

Manufacturer Information

Manufacturer Name: Corpus Christi Army Depot	Manufacturer Location: Corpus Christi Army Depot
Administrative Leadtime (in Months):	Production Leadtime (in Months): 12

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

Installation Information

Method of Implementation: Depot

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	1,080 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1,080 / 0.000
FY 2019	30 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	30 / 0.000
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	1,110 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1,110 / 0.000

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot	
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
In	90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90
Out	61	8	8	8	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 01 / 20	P-1 Line Item Number / Title: 6773A05009 / UH-60 Black Hawk L and V Models	Modification Number / Title: A05009 / UH-60 Black Hawk L and V Models

ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Modification Item 2 of 2: UH-60V

Manufacturer Information

Manufacturer Name: Prototype Integration Facility/Northrop Grumman/CCAD	Manufacturer Location: Huntsville AL/ Woodland Hills CA/Corpus Christi TX
Administrative Leadtime (in Months): 1	Production Leadtime (in Months): 12

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

Installation Information

Method of Implementation: Various

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2019	6 / 7.898	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	6 / 7.898
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	18 / 15.147	25 / 19.392	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	43 / 34.539
FY 2022	- / -	- / -	- / -	24 / 17.888	- / -	24 / 17.888	- / -	- / -	- / -	- / -	- / -	24 / 17.888
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	36 / 20.730	- / -	- / -	- / -	- / -	36 / 20.730
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	36 / 21.144	- / -	- / -	- / -	36 / 21.144
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	38 / 22.765	38 / 23.221	- / -	76 / 45.986
Total	6 / 7.898	18 / 15.147	25 / 19.392	24 / 17.888	- / -	24 / 17.888	36 / 20.730	36 / 21.144	38 / 22.765	38 / 23.221	- / -	221 / 148.185

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	6	4	4	4	6	6	6	6	7	6	6	6	6	9	9	9	9	9	9	9	9	9	9	10	10	9	9	10	10	536	757
Out	-	-	-	3	3	4	4	4	6	6	6	6	7	6	6	6	6	9	9	9	9	9	9	9	9	9	9	10	10	574	757

UNCLASSIFIED

Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 01: Aircraft / BSA 20: Rotary **P-1 Line Item Number / Title:** 6775A05101 / CH-47 Helicopter

ID Code (A=Service Ready, B=Not Service Ready): **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0607137A

Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	359	7	9	6	1	7	6	6	6	6	Continuing	Continuing
Gross/Weapon System Cost (<i>\$ in Millions</i>)	10,109.764	137.098	176.729	206.936	50.472	257.408	165.746	183.313	193.972	215.474	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	648.412	17.820	20.778	46.186	-	46.186	18.372	18.559	18.749	18.936	Continuing	Continuing
Net Procurement (P-1) (<i>\$ in Millions</i>)	9,461.352	119.278	155.951	160.750	50.472	211.222	147.374	164.754	175.223	196.538	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	666.232	20.778	46.186	18.372	-	18.372	18.559	18.749	18.936	-	Continuing	Continuing
Total Obligation Authority (<i>\$ in Millions</i>)	10,127.584	140.056	202.137	179.122	50.472	229.594	165.933	183.503	194.159	196.538	Continuing	Continuing

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

Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Thousands</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Thousands</i>)	28,160.903	19,585.429	19,636.556	34,489.333	50,472.000	36,772.571	27,624.333	30,552.167	32,328.667	35,912.333	Continuing	Continuing

Description:

The CH-47F Chinook is a twin-turbine, tandem-rotor, heavy-lift transport helicopter with a useful load of up to 25,000 pounds. As the Army's only heavy lift helicopter, the CH-47F Improved Cargo helicopter is an essential component of the Army's Multi-Domain Battle framework. The CH-47F and MH-47G helicopters perform over 95% of the Army's heavy lift missions up to 25,000 pounds. The Chinook fleet has multiple missions including: transport troops (air assault), supply and resupply, weapons, equipment and other cargo operations. Operating throughout theater in combat, combat support, and combat service support roles. The CH-47F is vital to Overseas Contingency Operations and Homeland Security needs of our nation. Secondary missions include medical evacuation, aircraft recovery, parachute drops, disaster relief, and search and rescue. These aircraft are fielded to heavy lift companies contained within Combat Aviation Brigades and Special Operations Aviation. The CH-47F and MH-47G aircraft is expected to remain the Army's heavy lift helicopter for the next several decades. To maintain the Chinook, the Army's only heavy-lift cargo helicopter, the CH-47F Block II program will insert critical and affordable technologies into the Chinook fleet to affordably maintain the platform's operational capabilities while continuing to meet the Warfighter requirements. Key improvements include a strengthened airframe which introduces commonality with the MH-47G and improvements to rotor, fuel and electrical systems which will improve safety and reliability for the aircraft. Along with providing a significantly increased capability to the field, the program includes provisions for anticipated future upgrades as well as weight and cost savings initiatives to ensure the Army has a platform with the flexibility and performance needed to meet the needs of Multi-Domain Operations until a Heavy Future Vertical Lift variant is fielded.

The CH-47F Block I PM is fielding and training Combat Aviation Brigades (CABs) and NG/USAR units using a New Equipment Training team.

The CH-47F Block II PM ReNew and New Build programs rebuild or replace 73 MH-47G Block I Special Operations Aircraft and 465 CH-47F Block I aircraft to the Block II configuration.

PM Cargo procurement lines provide the common portion of funding for the Special Operations Aircraft, MH-47G. CH-47F Block II Product Office, in conjunction with Technology Applications Program Office (TAPO), is replacing the aging fleet of MH-47G aircraft that has airframe components dating back more than 45 years. The MH-47G program, while complementary to the CH-47F Block II program, is a separately managed Technology Applications Program Office (TAPO) ARSOAC program with a stand-alone Acquisition Strategy. The current Army Acquisition Objective (AAO) is 550 aircraft.

Secondary Distribution	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Army									
Quantity	7	9	6	1	7	6	6	6	6
Total Obligation Authority	140.056	202.137	179.122	50.472	229.594	165.933	183.503	194.159	196.538
Total:	7	9	6	1	7	6	6	6	6

UNCLASSIFIED

Exhibit P-40, Budget Line Item Justification: PB 2021 Army							Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 01: Aircraft / BSA 20: Rotary					P-1 Line Item Number / Title: 6775A05101 / CH-47 Helicopter					
ID Code (A=Service Ready, B=Not Service Ready):			Program Elements for Code B Items: N/A			Other Related Program Elements: 0607137A				
Line Item MDAP/MAIS Code: N/A										

Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Secondary Distribution	Total Obligation Authority	140.056	202.137	179.122	50.472	229.594	165.933	183.503	194.159	196.538

UNCLASSIFIED

Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 01: Aircraft / BSA 20: Rotary **P-1 Line Item Number / Title:** 6775A05101 / CH-47 Helicopter

ID Code (A=Service Ready, B=Not Service Ready): **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0607137A

Line Item MDAP/MAIS Code: N/A

Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	A05008 / CH-47 NEW BUILD				201 / 5,570.777	0 / -	1 / 25.000	- / -	1 / 50.472	1 / 50.472
P-5	A05105 / CH-47 SLEP	P-5a, P-21			158 / 4,538.987	7 / 137.098	8 / 151.729	6 / 206.936	- / -	6 / 206.936
P-40	Total Gross/Weapon System Cost				359 / 10,109.764	7 / 137.098	9 / 176.729	6 / 206.936	1 / 50.472	7 / 257.408

*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 2021 Base procurement dollars in the amount of \$179.122 million supports Army common material funding for 6 MH-47G variant ReNew aircraft and Retrofits.

FY 2021 OCO procurement dollars in the amount of \$50.472 million supports funding for 1 CH-47F War Replacement Aircraft.

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: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 01 / 20	P-1 Line Item Number / Title: 6775A05101 / CH-47 Helicopter	Item Number / Title [DODIC]: A05008 / CH-47 NEW BUILD

ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Procurement Quantity (<i>Units in Each</i>)	201	0	1	-	1	1
Gross/Weapon System Cost (<i>\$ in Millions</i>)	5,570.777	-	25.000	-	50.472	50.472
Less PY Advance Procurement (<i>\$ in Millions</i>)	32.759	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	5,538.018	-	25.000	-	50.472	50.472
Plus CY Advance Procurement (<i>\$ in Millions</i>)	32.759	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	5,570.777	-	25.000	-	50.472	50.472

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

Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Thousands</i>)	27,715.308	-	25,000.000	-	50,472.000	50,472.000

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

Cost Elements	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Flyaway Cost																		
Recurring Cost																		
Airframes/CFE	20,737.174	195	4,043.749	-	-	-	-	-	-	-	-	-	34,700.000	1	34.700	34,700.000	1	34.700
Engine/Accessories	1,432.530	362	518.576	-	-	-	-	-	-	-	-	-	1,901.500	2	3.803	1,901.500	2	3.803
CFE Avionics	-	-	193.501	-	-	-	-	-	-	-	-	-	-	-	2.473	-	-	2.473
GFE	-	-	359.704	-	-	-	-	-	-	-	-	-	-	-	5.865	-	-	5.865
ECO (Flyaway)	-	-	82.513	-	-	-	-	-	-	-	-	-	-	-	1.499	-	-	1.499
Nonrecurring/SEPM/ FDT	-	-	150.310	-	-	-	-	-	-	-	-	-	-	-	2.132	-	-	2.132
PSE	-	-	22.019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Publications/Tech Data	-	-	8.725	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ECO (Support Items)	-	-	4.253	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Post Deployment Software Support	-	-	83.862	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Initial Spares	-	-	3.565	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Airframes/CFE MH-47G SOA Aircraft (Army Common)	25,000.000	4	100.000	-	-	-	25,000.000	1	25.000	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	5,570.777	-	-	-	-	-	25.000	-	-	-	-	-	50.472	-	-	50.472
<i>Subtotal: Flyaway Cost</i>	-	-	5,570.777	-	-	-	-	-	25.000	-	-	-	-	-	50.472	-	-	50.472
Gross/Weapon System Cost	27,715.308	201	5,570.777	-	0	-	25,000.000	1	25.000	-	-	-	50,472.000	1	50.472	50,472.000	1	50.472

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Exhibit P-5, Cost Analysis: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 01 / 20	P-1 Line Item Number / Title: 6775A05101 / CH-47 Helicopter	Item Number / Title [DODIC]: A05008 / CH-47 NEW BUILD
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ID Code (A=Service Ready, B=Not Service Ready) : **MDAP/MAIS Code:**

Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Army	Quantity	-	1	-	1	1
	Total Obligation Authority	-	25.000	-	50.472	50.472
Total:	Quantity	0	1	-	1	1
Secondary Distribution	Total Obligation Authority	-	25.000	-	50.472	50.472

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Exhibit P-5, Cost Analysis: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 01 / 20	P-1 Line Item Number / Title: 6775A05101 / CH-47 Helicopter	Item Number / Title [DODIC]: A05105 / CH-47 SLEP

ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Procurement Quantity (Units in Each)	158	7	8	6	-	6
Gross/Weapon System Cost (\$ in Millions)	4,538.987	137.098	151.729	206.936	-	206.936
Less PY Advance Procurement (\$ in Millions)	615.653	17.820	20.778	46.186	-	46.186
Net Procurement (P-1) (\$ in Millions)	3,923.334	119.278	130.951	160.750	-	160.750
Plus CY Advance Procurement (\$ in Millions)	633.473	20.778	46.186	18.372	-	18.372
Total Obligation Authority (\$ in Millions)	4,556.807	140.056	177.137	179.122	-	179.122

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

Initial Spares (\$ in Millions)	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	28,727.766	19,585.429	18,966.125	34,489.333	-	34,489.333

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

Cost Elements	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Flyaway Cost																		
Recurring Cost																		
CH-47D to CH-47F Conversion	28,909.695	154	4,452.093	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MH-47G Block I to Block II Army Common Funding ^(†)	18,000.000	4	72.000	18,594.286	7	130.160	18,966.125	8	151.729	27,241.500	6	163.449	-	-	-	27,241.500	6	163.449
MH-47G Block II Retrofits	-	-	-	-	-	-	-	-	-	-	-	15.487	-	-	-	-	-	15.487
<i>Subtotal: Recurring Cost</i>	-	-	4,524.093	-	-	130.160	-	-	151.729	-	-	178.936	-	-	-	-	-	178.936
<i>Subtotal: Flyaway Cost</i>	-	-	4,524.093	-	-	130.160	-	-	151.729	-	-	178.936	-	-	-	-	-	178.936
Hardware Cost																		
Non Recurring Cost																		
CH-47 Block I to Block II	-	-	14.894	-	-	6.938	-	-	-	-	-	28.000	-	-	-	-	-	28.000
<i>Subtotal: Non Recurring Cost</i>	-	-	14.894	-	-	6.938	-	-	-	-	-	28.000	-	-	-	-	-	28.000
<i>Subtotal: Hardware Cost</i>	-	-	14.894	-	-	6.938	-	-	-	-	-	28.000	-	-	-	-	-	28.000
Gross/Weapon System Cost	28,727.766	158	4,538.987	19,585.429	7	137.098	18,966.125	8	151.729	34,489.333	6	206.936	-	-	-	34,489.333	6	206.936

Remarks:

FY2021 Non Recurring Cost: FY2020 Congressional Increase for \$28.000 million provides additional Advanced Procurement funds to support the Army's procurement of the CH-47F Block II program as certified in July 2017 Milestone B decision. This additional advanced procurement increased the Gross Weapon System Cost top line in FY2021. This funding is identified under cost element titled CH-47 Block I to Block II.

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Exhibit P-5, Cost Analysis: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 01 / 20	P-1 Line Item Number / Title: 6775A05101 / CH-47 Helicopter	Item Number / Title [DODIC]: A05105 / CH-47 SLEP
ID Code (A=Service Ready, B=Not Service Ready) :		MDAP/MAIS Code:

Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Army	Quantity	7	8	6	-	6
	Total Obligation Authority	140.056	177.137	179.122	-	179.122
Total:	Quantity	7	8	6	-	6
Secondary Distribution	Total Obligation Authority	140.056	177.137	179.122	-	179.122

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

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Exhibit P-5a, Procurement History and Planning: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 01 / 20	P-1 Line Item Number / Title: 6775A05101 / CH-47 Helicopter	Item Number / Title [DODIC]: A05105 / CH-47 SLEP
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Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty <i>(Each)</i>	Unit Cost <i>(\$ K)</i>	Specs Avail Now?	Date Revision Available	RFP Issue Date
MH-47G Block I to Block II Army Common Funding ^(†)		2018	Boeing / Philadelphia PA	SS / CPFF	Fort Eustis	Jul 2018	Aug 2020	4	18,000.000	Y		Nov 2016
MH-47G Block I to Block II Army Common Funding ^(†)		2019	Boeing / Philadelphia PA	SS / CPFF	Fort Eustis	Jul 2019	Aug 2021	7	18,594.286	Y		Nov 2016
MH-47G Block I to Block II Army Common Funding ^(†)		2020	Boeing / Philadelphia PA	SS / CPFF	Fort Eustis	Jul 2020	Aug 2022	8	18,966.125	Y		Nov 2016
MH-47G Block I to Block II Army Common Funding ^(†)		2021	Boeing / Philadelphia PA	SS / CPFF	Fort Eustis	Jul 2021	Aug 2023	6	27,241.500	Y		Nov 2016

^(†) indicates the presence of a P-21

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Exhibit P-21, Production Schedule: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 01 / 20	P-1 Line Item Number / Title: 6775A05101 / CH-47 Helicopter	Item Number / Title [DODIC]: A05105 / CH-47 SLEP
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Cost Elements <i>(Units in Each)</i>						Fiscal Year 2018														Fiscal Year 2019												BALANCE																			
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEP T P R I O R T O 1 O C T 2 0 1 7	BAL D U E A S O F 1 O C T	Calendar Year 2018														Calendar Year 2019																														
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P																					
MH-47G Block I to Block II Army Common Funding																																																			
1		2018	ARMY	4	0	4																								A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4					
1		2019	ARMY	7	0	7																																										7			
1		2020	ARMY	8	0	8																																												8	
1		2021	ARMY	6	0	6																																													6
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P																					

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Exhibit P-21, Production Schedule: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 01 / 20 **P-1 Line Item Number / Title:** 6775A05101 / CH-47 Helicopter **Item Number / Title [DODIC]:** A05105 / CH-47 SLEP

Cost Elements <i>(Units in Each)</i>						Fiscal Year 2020												Fiscal Year 2021												BALANCE	
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2019	BAL DUE AS OF 1 OCT	Calendar Year 2020												Calendar Year 2021												
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G		S E P
MH-47G Block I to Block II Army Common Funding																															
	1	2018	ARMY	4	0	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0		
	1	2019	ARMY	7	0	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	3	0	
	1	2020	ARMY	8	0	8																									8
	1	2021	ARMY	6	0	6																									6
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	

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Exhibit P-21, Production Schedule: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 01 / 20 **P-1 Line Item Number / Title:** 6775A05101 / CH-47 Helicopter **Item Number / Title [DODIC]:** A05105 / CH-47 SLEP

Cost Elements <i>(Units in Each)</i>						Fiscal Year 2022												Fiscal Year 2023												BALANCE	
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2021	BAL DUE AS OF 1 OCT	Calendar Year 2022												Calendar Year 2023												
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G		S E P
MH-47G Block I to Block II Army Common Funding																															
1		2018	ARMY	4	4	0																							0		
1		2019	ARMY	7	7	0																							0		
1		2020	ARMY	8	0	8	-	-	-	-	-	-	-	-	-	4	4												0		
1		2021	ARMY	6	0	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3	0	
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	

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Exhibit P-21, Production Schedule: PB 2021 Army	Date: February 2020
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Appropriation / Budget Activity / Budget Sub Activity: 2031A / 01 / 20	P-1 Line Item Number / Title: 6775A05101 / CH-47 Helicopter	Item Number / Title [DODIC]: A05105 / CH-47 SLEP
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MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2021	1-8-5 For 2021	MAX For 2021	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	Boeing - Philadelphia PA	18	18	72	11	10	25	35	0	0	0	0

Remarks:

All PM Cargo procurement funding and production schedules currently support the Army common portion of funding to rebuild or replace 73 MH-47G Block I Special Operations Aircraft.

CH-47F Block II Product Office, in conjunction with Technology Applications Program Office (TAPO), is replacing the aging fleet of MH-47G aircraft that has airframe components dating back more than 45 years. The MH-47G program, while complementary to the CH-47F Block II program, is a separately managed Technology Applications Program Office (TAPO) ARSOAC program with a stand-alone Acquisition Strategy.

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

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

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Exhibit P-40, Advance Procurement Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 01: Aircraft / BSA 20: Rotary	P-1 Line Item Number / Title: 6775A05101 / CH-47 Helicopter
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Program Elements for Code B Items: N/A	Other Related Program Elements: 0607137A
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Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Gross/Weapon System Cost (<i>\$ in Millions</i>)	666.232	20.778	46.186	18.372	-	18.372	18.559	18.749	18.936	-	Continuing	Continuing
Net Procurement (P-1) (<i>\$ in Millions</i>)	666.232	20.778	46.186	18.372	-	18.372	18.559	18.749	18.936	-	Continuing	Continuing
Total Obligation Authority (<i>\$ in Millions</i>)	666.232	20.778	46.186	18.372	-	18.372	18.559	18.749	18.936	-	Continuing	Continuing

Description:

The CH-47F Chinook is a twin-turbine, tandem-rotor, heavy lift transport helicopter with a useful load of up to 25,000 pounds.

To maintain the Chinook, the Army's only heavy-lift cargo helicopter, the CH-47F Block II program will insert critical and affordable technologies into the Chinook fleet to affordably maintain the platform's operational capabilities while continuing to meet the Warfighter requirements. Key improvements include the Advanced Chinook Rotor Blade, upgraded transmissions and rotor heads, and strengthened airframes to increase payload across the full spectrum of operational environments. Other improvements include an upgraded electrical system and higher capacity fuel tanks along with aircraft software updates. The 11 September 2015 Program Delegation Acquisition Decision Memorandum (ADM) designated the CH-47F Block II as an Acquisition Category (ACAT) 1C program with the Milestone Decision Authority (MDA) delegated to the Secretary of the Army. The EMD Phase began in 2017 following the Milestone (MS) B decision in July 2017.

PM Cargo procurement lines provide the common portion of funding for the Special Operations Aircraft, MH-47G. CH-47F Block II in conjunction with Technology Applications Program Office (TAPO) is replacing the aging fleet of MH-47G aircraft that has airframe components dating back more than 45 years. The MH-47G program, while complementary to the Block II program, is a separately managed Technology Applications Program Office (TAPO) ARSOAC program with a stand-alone Acquisition Strategy. The current Army Acquisition Objective (AAO) is 550 aircraft.

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Exhibit P-40, Advance Procurement Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 01: Aircraft / BSA 20: Rotary **P-1 Line Item Number / Title:** 6775A05101 / CH-47 Helicopter

Program Elements for Code B Items: N/A **Other Related Program Elements:** 0607137A

Line Item MDAP/MAIS Code: N/A

Exhibits Schedule				Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-10	A05105 / CH-47 SLEP			158 / 633.473	7 / 20.778	8 / 46.186	6 / 18.372	- / -	6 / 18.372
P-40	Total Gross/Weapon System Cost			359 / 666.232	7 / 20.778	9 / 46.186	6 / 18.372	1 / -	7 / 18.372

*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:
 FY 2021 Advanced procurement dollars in the amount of \$18.372 million will procure the MH-47G common portion of the airframe advance procurement requirement.

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-10, Advance Procurement Requirements Analysis (page 1 - Budget Funding Justification): PB 2021 Army					Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 01 / 20			P-1 Line Item Number / Title: 6775A05101 / CH-47 Helicopter			P-5 Number / Title: A05105 / CH-47 SLEP	
First System (2021) Award Date: December 2003		First System (2021) Completion Date: December 2006			Interval Between Systems: 2 Months		
CH-47 SLEP		Production Leadtime <i>(Months)</i>	Prior Years <i>(Each)</i>	FY 2019 <i>(Each)</i>	FY 2020 <i>(Each)</i>	FY 2021 <i>(Each)</i>	
Quantity			158	7	8	6	
Cost Elements		When Required <i>(Months)</i>	Prior Years <i>(\$ M)</i>	FY 2019 <i>(\$ M)</i>	FY 2020 <i>(\$ M)</i>	FY 2021 <i>(\$ M)</i>	
CFE							
Avionics		16	277.075	8.311	18.474	7.349	
Airframe		14	356.398	12.467	27.712	11.023	
<i>Total: CFE</i>			633.473	20.778	46.186	18.372	
Total Advance Procurement/Obligation Authority			633.473	20.778	46.186	18.372	

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Exhibit P-10, Advance Procurement Requirements Analysis (page 2 - Budget Funding Justification): PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 01 / 20	P-1 Line Item Number / Title: 6775A05101 / CH-47 Helicopter	P-5 Number / Title: A05105 / CH-47 SLEP
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Cost Elements	QPA <i>(Each)</i>	FY 2021					Total Cost Request <i>(\$ M)</i>
		Production Leadtime <i>(Months)</i>	Unit Cost <i>(\$ K)</i>	Contract Forecast Date	2021 Qty <i>(Each)</i>	For FY	
CFE							
Avionics	1						7.349
Airframe	1						11.023
<i>Total: CFE</i>							18.372
Total Advance Procurement/Obligation Authority							18.372

Description:
N/A

UNCLASSIFIED

Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 01: Aircraft / BSA 20: Rotary **P-1 Line Item Number / Title:** 9990A19900 / Spectrum Army SUAS

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

Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	30.172	159.634	-	-	-	-	-	-	-	-	-	189.806
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	30.172	159.634	-	-	-	-	-	-	-	-	-	189.806
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	30.172	159.634	-	-	-	-	-	-	-	-	-	189.806

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

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

Description:

The Commercial Spectrum Enhancement Act (CSEA) Title II, Public Law 108-494, dated December 23, 2004, established the Spectrum Relocation Fund (SRF) to provide Federal agencies a mechanism to recover the costs associated with relocating communication systems from spectrum bands which were auctioned for commercial purposes.

- The SRF is funded with proceeds from Federal Communications Commission (FCC) conducted auctions of spectrum licenses.
- SRF funds have an indefinite obligation period and remain available until expended (X Year).
- The Department of Defense (DoD) Information Officer (CIO) executes oversight of the DoD spectrum relocation and sharing efforts.

Secondary Distribution	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Army									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	159.634	-	-	-	-	-	-	-	-
Total:									
Secondary Distribution									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	159.634	-	-	-	-	-	-	-	-

Justification:

Manned Unmanned Teaming provides Apache Block AH-64 attack helicopters the ability to display real time sensor video from UAS sensors, battlefield sensors or onboard sensor video to the Apache Aircrews. The use of the onboard or off-board sensor video by the warfighter dramatically reduces engagement timelines and increases situational awareness.

The budget request for Spectrum Army Small Unmanned Aerial Systems (SUAS) will fund the Manned/Unmanned teaming with the change in Small UAS frequency which encompasses a wide range of activity including modification, integration, testing, and production of MUMT-X, MUMT-2 and ROVER 6 radios.

UNCLASSIFIED

Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 0031A: Aircraft Procurement, Army / BA 02: Modification of Aircraft / BSA 10: Modification of Aircraft	P-1 Line Item Number / Title: 0023A01001 / MQ-1 Payload (MIP)
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ID Code (A=Service Ready, B=Not Service Ready):	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	56	-	-	-	-	-	-	-	-	-	-	56
Gross/Weapon System Cost (<i>\$ in Millions</i>)	193.330	-	-	-	5.968	5.968	-	-	-	-	-	199.298
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	193.330	-	-	-	5.968	5.968	-	-	-	-	-	199.298
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	193.330	-	-	-	5.968	5.968	-	-	-	-	-	199.298

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

Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Thousands</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Thousands</i>)	3,452.321	-	-	-	-	-	-	-	-	-	-	3,558.893

Description:

This is a New Start effort. Last budget for this Line Item was FY2018.

The MQ-1 Payload (MIP) (A01001) budget line is shared between multiple Payload programs and two Program Managers. These Payload programs support the Army's transformation by procuring Reconnaissance, Surveillance and Target Acquisition (RSTA) and Intelligence, Surveillance and Reconnaissance (ISR) payload systems for Brigade Combat Teams, Divisions, and Corps Unmanned Aircraft Systems (UAS). This is in accordance with Headquarters Department of the Army (HQDA) and Training and Doctrine Command (TRADOC) UAS priorities. Common Sensor Payload (CSP), Small Tactical Radar - Lightweight (STARLite), and Tactical Signals Intelligence (SIGINT) Payload (TSP) are principal payloads for the Gray Eagle UAS.

Common Sensor Payload (CSP) Electro Optical / Infrared / Laser Designator (EO/IR/LD) provides High Definition (HD) Full Motion Video (FMV) in both the Electro Optical and Mid Wave IR spectrums with day/night capability to collect and display continuous imagery and the ability to designate targets of interest for attack by laser guided precision weapons. It is the EO/IR/LD sensor for the Gray Eagle UAS which supports force applications, battlespace awareness, force protection, and net-centric operations across the battlefield to provide wide area, near real time RSTA capabilities. Current product improvements continue to focus on the development and implementation of technologies that directly supporting emerging requirements of the Army's Current and Future Force. The Army Acquisition Objective (AAO) for CSP is equivalent to aircraft/ platform quantities, one system per Gray Eagle UAS.

Small Tactical Radar - Lightweight (STARLite) provides Gray Eagle UAS multi-functional SAR/MTI and Electro-Optic/Infrared (EO/IR) cross-cueing capabilities for the detection, classification and location of stationary and moving vehicle and man-sized targets.

Tactical Signals Intelligence (SIGINT) Payload (TSP) provides Gray Eagle UAS detection of radio frequency (RF) emitters. This capability supports Manned/Unmanned (MUM) teaming with Brigade Combat Team ground SIGINT.

Secondary Distribution	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Army									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	-	-	-	5.968	5.968	-	-	-	-

UNCLASSIFIED

Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 02: Modification of Aircraft / BSA 10: Modification of Aircraft	P-1 Line Item Number / Title: 0023A01001 / MQ-1 Payload (MIP)
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ID Code (A=Service Ready, B=Not Service Ready):	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: N/A

Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Total:	Quantity	-	-	-	-	-	-	-	-	-
Secondary Distribution	Total Obligation Authority	-	-	-	5.968	5.968	-	-	-	-

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UNCLASSIFIED

Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 02: Modification of Aircraft / BSA 10: Modification of Aircraft	P-1 Line Item Number / Title: 0023A01001 / MQ-1 Payload (MIP)
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ID Code (A=Service Ready, B=Not Service Ready):	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: N/A

Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	A01005 / CSP FMV (MIP)	P-5a			56 / 193.330	- / -	- / -	- / -	- / 5.968	- / 5.968
P-40	Total Gross/Weapon System Cost				56 / 193.330	- / -	- / -	- / -	- / 5.968	- / 5.968

*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:
 CSP: FY2021 OCO Procurement dollars in the amount of \$5.968 million support the stand up of the CSP Depot Software Maintenance lab.
 STARLite: FY 2021 No Base or OCO Procurement dollars.
 TSP: FY 2021 No Base or OCO Procurement dollars.
 All Quantities are for the Active component.

Comments:
 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 the homeland defense missions, domestic emergency responses, and providing military support to civil authorities.

MQ-1 Payload (MIP) is a new start in FY2021.

UNCLASSIFIED

Exhibit P-5, Cost Analysis: PB 2021 Army						Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10				P-1 Line Item Number / Title: 0023A01001 / MQ-1 Payload (MIP)			Item Number / Title [DODIC]: A01005 / CSP FMV (MIP)		
ID Code (A=Service Ready, B=Not Service Ready) :						MDAP/MAIS Code:			
Resource Summary				Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Procurement Quantity (Units in Each)				56	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)				193.330	-	-	-	5.968	5.968
Less PY Advance Procurement (\$ in Millions)				-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)				193.330	-	-	-	5.968	5.968
Plus CY Advance Procurement (\$ in Millions)				-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)				193.330	-	-	-	5.968	5.968
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>									
Initial Spares (\$ in Millions)				-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)				3,452.321	-	-	-	-	-

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

Cost Elements	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Flyaway Cost																		
Recurring Cost																		
CSP HD Procurement ^(†)	1,355.045	44	59.622	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSP HD Initial Spares ^(†)	1,098.000	3	3.294	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSP Diode Pump Laser	165.000	57	9.405	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSP SD to HD Platform Retrofit/Upgrades	479.167	138	66.125	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSP DMV-184 Processor Cards	21.000	135	2.835	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSP Diode Pump Laser Integration	-	-	2.490	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSP PMO Support	-	-	10.919	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSP Interim Contractor Support (SD)	-	-	11.295	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSP Interim Contractor Support (HD)	-	-	9.559	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSP Initial Fielding Support	-	-	17.786	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	193.330	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Flyaway Cost</i>	-	-	193.330	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

UNCLASSIFIED

Exhibit P-5, Cost Analysis: PB 2021 Army												Date: February 2020					
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10						P-1 Line Item Number / Title: 0023A01001 / MQ-1 Payload (MIP)						Item Number / Title [DODIC]: A01005 / CSP FMV (MIP)					
ID Code (A=Service Ready, B=Not Service Ready) :												MDAP/MAIS Code:					

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

Cost Elements	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Software Cost																		
Non Recurring Cost																		
CSP Depot Software Maintenance Lab	-	-	-	-	-	-	-	-	-	-	-	-	5,968.000	1	5.968	5,968.000	1	5.968
<i>Subtotal: Non Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.968	-	-	5.968
<i>Subtotal: Software Cost</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.968	-	-	5.968
Gross/Weapon System Cost	3,452.321	56	193.330	-	-	-	-	-	-	-	-	-	-	-	5.968	-	-	5.968

Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Army	Quantity	-	-	-	-	-
	Total Obligation Authority	-	-	-	5.968	5.968
Total: Secondary Distribution	Quantity	-	-	-	-	-
	Total Obligation Authority	-	-	-	5.968	5.968

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

UNCLASSIFIED

Exhibit P-5a, Procurement History and Planning: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 0023A01001 / MQ-1 Payload (MIP)	Item Number / Title [DODIC]: A01005 / CSP FMV (MIP)
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Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty <i>(Each)</i>	Unit Cost <i>(\$ K)</i>	Specs Avail Now?	Date Revision Available	RFP Issue Date
CSP HD Procurement		2016	Raytheon / McKinney	C / FFP	ACC, APG	Mar 2016	Mar 2017	15	1,098.000	N		
CSP HD Procurement		2017	Raytheon / McKinney	SS / FFP	ACC, APG	Sep 2017	Oct 2018	20	1,488.000	N		
CSP HD Procurement		2018	Raytheon / McKinney	SS / FFP	ACC, APG	Mar 2018	Jul 2019	9	1,488.000	N		
CSP HD Initial Spares		2016	Raytheon / McKinney	C / FFP	ACC, APG	Mar 2016	Jun 2017	3	1,098.000	N		

UNCLASSIFIED

Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 02: Modification of Aircraft / BSA 10: Modification of Aircraft	P-1 Line Item Number / Title: 0028A02706 / Universal Ground Control Equipment (UAS)
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ID Code (A=Service Ready, B=Not Service Ready):	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	14.926	27.114	2.090	7.509	-	7.509	7.611	-	-	-	-	59.250
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	14.926	27.114	2.090	7.509	-	7.509	7.611	-	-	-	-	59.250
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	14.926	27.114	2.090	7.509	-	7.509	7.611	-	-	-	-	59.250

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

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

Description:

Scalable Control Interface (SCI) will be the primary means of Command and Control (C2) for Program of Record Army Unmanned Aircraft Systems (UAS). SCI software will be hosted on Mission Command devices in both ground and airborne platforms serving as nodes on the Integrated Tactical Network to retrieve and provide data. SCI distributes UAS capabilities by greatly increasing the number of UAS control devices available to Soldiers and Commanders through the depth of the battlefield. SCI provides simultaneous control of multiple aircraft from a single node. SCI leverages a Modular Operating System Approach (MOSA) to software in order to reduce time and cost to integrate new hardware and software in response to the dynamic future operating environment.

Deployment of SCI will include, but is not limited to, devices in the Mobile/Handheld Computing Environment (such as Nett Warrior), Mounted Computing Environment (such as Mounted Family of Computer Systems - MFoCS), and Command Post Computing Environment (such as Tactical Server Infrastructure - TSI). SCI will integrate decision-aiding, autonomy, and artificial intelligence as they mature technically, in order to support MDO tenets and enable Many-to-Many (vice 1 controller: 1 UAS) Control/use of UAS assets and reduce cognitive workload.

Secondary Distribution	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Army									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	27.114	2.090	7.509	-	7.509	7.611	-	-	-
Total:									
Secondary Distribution									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	27.114	2.090	7.509	-	7.509	7.611	-	-	-

UNCLASSIFIED

Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 02: Modification of Aircraft / BSA 10: Modification of Aircraft	P-1 Line Item Number / Title: 0028A02706 / Universal Ground Control Equipment (UAS)
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ID Code (A=Service Ready, B=Not Service Ready):	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: N/A

Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-3a	A02707 / Universal Products (UNCLASSIFIED)				- / 14.926	- / 27.114	- / 2.090	- / 7.509	- / -	- / 7.509
P-40	Total Gross/Weapon System Cost				- / 14.926	- / 27.114	- / 2.090	- / 7.509	- / -	- / 7.509

Exhibits Schedule					FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-3a	A02707 / Universal Products (UNCLASSIFIED)				- / 7.611	- / -	- / -	- / -	- / -	- / 59.250
P-40	Total Gross/Weapon System Cost				- / 7.611	- / -	- / -	- / -	- / -	- / 59.250

*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:
 FY2021 SCI (Formerly Universal Product) Base funding of \$7.509 million will be used to continue the fielding of S-788 Modernized Server Kits for Shadow Block III, stepping stone for SCI capable shelters in the field (119 Kits). These Kits will support current Universal Ground Control Station (UGCS) operations while providing processing power and capability for operations in a MDO Environment.

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 0028A02706 / Universal Ground Control Equipment (UAS)	Modification Number / Title: A02707 / Universal Products

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

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	14.926	27.114	2.090	7.509	-	7.509	7.611	-	-	-	-	59.250
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	14.926	27.114	2.090	7.509	-	7.509	7.611	-	-	-	-	59.250
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	14.926	27.114	2.090	7.509	-	7.509	7.611	-	-	-	-	59.250

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

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

Description:

Scalable Control Interface (SCI) will be the primary means of Command and Control (C2) for Program of Record Army Unmanned Aircraft Systems (UAS). SCI software will be hosted on Mission Command devices in both ground and airborne platforms serving as nodes on the Integrated Tactical Network to retrieve and provide data. SCI distributes UAS capabilities by greatly increasing the number of UAS control devices available to Soldiers and Commanders through the depth of the battlefield. SCI provides simultaneous control of multiple aircraft from a single node. SCI leverages a Modular Operating System Approach (MOSA) to software in order to reduce time and cost to integrate new hardware and software in response to the dynamic future operating environment.

Deployment of SCI will include, but is not limited to, devices in the Mobile/Handheld Computing Environment (such as Nett Warrior), Mounted Computing Environment (such as MFoCS), and Command Post Computing Environment (such as TSI). SCI will integrate decision-aiding, autonomy, and artificial intelligence as they mature technically, in order to support MDO tenets and enable Many-to-Many (vice 1 controller: 1 UAS) Control/use of UAS assets and reduce cognitive workload. (119 Kits)

Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	27.114	2.090	7.509	-	7.509	7.611	-	-	-
Total: Secondary Distribution	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	27.114	2.090	7.509	-	7.509	7.611	-	-	-

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army										Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10				P-1 Line Item Number / Title: 0028A02706 / Universal Ground Control Equipment (UAS)						Modification Number / Title: A02707 / Universal Products			
ID Code (A=Service Ready, B=Not Service Ready) :							MDAP/MAIS Code:						
Models of Systems Affected: N/A				Modification Type: UNCLASSIFIED				Related RDT&E PEs:					
Financial Plan	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
Procurement													
<i>Modification Item 1 of 1: Universal Products Mods</i>													
B Kits													
Recurring													
Hardware Refresh	- / 14.926	- / 27.114	- / 2.090	- / 7.509	- / -	- / 7.509	- / 7.611	- / -	- / -	- / -	- / -	- / 59.250	
<i>Subtotal: Recurring</i>	- / 14.926	- / 27.114	- / 2.090	- / 7.509	- / -	- / 7.509	- / 7.611	- / -	- / -	- / -	- / -	- / 59.250	
<i>Subtotal: Universal Products Mods</i>	- / 14.926	- / 27.114	- / 2.090	- / 7.509	- / -	- / 7.509	- / 7.611	- / -	- / -	- / -	- / -	- / 59.250	
<i>Subtotal: Procurement, All Modification Items</i>	- / 14.926	- / 27.114	- / 2.090	- / 7.509	- / -	- / 7.509	- / 7.611	- / -	- / -	- / -	- / -	- / 59.250	
Installation													
<i>Subtotal: Installation</i>	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	
Total													
Total Cost (Procurement + Support + Installation)	14.926	27.114	2.090	7.509	-	7.509	7.611	-	-	-	-	59.250	

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army						Date: February 2020	
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10			P-1 Line Item Number / Title: 0028A02706 / Universal Ground Control Equipment (UAS)			Modification Number / Title: A02707 / Universal Products	
ID Code (A=Service Ready, B=Not Service Ready) :					MDAP/MAIS Code:		
Modification Item 1 of 1: Universal Products Mods							
Manufacturer Information							
Manufacturer Name: TBD				Manufacturer Location: TBD			
Administrative Leadtime (in Months):				Production Leadtime (in Months):			
Dates	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Contract Dates							
Delivery Dates							
Installation Information							
Method of Implementation (Organic): TBD					Installation Quantity: 0		

UNCLASSIFIED

Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 02: Modification of Aircraft / BSA 10: Modification of Aircraft	P-1 Line Item Number / Title: 0756AA6601 / Gray Eagle Mods2
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ID Code (A=Service Ready, B=Not Service Ready):	Program Elements for Code B Items: N/A	Other Related Program Elements: 0305204A, 0305219A
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Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	74.085	189.781	14.699	16.280	-	16.280	10.365	8.580	8.674	-	-	322.464
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	74.085	189.781	14.699	16.280	-	16.280	10.365	8.580	8.674	-	-	322.464
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	74.085	189.781	14.699	16.280	-	16.280	10.365	8.580	8.674	-	-	322.464

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

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

Description:

The MQ-1C Gray Eagle provides the Army with an Extended Range, Multi-Purpose (ERMP) Unmanned Aircraft System (UAS); capable of executing reconnaissance, security, attack, and intelligence collection missions in the range of military operations (ROMO). Sensors/payloads include an Electro-Optical/Infrared/Laser Designator (EO/IR/LD), Synthetic Aperture Radar/Moving Target Indicator (SAR/MTI), Signals Intelligence (SIGINT), and HELLFIRE missiles; providing a near all-weather mission capability. MQ-1C Gray Eagle is a dedicated, assured, multi-mission Unmanned Aircraft System (UAS) fielded to all Army Divisions, Intelligence and Security Command and Army Special Operations Command in support of the commander's warfighting priorities and Aviation Force 1.1 capabilities enabling Multi-Domain Operations (MDO).

The Warrior Alpha Modification funding is required to bring the Warrior Alpha fleet to the latest configuration to include modernization to High Definition EO/IR/LD payloads, Beyond Line of Sight (BLOS) classified payloads and the Vortex payload system. These modernizations includes integration, new hardware, and software changes. The FY19 OCO funding procures ten (10) payloads and associated integration cost. The Warrior Alpha UAS provides 24 hour a day operations. The systems are capable of executing reconnaissance, security and intelligence collection. The system is non weapons capable. All systems are Government Owned Contractor Operated (GOCO) systems currently located at Dugway Proving Ground. Sensors/payloads include are Electro-Optical/Infrared/Laser Designator (EO/IR/LD), BLOS classified payloads and Vortex payloads. Providing a near all-weather mission capability the system is a dedicated, assured, multi-mission Unmanned Aircraft System (UAS) providing GOCO operation to Army Special Operations Command in support of the commander's warfighting priorities.

The MQ-1C Gray Eagle Modification/Product Improvement Program (PIP) funding is required for Datalinks and Avionics modernization. Datalinks and Avionics modernization involves the procurement of new SATCOM ground and air vehicle equipment, new air vehicle avionics, and system re-architecture through the partitioning and updating of software to allow for the separation of critical and non-critical functions. This modernization effort will enable multi-band communication for Beyond Line of Sight data transmission, replace obsolete processors, and improve system processing and increase both throughput and memory capability. PIP funding also supports multi-phased integration efforts of hardware and software procurement in support of Army Assured-Positioning Navigation and Timing (A-PNT) requirements to allow the MQ-1C Gray Eagle to survive, persist, and thrive in GPS denied environments. These upgrades improve operations in contested environments, address obsolescence, and establish an architecture that enables integration of future payloads to support Multi-Domain Operations.

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

UNCLASSIFIED

Exhibit P-40, Budget Line Item Justification: PB 2021 Army							Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 02: Modification of Aircraft / BSA 10: Modification of Aircraft					P-1 Line Item Number / Title: 0756AA6601 / Gray Eagle Mods2					
ID Code (A=Service Ready, B=Not Service Ready):			Program Elements for Code B Items: N/A			Other Related Program Elements: 0305204A, 0305219A				
Line Item MDAP/MAIS Code: N/A										

Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	189.781	14.699	16.280	-	16.280	10.365	8.580	8.674	-
Total: Secondary Distribution	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	189.781	14.699	16.280	-	16.280	10.365	8.580	8.674	-

UNCLASSIFIED

Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 02: Modification of Aircraft / BSA 10: Modification of Aircraft	P-1 Line Item Number / Title: 0756AA6601 / Gray Eagle Mods2
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ID Code (A=Service Ready, B=Not Service Ready):	Program Elements for Code B Items: N/A	Other Related Program Elements: 0305204A, 0305219A
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Line Item MDAP/MAIS Code: N/A

Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-3a	A00002 / GRAY EAGLE MODS (UNCLASSIFIED)				- / 74.085	- / 189.781	- / 14.699	- / 16.280	- / -	- / 16.280
P-40	Total Gross/Weapon System Cost				- / 74.085	- / 189.781	- / 14.699	- / 16.280	- / -	- / 16.280

Exhibits Schedule					FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-3a	A00002 / GRAY EAGLE MODS (UNCLASSIFIED)				- / 10.365	- / 8.580	- / 8.674	- / -	- / -	- / 322.464
P-40	Total Gross/Weapon System Cost				- / 10.365	- / 8.580	- / 8.674	- / -	- / -	- / 322.464

*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:

The Fiscal Year (FY) 2021 Aircraft Modification/Product Improvement Program (PIP) base funding of \$16.280 million supports the procurement of the Global Positioning System (GPS) Denied equipment and transitioning SATCOM datalink to a multi-band frequency.

The MQ-1C Gray Eagle Modification/Product Improvement Program (PIP) funding is required for Datalinks and Avionics modernization. Datalinks and Avionics modernization involves the procurement of new SATCOM ground and air vehicle equipment, new air vehicle avionics, and system re-architecture through the partitioning and updating of software to allow for the separation of critical and non-critical functions. This modernization effort will enable multi-band communication for Beyond Line of Sight data transmission, replace obsolete processors, and improve system processing and increase both throughput and memory capability. PIP funding also supports multi-phased integration efforts of hardware and software procurement in support of Army Assured-Positioning Navigation and Timing (A-PNT) requirements to allow the MQ-1C Gray Eagle to survive, persist, and thrive in GPS denied environments. These upgrades improve operations in contested environments, address obsolescence, and establish an architecture that enables integration of future payloads to support Multi-Domain Operations.

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 0756AA6601 / Gray Eagle Mods2	Modification Number / Title: A00002 / GRAY EAGLE MODS

ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	74.085	189.781	14.699	16.280	-	16.280	10.365	8.580	8.674	-	-	322.464
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	74.085	189.781	14.699	16.280	-	16.280	10.365	8.580	8.674	-	-	322.464
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	74.085	189.781	14.699	16.280	-	16.280	10.365	8.580	8.674	-	-	322.464

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

Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	-	18,978.100	-	-	-	-	-	-	-	-	-	32,246.400

Description:

The MQ-1C Gray Eagle provides the Army with an Extended Range, Multi-Purpose (ERMP) Unmanned Aircraft System (UAS); capable of executing reconnaissance, security, attack, and intelligence collection missions in the range of military operations (ROMO). Sensors/payloads include an Electro-Optical/Infrared/Laser Designator (EO/IR/LD), Synthetic Aperture Radar/Moving Target Indicator (SAR/MTI), Signals Intelligence (SIGINT), and HELLFIRE missiles; providing a near all-weather mission capability. MQ-1C Gray Eagle is a dedicated, assured, multi-mission Unmanned Aircraft System (UAS) fielded to all Army Divisions, Intelligence and Security Command and Army Special Operations Command in support of the commander's warfighting priorities and Aviation Force 1.1 capabilities enabling Multi-Domain Operations.

The Warrior Alpha Modification funding is required to bring the Warrior Alpha fleet to the latest configuration to include modernization to High Definition EO/IR/LD payloads, Beyond Line of Sight (BLOS) classified payloads and the Vortex payload system. These modernizations includes integration, new hardware, and software changes. The FY19 OCO funding procures ten (10) payloads and associated integration cost. The Warrior Alpha UAS provides 24 hour a day operations. The systems are capable of executing reconnaissance, security and intelligence collection. The system is non weapons capable. All systems are Government Owned Contractor Operated (GOCO) systems currently located at Dugway Proving Ground. Sensors/payloads include are Electro-Optical/Infrared/Laser Designator (EO/IR/LD), BLOS classified payloads and Vortex payloads. Providing a near all-weather mission capability the system is a dedicated, assured, multi-mission Unmanned Aircraft System (UAS) providing GOCO operation to Army Special Operations Command in support of the commander's warfighting priorities.

The MQ-1C Gray Eagle Modification/Product Improvement Program (PIP) funding is required for Datalinks and Avionics modernization. Datalinks and Avionics modernization involves the procurement of new SATCOM ground and air vehicle equipment, new air vehicle avionics, and system re-architecture through the partitioning and updating of software to allow for the separation of critical and non-critical functions. This modernization effort will enable multi-band communication for Beyond Line of Sight data transmission, replace obsolete processors, and improve system processing and increase both throughput and memory capability. PIP funding also supports multi-phased integration efforts of hardware and software procurement in support of Army Assured-Positioning Navigation and Timing (A-PNT) requirements to allow the MQ-1C Gray Eagle to survive, persist, and thrive in GPS denied environments. These upgrades improve operations in contested environments, address obsolescence, and establish an architecture that enables integration of future payloads to support Multi-Domain Operations.

Note: Each A-kit and B-kit modifies one (1) aircraft.

Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	189.781	14.699	16.280	-	16.280	10.365	8.580	8.674	-
Total:	Quantity	-	-	-	-	-	-	-	-	-

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 0756AA6601 / Gray Eagle Mods2	Modification Number / Title: A00002 / GRAY EAGLE MODS
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ID Code (A=Service Ready, B=Not Service Ready) : **MDAP/MAIS Code:**

Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Secondary Distribution	Total Obligation Authority	189.781	14.699	16.280	-	16.280	10.365	8.580	8.674	-

Development Status/Major Development Milestones

Date	Title	Description
Jan 2018	Global Positioning System (GPS) Denied	Retrofits
Jan 2020	Datalinks and Avionics Modernizatoin	Retrofits
Jan 2019	Warrior Alpha Modification	Retroits

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army										Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10				P-1 Line Item Number / Title: 0756AA6601 / Gray Eagle Mods2						Modification Number / Title: A00002 / GRAY EAGLE MODS			
ID Code (A=Service Ready, B=Not Service Ready) :							MDAP/MAIS Code:						
Models of Systems Affected: N/A				Modification Type: UNCLASSIFIED				Related RDT&E PEs:					
Financial Plan	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
Procurement													
Modification Item 1 of 3: Warrior Alpha Modification													
A Kits													
Non-Recurring													
Non-recurring engineering	- / -	- / 5.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 5.000	
Subtotal: Non-Recurring	- / -	- / 5.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 5.000	
B Kits													
Recurring													
High Definition & BLOS Payload	- / -	10 / 27.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	10 / 27.000	
Subtotal: Recurring	- / -	10 / 27.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	10 / 27.000	
Subtotal: Warrior Alpha Modification	- / -	10 / 32.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	10 / 32.000	
Modification Item 2 of 3: Assured Positioning Navigation Timing Improvements													
B Kits													
Recurring													
Global Positioning System (GPS) Denied	113 / 16.611	112 / 16.464	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	225 / 33.075	
Subtotal: Recurring	113 / 16.611	112 / 16.464	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	225 / 33.075	
Non-Recurring													
Software Updates	- / 24.310	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 24.310	
Non-GPS Navigation NRE	- / 3.000	- / 6.000	- / 3.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 12.000	
Program Management	- / 4.631	- / 4.800	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 9.431	
Navigator 2 Qualification	- / 5.198	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 5.198	
Auto-pilot Improvements	- / 14.330	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 14.330	
Avionics NRE	- / 12.326	- / 123.064	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 125.390	
Subtotal: Non-Recurring	- / 143.795	- / 133.864	- / 3.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 80.659	
Subtotal: Assured Positioning Navigation Timing Improvements	113 / 60.406	112 / 50.328	- / 3.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	225 / 113.734	
Modification Item 3 of 3: Datalink and Avionics Modernization													
B Kits													
Recurring													
Datalink Modernization B-Kits	- / -	12 / 43.200	5 / 6.900	3 / 9.362	- / -	3 / 9.362	2 / 7.879	2 / 6.042	2 / 6.085	- / -	- / -	26 / 79.468	
Subtotal: Recurring	- / -	12 / 43.200	5 / 6.900	3 / 9.362	- / -	3 / 9.362	2 / 7.879	2 / 6.042	2 / 6.085	- / -	- / -	26 / 79.468	

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 0756AA6601 / Gray Eagle Mods2	Modification Number / Title: A00002 / GRAY EAGLE MODS
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ID Code (A=Service Ready, B=Not Service Ready) : **MDAP/MAIS Code:**

Models of Systems Affected: N/A **Modification Type:** UNCLASSIFIED **Related RDT&E PEs:**

Financial Plan	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Non-Recurring												
Datalink Modernization NRE	- / 9.611	- / 55.421	- / 3.299	- / 3.246	- / -	- / 3.246	- / -	- / -	- / -	- / -	- / -	- / 71.577
<i>Subtotal: Non-Recurring</i>	- / 9.611	- / 55.421	- / 3.299	- / 3.246	- / -	- / 3.246	- / -	- / -	- / -	- / -	- / -	- / 71.577
<i>Subtotal: Datalink and Avionics Modernization</i>	- / 9.611	12 / 98.621	5 / 10.199	3 / 12.608	- / -	3 / 12.608	2 / 7.879	2 / 6.042	2 / 6.085	- / -	- / -	26 / 151.045
<i>Subtotal: Procurement, All Modification Items</i>	113 / 70.017	134 / 180.949	5 / 13.199	3 / 12.608	- / -	3 / 12.608	2 / 7.879	2 / 6.042	2 / 6.085	- / -	- / -	261 / 296.779
Installation												
<i>Modification Item 2 of 3: Assured Positioning Navigation Timing Improvements</i>	113 / 4.068	112 / 4.032	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	225 / 8.100
<i>Modification Item 3 of 3: Datalink and Avionics Modernization</i>	- / -	12 / 4.800	5 / 1.500	3 / 3.672	- / -	3 / 3.672	2 / 2.486	2 / 2.538	2 / 2.589	- / -	- / -	26 / 17.585
<i>Subtotal: Installation</i>	113 / 4.068	124 / 8.832	5 / 1.500	3 / 3.672	- / -	3 / 3.672	2 / 2.486	2 / 2.538	2 / 2.589	- / -	- / -	251 / 25.685
Total												
Total Cost (Procurement + Support + Installation)	74.085	189.781	14.699	16.280	-	16.280	10.365	8.580	8.674	-	-	322.464

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army					Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10			P-1 Line Item Number / Title: 0756AA6601 / Gray Eagle Mods2			Modification Number / Title: A00002 / GRAY EAGLE MODS	
ID Code (A=Service Ready, B=Not Service Ready) :					MDAP/MAIS Code:		
Modification Item 1 of 3: Warrior Alpha Modification							
Manufacturer Information							
Manufacturer Name: General Atomics				Manufacturer Location: Poway, CA			
Administrative Leadtime (in Months): 4				Production Leadtime (in Months): 15			
Dates	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Contract Dates	Jan 2019						
Delivery Dates	Apr 2020						
Installation Information							
Method of Implementation (Organic): Replacement aircraft build					Installation Quantity: 10		

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 0756AA6601 / Gray Eagle Mods2	Modification Number / Title: A00002 / GRAY EAGLE MODS

ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Modification Item 2 of 3: Assured Positioning Navigation Timing Improvements

Manufacturer Information

Manufacturer Name: General Atomics (GA-ASI)	Manufacturer Location: Poway, CA
Administrative Leadtime (in Months): 4	Production Leadtime (in Months): 24

Dates	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Contract Dates	Jan 2019						
Delivery Dates	Jan 2021						

Installation Information

Method of Implementation: FSR Fielded Retrofits

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	113 / 4.068	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	113 / 4.068
FY 2021	- / -	112 / 4.032	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	112 / 4.032
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	113 / 4.068	112 / 4.032	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	225 / 8.100

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot	
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
In	113	-	-	50	62	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	225
Out	-	-	-	-	-	-	-	50	63	-	-	50	62	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	225

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 0756AA6601 / Gray Eagle Mods2	Modification Number / Title: A00002 / GRAY EAGLE MODS

ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Modification Item 3 of 3: Datalink and Avionics Modernization

Manufacturer Information

Manufacturer Name: General Atomics (GA-ASI)	Manufacturer Location: Poway, CA
Administrative Leadtime (in Months): 4	Production Leadtime (in Months): 12

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

Installation Information

Method of Implementation: FSR Fielded Retrofits

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	12 / 4.800	5 / 1.500	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	17 / 6.300
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	3 / 3.672	- / -	3 / 3.672	- / -	- / -	- / -	- / -	- / -	3 / 3.672
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	2 / 2.486	- / -	- / -	- / -	- / -	2 / 2.486
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	2 / 2.538	- / -	- / -	- / -	2 / 2.538
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	2 / 2.589	- / -	- / -	2 / 2.589
Total	- / -	12 / 4.800	5 / 1.500	3 / 3.672	- / -	3 / 3.672	2 / 2.486	2 / 2.538	2 / 2.589	- / -	- / -	26 / 17.585

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot		
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4				
In	-	-	-	1	-	-	-	5	-	-	-	3	12	-	-	2	-	-	-	2	-	-	-	2	-	-	-	-	-	-	-	-	27
Out	-	-	-	-	-	-	1	-	-	-	5	-	-	-	3	-	12	-	2	-	-	-	2	-	-	-	2	-	-	-	-	27	

UNCLASSIFIED

Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 02: Modification of Aircraft / BSA 10: Modification of Aircraft	P-1 Line Item Number / Title: 1036AZ2001 / Multi Sensor ABN Recon (MIP)
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ID Code (A=Service Ready, B=Not Service Ready):	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	1,242.961	128.084	115.449	35.864	122.520	158.384	75.954	43.957	28.835	64.657	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	1,242.961	128.084	115.449	35.864	122.520	158.384	75.954	43.957	28.835	64.657	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	1,242.961	128.084	115.449	35.864	122.520	158.384	75.954	43.957	28.835	64.657	Continuing	Continuing

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

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

Description:

AZ2001 Multi Sensor ABN Recon (MIP) is the Parent Line to Airborne Reconnaissance Low - Enhanced (MIP)(ARL-E) (AZ2050), Guardrail Payloads (MIP) (AZ2052), EMARSS Payloads (MIP)(AZ2054), and the Army ABN ISR Modifications (AZ2056), IAW the Aerial Layer 2020 Strategy.

Airborne Reconnaissance Low - Enhanced (ARL-E) is a worldwide self-deployable airborne Intelligence Surveillance Reconnaissance (ISR) system designed for timely, accurate, assured support to tactical forces over the full spectrum of operations. This system is a De Havilland DHC-8 aircraft replacing the DHC-7 IAW the Aerial ISR (AISR) 2020 Strategy. ARL-E will enhance the ARL-M sensor capability sets through the procurement of new and refurbished sensors to meet the ARL-E Capabilities Production Document (CPD) requirements. It provides a persistent capability to include: Broad-Area Surveillance and/or Focused Stare on Target Areas of Interest (Point or Objective Targets), Electro-Optical/Infrared (EO/IR)/Full-Motion Video (FMV), Multi-Mode Radar, Robust Communications Intelligence (COMINT), on-Board Collection, Analysis, Sensor Cross Cue and dissemination through Distributed Common Ground System-Army (DCGS-A) Enabled workstations. ARL-E will be assigned to the U.S. Army Intelligence and Security Command's Aerial ISR Brigade providing AISR support to combatant commanders. For the overall system, the Army Acquisition Objective and the Army Procurement Objective, is nine (9). The Mission Equipment Package (MEP) objective is eight (8).

This funding line supports the procurement and modernization of eight (8) complete MEP sets, which includes the following sensors: one (1) COMINT subsystem capable of supporting theater net centric geo-location efforts, two (2) High Definition FMV sensors and one (1) Improved Synthetic Aperture Radar / Ground Moving Target Indicator (SAR/GMTI) radar subsystem or one (1) SAR/Dismounted Moving Target Indicator (DMTI) subsystem. The MEP will also include four (4) DCGS-A workstations, one (1) set of communication equipment (mission radios, Beyond line of Site (BLOS) and Line of Site (LOS) Data links). ARL-E will be capable of rapid installation of sensors in a plug and play, quick connect/disconnect, mounting system to allow various combinations of sensor-types in support of a wide-range of theater operations. All MEPs will include the infrastructure to plug and play a Hyper-spectral imagery (HSI) Payload purchased under a QRC program. Future Growth capabilities include: Wide-Area Aerial Surveillance (WAAS), Light Detection and Ranging (LiDAR) and Foliage Penetration Radar (FOPEN).

The overall Airborne Reconnaissance Low-Enhanced (ARL-E) procurement/modernization efforts are found in the following three (3) lines; AZ2050 ARL Payloads (Project Manager Sensors - Aerial Intelligence), A02109, ARL-E SEMA (MIP) and A02110 ARL-E SEMA Mods (MIP) (Fixed Wing Project Office). Separate funding lines support the Army Acquisition Executive's directive, codified in the October 28, 2011 memorandum, to assign overall acquisition lead for manned airborne Intelligence systems to Program Executive Officer for Aviation; and overall sensor, processing, exploitation, and dissemination responsibilities to Program Executive Officer for Intelligence, Electronic Warfare, and Sensors.

UNCLASSIFIED

Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 02: Modification of Aircraft / BSA 10: Modification of Aircraft	P-1 Line Item Number / Title: 1036AZ2001 / Multi Sensor ABN Recon (MIP)
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ID Code (A=Service Ready, B=Not Service Ready):	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: N/A

The Guardrail Common Sensor (GRCS) is an airborne Signals Intelligence (SIGINT) Collection and Location System capable of providing Tactical Commanders Near-Real Time intelligence. It provides a persistent capability to detect, locate and classify/identify critical targets with a relevant degree of timeliness and accuracy. GRCS is assigned to two (2) U.S. Army Intelligence and Security Command's Aerial Exploitation Battalions, providing Aerial Intelligence, Surveillance and Reconnaissance (AISR) support to combatant commanders. In accordance with the Army's AISR 2020 strategy, the Army's Acquisition Objective/Army's Procurement Objective (AAO/APO) is 19 RC-12X; seven (7) fielded to 3rd MI BN; seven (7) fielded to the 204th MI BN, and five (5) pilot trainers to support Force Generation. The five (5) trainers are not equipped with Primary Mission Equipment (PME).

The overall GRCS procurement/modernization efforts are found in the following two lines: AZ2052 Guardrail Payloads (MIP) and A02111 GRCS SEMA MODS (MIP). Separate funding lines support the Army Acquisition Executive's directive, codified in the October 28, 2011 memorandum, to assign overall acquisition lead for manned airborne Intelligence systems to Program Executive Office for Aviation; and overall sensor, processing, exploitation, and dissemination responsibilities to Program Executive Officer for Intelligence, Electronic Warfare, and Sensors.

GRCS is the only Army AISR system that currently provides extended range COMINT and ELINT capabilities to support long range targeting of near-peer threats in an A2AD environment.

RDT&E and procurement funding currently planned will address obsolescence issues for critical SIGINT and ELINT capabilities on the GRCS platform. These investments ensure GRCS AISR support in the A2AD environment is not impacted, which would prevent critical intelligence collection at large standoff which is needed to address long range targeting of near-peer threats and maintain system relevancy.

The Enhanced Medium Altitude Reconnaissance and Surveillance System (EMARSS) is the Army's newest generation C-12 based, direct support, manned airborne intelligence collection, processing, and targeting support system. It provides a persistent capability to detect, locate, classify/identify, and track surface targets with a high degree of timeliness and accuracy. EMARSS is assigned to the U.S. Army Intelligence and Security Command's Aerial Exploitation Battalions, providing Aerial Intelligence, Surveillance and Reconnaissance support to combatant commanders. EMARSS is also assigned to the United States Army Training and Doctrine Command (TRADOC) in support of training at the US Army Intelligence Center of Excellence (USAICoE). The Army Acquisition Objective for EMARSS is 36 systems, with an Army Procurement Objective of 24, to include the following variants: eight (8) EMARSS-G (Geo-INT); four (4) EMARSS-V (Vehicle and Dismount Exploitation Radar, VaDER); eight (8) EMARSS-M (Multi-INT); and four (4) EMARSS-S (SIGINT). Congressional Plus-up for up to two (2) EMARSS-E aircraft.

Each EMARSS variant has a distinct Mission Equipment Package (MEP). This funding line supports the pre-planned product improvements of the following sensor capabilities: SIGINT; Electro-optical/Infrared (EO/IR)/Full Motion Video (FMV); Communications Intelligence (COMINT) to include Big Iron; Wide Area Aerial Surveillance (WAAS); Light Imaging Detection and Ranging (LiDAR) and improved Synthetic Aperture RADAR / Moving Target Indicator (SAR/MTI) RADAR; line-of-site (LOS) and beyond line-of-site (BLOS) communications; and Processing Exploitation and Dissemination (PED) supporting two Distributed Common Ground System - Army (DCGS-A) enabled operator workstations.

The overall EMARSS procurement/modernization efforts are found in the following two lines; AZ2054 EMARSS Payloads (Project Manager Sensors - Aerial Intelligence) and A02112 EMARSS SEMA Mods (Fixed Wing Project Office). Separate funding lines support the Army Acquisition Executive's directive, codified in the October 28, 2011 memorandum, to assign overall acquisition lead for manned airborne Intelligence systems to Program Executive Officer for Aviation; and overall sensor, processing, exploitation, and dissemination responsibilities to Program Executive Officer for Intelligence, Electronic Warfare, and Sensors.

EMARSS transitioned from A02005.

The Army ABN ISR Modifications line is to support aircraft modifications for planes in theater supporting Overseas Contingency Operations.

Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	128.084	115.449	35.864	122.520	158.384	75.954	43.957	28.835	64.657
Total:	Quantity	-	-	-	-	-	-	-	-	-

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Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 02: Modification of Aircraft / BSA 10: Modification of Aircraft	P-1 Line Item Number / Title: 1036AZ2001 / Multi Sensor ABN Recon (MIP)
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ID Code (A=Service Ready, B=Not Service Ready):	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: N/A

Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Secondary Distribution	Total Obligation Authority	128.084	115.449	35.864	122.520	158.384	75.954	43.957	28.835	64.657

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Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity:
2031A: Aircraft Procurement, Army / BA 02: Modification of Aircraft / BSA 10: Modification of Aircraft

P-1 Line Item Number / Title:
1036AZ2001 / Multi Sensor ABN Recon (MIP)

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

Line Item MDAP/MAIS Code: N/A

Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-3a	AZ2050 / ARL PAYLOADS (MIP) (Operational)				- / 1,110.165	- / 86.029	- / 77.895	- / 33.561	- / 45.000	- / 78.561
P-3a	AZ2052 / Guardrail Payloads (MIP) (U)				- / 72.336	- / 23.246	- / 25.408	- / 0.129	- / 25.740	- / 25.869
P-3a	AZ2054 / EMARSS Payloads (MIP) (x)				- / 60.460	- / 18.809	- / 12.146	- / 2.174	- / 10.000	- / 12.174
P-3a	AZ2056 / ABN ISR MODS (MIP) (Operational)				- / -	- / -	- / -	- / -	- / 41.780	- / 41.780
P-40	Total Gross/Weapon System Cost				- / 1,242.961	- / 128.084	- / 115.449	- / 35.864	- / 122.520	- / 158.384

Exhibits Schedule					FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-3a	AZ2050 / ARL PAYLOADS (MIP) (Operational)				- / 39.218	- / 36.046	- / 18.324	- / 27.834	Continuing	Continuing
P-3a	AZ2052 / Guardrail Payloads (MIP) (U)				- / 18.979	- / -	- / -	- / 26.010	- / -	- / 191.848
P-3a	AZ2054 / EMARSS Payloads (MIP) (x)				- / 17.757	- / 7.911	- / 10.511	- / 10.813	Continuing	Continuing
P-3a	AZ2056 / ABN ISR MODS (MIP) (Operational)				- / -	- / -	- / -	- / -	- / -	- / 41.780
P-40	Total Gross/Weapon System Cost				- / 75.954	- / 43.957	- / 28.835	- / 64.657	Continuing	Continuing

*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 2021 funding to support the overall ARL-E effort are found in the following two lines: AZ2050 ARL Payloads and A02110 ARL SEMA Mods (Project Manager Fixed Wing (PM FW) (separate form).

The purpose of ARL-E AZ2050 is to procure, upgrade, test and integrate sensors; communications architecture for sensor information exploitation and dissemination; test, nonrecurring engineering, and integration in support of the ARL-E Payload program ensuring ARL-E is rapidly deployable world-wide against current, new, and emerging threats.

ARL-E FY 2021 Base procurement dollars in the amount of \$33.588 million supports Mission Equipment Package (MEP) System Integration Lab (SIL) integration and aircraft modifications for one (1) system - aircraft 6, communications equipment, and associated hardware.

ARL-E FY 2021 OCO procurement dollars in the amount of \$45.000 million supports Integrated Contractor Logistics Support and Training, the procurement of communications intelligence (COMINT) sensors and Distributed Common Ground Sensor- Army (DCGS-A) enabled workstations for aircraft 6.

The schedule (in/out) reflects the start of MEP SIL testing and completion of aircraft integration efforts.

FY 2021 funding to support the overall GRCS efforts are found in the following two lines; AZ2052 GRCS Payloads (Project Manager Sensors - Aerial Intelligence (PM SAI)) and A02111 GRCS SEMA (Project Manager Fixed Wing (PM FW)) (separate form).

The purpose of GRCS AZ2052 is to procure, upgrade, and integrate SIGINT sensors, as well as the communications suite, and processing, exploitation and dissemination equipment on Guardrail. This will ensure Guardrail is rapidly-deployable, world-wide, against current, new, and emerging threats.

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Exhibit P-40, Budget Line Item Justification: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 02: Modification of Aircraft / BSA 10: Modification of Aircraft		P-1 Line Item Number / Title: 1036AZ2001 / Multi Sensor ABN Recon (MIP)
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		
<p>GRCS FY 2021 Base procurement dollars in the amount of \$0.129 million supports program management of GRCS SIGINT enhancement efforts.</p> <p>GRCS FY 2021 OCO procurement dollars in the amount of \$25.740 million supports procurement for GRCS advanced signal enhancement efforts, integration and testing of the signal enhancement infrastructure for GRCS updated SIGINT sensor capabilities to include: software porting and hardware modernization efforts.</p> <p>The purpose of EMARSS AZ2054 is to support the procurement and upgrade of the following sensor payload capabilities: Signals Intelligence (SIGINT); Electro-optical/Infrared (EO/IR)/Full Motion Video (FMV); a Communications Intelligence (COMINT) to include Big Iron; Wide Area Aerial Surveillance (WAAS); Light Imaging Detection and Ranging (LiDAR) and improved Synthetic Aperture Radar / Moving Target Indicator (SAR/MTI) radar; line-of-site (LOS) and beyond line-of-site (BLOS) communications; Processing Exploitation and Dissemination (PED) supporting two Distributed Common Ground System - Army (DCGS-A) enabled operator workstations; and pre-planned product improvements.</p> <p>EMARSS FY 2021 Base procurement dollars in the amount of \$2.176 million supports integration, testing and SIGINT installations on EMARSS.</p> <p>EMARSS FY 2021 OCO procurement dollars in the amount of \$10.000 million supports sensor procurements, integration, installation, and testing that enable modern signals SIGINT updates on EMARSS as well as corresponding System Training Interface (STI) updates. Upgrades are required for continued operational readiness for Operation Freedom's Sentinel (OFS). Due to the variation of sensors and capabilities per variant, unit cost and sensor quantities per SIGINT system upgrade and installation differs significantly between EMARSS-V, M, and S.</p> <p>ABN ISR Mods (MIP) FY 2021 OCO procurement dollars in the amount of \$41.780 million supports the procurement of three (3) Hyperspectral Imaging Sensors for the Saturn Arch Program and Fixed Wing Aircraft modifications to include Communications, Navigation, and Surveillance (CNS) and Saturn Arch Aircraft Survivability Equipment (ASE). This is a New Start effort.</p> <p>In accordance with Section 1815 of the FY 2008 National Defense Authorization Act (P.L. 110-181), this item is necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities.</p> <p>All funding is in Active Component.</p>		

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Exhibit P-3a, Individual Modification: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 1036AZ2001 / Multi Sensor ABN Recon (MIP)	Modification Number / Title: AZ2050 / ARL PAYLOADS (MIP)

ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	1,110.165	86.029	77.895	33.561	45.000	78.561	39.218	36.046	18.324	27.834	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	1,110.165	86.029	77.895	33.561	45.000	78.561	39.218	36.046	18.324	27.834	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	1,110.165	86.029	77.895	33.561	45.000	78.561	39.218	36.046	18.324	27.834	Continuing	Continuing

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

Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Thousands</i>)	370,055.000	28,676.333	77,895.000	-	-	-	39,218.000	-	-	27,834.000	Continuing	Continuing

Description:

ARL-E FY 2021 Base procurement dollars in the amount of \$33.588 million supports Mission Equipment Package (MEP) System Integration Lab (SIL) integration and aircraft modifications for one (1) system - aircraft 6, communications equipment, and associated hardware.

ARL-E FY 2021 OCO procurement dollars in the amount of \$45.000 million supports Mission Equipment Package (MEP) System Integration Lab (SIL) integration, Integrated Contractor Logistics Support and Training, and the procurement of communications intelligence (COMINT) sensors and Distributed Common Ground Sensor- Army (DCGS-A) enabled workstations for aircraft 6.

The schedule (in/out) reflects the start of MEP SIL testing and the completion of aircraft integration/required test events.

Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	86.029	77.895	33.561	45.000	78.561	39.218	36.046	18.324	27.834
Total:	Quantity	-	-	-	-	-	-	-	-	-
Secondary Distribution	Total Obligation Authority	86.029	77.895	33.561	45.000	78.561	39.218	36.046	18.324	27.834

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Exhibit P-3a, Individual Modification: PB 2021 Army										Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10				P-1 Line Item Number / Title: 1036AZ2001 / Multi Sensor ABN Recon (MIP)						Modification Number / Title: AZ2050 / ARL PAYLOADS (MIP)			
ID Code (A=Service Ready, B=Not Service Ready) :							MDAP/MAIS Code:						
Models of Systems Affected: ARL				Modification Type: Operational				Related RDT&E PEs:					
Financial Plan	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
Procurement													
Modification Item 1 of 1: ARL Enhanced (ARL-E)													
A Kits													
Recurring													
System Test & Eval support	- / 25.835	- / 1.837	- / 2.200	- / 2.500	- / -	- / 2.500	- / 4.347	- / 1.800	- / 1.500	- / -	- / -	- / 40.019	
Program Mgt	- / 28.302	- / 8.602	- / 4.500	- / 3.108	- / 4.837	- / 7.945	- / 3.861	- / 3.564	- / 1.982	- / 2.752	- / 17.006	- / 78.514	
Spares	- / 1.152	- / 2.815	- / 8.150	- / 5.750	- / -	- / 5.750	- / 8.517	- / 3.650	- / 0.197	- / 6.032	- / 9.033	- / 45.296	
Training and Documentation	- / 7.572	- / 2.038	- / 2.200	- / -	- / 7.605	- / 7.605	- / -	- / 4.000	- / 4.635	- / -	- / -	- / 28.050	
Field Support	- / 3.351	- / 5.725	- / 16.000	- / -	- / 14.477	- / 14.477	- / -	- / -	- / -	- / -	- / -	- / 39.553	
Aircraft Standardization	- / 13.791	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 13.791	
Aircraft Modification	- / 7.619	- / -	- / 7.000	- / 9.000	- / -	- / 9.000	- / -	- / -	- / 9.160	- / -	- / 19.250	- / 52.029	
Subtotal: Recurring	- / 87.622	- / 21.017	- / 40.050	- / 20.358	- / 26.919	- / 47.277	- / 16.725	- / 13.014	- / 17.474	- / 8.784	- / 45.289	- / 297.252	
Non-Recurring													
Non Recurring Engineering	- / 22.302	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 22.302	
Subtotal: Non-Recurring	- / 22.302	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 22.302	
B Kits													
Recurring													
Upgrade MX-20D SWIR sensors	- / 6.342	- / -	- / 1.300	- / -	- / -	- / -	- / 1.150	- / -	- / -	- / 1.200	- / -	- / 9.992	
SAR/DMTI sensor	- / 25.250	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 25.250	
Communications procurement	- / 14.680	- / -	- / 2.900	- / 2.751	- / -	- / 2.751	- / 3.043	- / -	- / -	- / -	- / -	- / 23.374	
LRR/Integration	- / 10.711	- / 14.783	- / 14.895	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 40.389	
COMINT	- / 32.783	- / 2.500	- / -	- / -	- / 16.183	- / 16.183	- / -	- / -	- / -	- / -	- / -	- / 41.466	
HSI upgrade	- / 1.701	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 1.701	
DCGS-A Workstations	- / 43.867	- / 5.500	- / -	- / -	- / 5.850	- / 5.850	- / -	- / 5.872	- / -	- / -	- / 12.355	- / 73.444	
Upgrade MX-20HD Sensors	- / 3.805	- / -	- / 0.750	- / -	- / -	- / -	- / 0.800	- / -	- / 0.850	- / -	- / -	- / 6.205	
MEP/PED System Integration Lab (SIL)	- / 36.589	- / 18.067	- / -	- / 10.452	- / 16.048	- / 16.500	- / -	- / 17.160	- / -	- / -	- / 36.699	- / 125.015	
Subtotal: Recurring	- / 175.728	- / 40.850	- / 19.845	- / 13.203	- / 18.081	- / 31.284	- / 4.993	- / 23.032	- / 0.850	- / 1.200	- / 49.054	- / 346.836	
Non-Recurring													
LRR Information Assurance	- / -	- / 5.910	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 5.910	
Subtotal: Non-Recurring	- / -	- / 5.910	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 5.910	
Subtotal: ARL Enhanced (ARL-E)	- / 285.652	- / 67.777	- / 59.895	- / 33.561	- / 45.000	- / 78.561	- / 21.718	- / 36.046	- / 18.324	- / 9.984	- / 94.343	- / 672.300	
Subtotal: Procurement, All Modification Items	- / 285.652	- / 67.777	- / 59.895	- / 33.561	- / 45.000	- / 78.561	- / 21.718	- / 36.046	- / 18.324	- / 9.984	- / 94.343	- / 672.300	

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Exhibit P-3a, Individual Modification: PB 2021 Army										Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10				P-1 Line Item Number / Title: 1036AZ2001 / Multi Sensor ABN Recon (MIP)						Modification Number / Title: AZ2050 / ARL PAYLOADS (MIP)		
ID Code (A=Service Ready, B=Not Service Ready) :							MDAP/MAIS Code:					
Models of Systems Affected: ARL				Modification Type: Operational				Related RDT&E PEs:				
Financial Plan	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Installation												
<i>Modification Item 1 of 1:</i> ARL Enhanced (ARL-E)	3 / 824.513	1 / 18.252	1 / 18.000	- / -	- / -	- / -	1 / 17.500	- / -	- / -	1 / 17.850	Continuing	Continuing
<i>Subtotal: Installation</i>	3 / 824.513	1 / 18.252	1 / 18.000	- / -	- / -	- / -	1 / 17.500	- / -	- / -	1 / 17.850	Continuing	Continuing
Total												
Total Cost (Procurement + Support + Installation)	1,110.165	86.029	77.895	33.561	45.000	78.561	39.218	36.046	18.324	27.834	Continuing	Continuing

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Exhibit P-3a, Individual Modification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 1036AZ2001 / Multi Sensor ABN Recon (MIP)	Modification Number / Title: AZ2050 / ARL PAYLOADS (MIP)
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ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Modification Item 1 of 1: ARL Enhanced (ARL-E)

Manufacturer Information

Manufacturer Name: Leidos	Manufacturer Location: Maryland
Administrative Leadtime (in Months): 6	Production Leadtime (in Months): 24

Dates	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Contract Dates						Nov 2023	
Delivery Dates		Feb 2020	Nov 2021	Feb 2022		Jun 2024	

Installation Information

Method of Implementation: Contractor

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	3 / 824.513	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	Continuing	Continuing
FY 2019	- / -	1 / 18.252	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	Continuing	Continuing
FY 2020	- / -	- / -	1 / 18.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	Continuing	Continuing
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	1 / 17.500	- / -	- / -	- / -	Continuing	Continuing
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / 17.850	Continuing	Continuing
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / 24.240	1 / 24.240
Total	3 / 824.513	1 / 18.252	1 / 18.000	- / -	- / -	- / -	1 / 17.500	- / -	- / -	1 / 17.850	Continuing	Continuing

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	4	-	-	-	1	-	-	-	-	-	-	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1	8
Out	-	-	-	-	-	-	1	1	1	1	-	-	-	-	1	-	-	-	-	-	-	-	-	1	-	-	-	-	-	2	8

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Exhibit P-3a, Individual Modification: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 1036AZ2001 / Multi Sensor ABN Recon (MIP)	Modification Number / Title: AZ2052 / Guardrail Payloads (MIP)

ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	72.336	23.246	25.408	0.129	25.740	25.869	18.979	-	-	26.010	-	191.848
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	72.336	23.246	25.408	0.129	25.740	25.869	18.979	-	-	26.010	-	191.848
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	72.336	23.246	25.408	0.129	25.740	25.869	18.979	-	-	26.010	-	191.848

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

Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	-	-	-	-	8,580.000	8,623.000	18,979.000	-	-	-	-	47,962.000

Description:

The Guardrail Common Sensor (GRCS) is an airborne Signals Intelligence (SIGINT) Collection and Location System capable of providing Tactical Commanders Near-Real Time intelligence. It provides a persistent capability to detect, locate and classify/identify critical targets with a relevant degree of timeliness and accuracy. GRCS is assigned to two (2) U.S. Army Intelligence and Security Command's Aerial Exploitation Battalions, providing Aerial Intelligence, Surveillance and Reconnaissance (AISR) support to combatant commanders. In accordance with the Army's AISR 2020 strategy, the Army's Acquisition Objective/Army's Procurement Objective (AAO/APO) is 19 RC-12X; seven (7) fielded to 3rd MI BN; seven (7) fielded to the 204th MI BN, and five (5) pilot trainers to support Force Generation. The five (5) trainers are not equipped with Primary Mission Equipment (PME).

The overall GRCS procurement/modernization efforts are found in the following two lines: AZ2052 Guardrail Payloads (MIP) and A02111 GRCS SEMA MODS (MIP). Separate funding lines support the Army Acquisition Executive's directive, codified in the October 28, 2011 memorandum, to assign overall acquisition lead for manned airborne Intelligence systems to Program Executive Office for Aviation; and overall sensor, processing, exploitation, and dissemination responsibilities to Program Executive Officer for Intelligence, Electronic Warfare, and Sensors.

GRCS FY 2021 Base APA procurement dollars in the amount of \$0.129 million supports program management of GRCS SIGINT enhancement efforts.
GRCS FY 2021 OCO APA procurement dollars in the amount of \$25.740 million supports procurement for GRCS advanced signal enhancement efforts, integration and testing of the signal enhancement infrastructure for GRCS updated SIGINT sensor capabilities to include: software porting, and hardware modernization efforts.

GRCS is the only Army AISR system that currently provides extended range COMINT and ELINT capabilities to support long range targeting of near-peer threats in an A2AD environment.

RDT&E and procurement funding currently planned will address obsolescence issues for critical SIGINT and ELINT capabilities on the GRCS platform. These investments ensure GRCS AISR support in the A2AD environment is not impacted, which would prevent critical intelligence collection at large standoff which is needed to address long range targeting of near-peer threats and maintain system relevancy.

CHALS-SD and ELINT Sensor Upgrades work FY 2020 and beyond are consolidated into SIGINT Suite Sensor Upgrades.

Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	23.246	25.408	0.129	25.740	25.869	18.979	-	-	26.010
Total:	Quantity	-	-	-	-	-	-	-	-	-

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Exhibit P-3a, Individual Modification: PB 2021 Army	Date: February 2020
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Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 1036AZ2001 / Multi Sensor ABN Recon (MIP)	Modification Number / Title: AZ2052 / Guardrail Payloads (MIP)
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ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Secondary Distribution	Total Obligation Authority	23.246	25.408	0.129	25.740	25.869	18.979	-	-	26.010

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Exhibit P-3a, Individual Modification: PB 2021 Army										Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10					P-1 Line Item Number / Title: 1036AZ2001 / Multi Sensor ABN Recon (MIP)					Modification Number / Title: AZ2052 / Guardrail Payloads (MIP)			
ID Code (A=Service Ready, B=Not Service Ready) :							MDAP/MAIS Code:						
Models of Systems Affected: See individual Mods				Modification Type: U				Related RDT&E PEs:					
Financial Plan	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
Procurement													
Modification Item 1 of 6: CHALS-SD Sensor Upgrades													
B Kits													
Recurring													
Pilots	- / 0.100	- / 0.400	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.500	
PMO/MWO	- / 0.294	- / 1.679	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 1.973	
Sensor Hardware & Materials	2 / 2.346	5 / 6.196	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	7 / 8.542	
Spares	- / -	3 / 3.420	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	3 / 3.420	
Subtotal: Recurring	2 / 2.740	8 / 11.695	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	10 / 14.435	
Non-Recurring													
Non-Recurring Engineering	- / 0.770	- / 2.862	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 3.632	
Subtotal: Non-Recurring	- / 0.770	- / 2.862	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 3.632	
Subtotal: CHALS-SD Sensor Upgrades	2 / 3.510	8 / 14.557	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	10 / 18.067	
Modification Item 2 of 6: ELINT Sensor Upgrades													
B Kits													
Recurring													
Pilots	- / 0.100	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.100	
Program Mgt	- / 1.521	- / 0.400	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 1.921	
Sensors - Material & Hardware	5 / 10.250	2 / 4.500	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	7 / 14.750	
Spares	2 / 3.910	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	2 / 3.910	
Subtotal: Recurring	7 / 15.781	2 / 4.900	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	9 / 20.681	
Non-Recurring													
Non-Recurring Engineering	- / 8.579	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 8.579	
Subtotal: Non-Recurring	- / 8.579	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 8.579	
Subtotal: ELINT Sensor Upgrades	7 / 24.360	2 / 4.900	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	9 / 29.260	
Modification Item 3 of 6: SIGINT Suite Sensor Upgrades													
B Kits													
Recurring													
Pilots	- / -	- / -	- / 0.200	- / -	- / 0.400	- / 0.400	- / 0.500	- / -	- / -	- / -	- / -	- / 1.100	
Program Management	- / -	- / -	- / 1.634	- / 0.129	- / 1.554	- / 1.683	- / 1.202	- / -	- / -	- / 2.500	- / -	- / 7.019	
Sensors: Material & Hardware	- / -	- / -	4 / 17.355	- / -	2 / 7.697	2 / 7.697	1 / 3.849	- / -	- / -	- / 20.510	- / -	7 / 49.411	

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army										Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10					P-1 Line Item Number / Title: 1036AZ2001 / Multi Sensor ABN Recon (MIP)					Modification Number / Title: AZ2052 / Guardrail Payloads (MIP)		
ID Code (A=Service Ready, B=Not Service Ready) :							MDAP/MAIS Code:					
Models of Systems Affected: See individual Mods				Modification Type: U				Related RDT&E PEs:				
Financial Plan	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Spares Procurement	- / -	- / -	- / -	- / -	- / 12.529	- / 12.529	- / 1.093	- / -	- / -	- / 13.000	- / -	- / 16.622
Interim Contractor Support	- / -	- / -	- / -	- / -	- / 14.400	- / 14.400	- / 1.681	- / -	- / -	- / -	- / -	- / 16.081
Other Government Agency Support	- / -	- / -	- / -	- / -	- / 10.800	- / 10.800	- / 10.700	- / -	- / -	- / -	- / -	- / 11.500
Subtotal: Recurring	- / -	- / -	4 / 19.189	- / 0.129	2 / 17.380	2 / 17.509	1 / 9.025	- / -	- / -	- / 26.010	- / -	7 / 71.733
Non-Recurring												
Non-Recurring Engineering	- / -	- / -	- / 14.432	- / -	- / 12.000	- / 12.000	- / 1.474	- / -	- / -	- / -	- / -	- / 17.906
Subtotal: Non-Recurring	- / -	- / -	- / 14.432	- / -	- / 12.000	- / 12.000	- / 1.474	- / -	- / -	- / -	- / -	- / 17.906
Subtotal: SIGINT Suite Sensor Upgrades	- / -	- / -	4 / 23.621	- / 0.129	2 / 19.380	2 / 19.509	1 / 10.499	- / -	- / -	- / 26.010	- / -	7 / 79.639
Modification Item 4 of 6: USFK ONS												
Subtotal: USFK ONS	- / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000
Modification Item 5 of 6: LS												
A Kits												
Recurring												
PMO, I&T, Spares	- / 5.825	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 5.825
Subtotal: Recurring	- / 5.825	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 5.825
Non-Recurring												
Software, Accreditation, OGS	- / 6.300	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 6.300
Subtotal: Non-Recurring	- / 6.300	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 6.300
Subtotal: LS	- / 12.125	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 12.125
Modification Item 6 of 6: Full Motion Video (FMV)												
A Kits												
Recurring												
Fielding/Training	- / 0.400	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.400
PM Costs	- / 1.988	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 1.988
Spares	- / 1.893	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 1.893
FSR Support	- / 12.028	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 12.028
Pilot Support	- / 10.300	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 10.300
Subtotal: Recurring	- / 6.609	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 6.609
B Kits												
Recurring												
Kit Quantity (Camera Reset)	1 / 3.073	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / 3.073
Subtotal: Recurring	1 / 3.073	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / 3.073

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army										Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10				P-1 Line Item Number / Title: 1036AZ2001 / Multi Sensor ABN Recon (MIP)						Modification Number / Title: AZ2052 / Guardrail Payloads (MIP)		
ID Code (A=Service Ready, B=Not Service Ready) :							MDAP/MAIS Code:					
Models of Systems Affected: See individual Mods				Modification Type: U				Related RDT&E PEs:				
Financial Plan	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
<i>Subtotal: Full Motion Video (FMV)</i>	1 / 9.682	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / 9.682
<i>Subtotal: Procurement, All Modification Items</i>	10 / 49.677	10 / 19.457	4 / 23.621	- / 0.129	2 / 19.380	2 / 19.509	1 / 10.499	- / -	- / -	- / 26.010	- / -	27 / 148.773
Installation												
<i>Modification Item 1 of 6: CHALS-SD Sensor Upgrades</i>	2 / 1.231	5 / 3.789	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	7 / 15.020
<i>Modification Item 2 of 6: ELINT Sensor Upgrades</i>	5 / 3.867	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	5 / 3.867
<i>Modification Item 3 of 6: SIGINT Suite Sensor Upgrades</i>	- / -	- / -	- / 1.787	- / -	3 / 6.360	3 / 6.360	4 / 8.480	- / -	- / -	- / -	- / -	7 / 16.627
<i>Modification Item 4 of 6: USFK ONS</i>	- / 1.402	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 1.402
<i>Modification Item 5 of 6: LS</i>	- / 15.375	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 15.375
<i>Modification Item 6 of 6: Full Motion Video (FMV)</i>	5 / 10.784	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	5 / 10.784
<i>Subtotal: Installation</i>	12 / 22.659	5 / 3.789	- / 1.787	- / -	3 / 6.360	3 / 6.360	4 / 8.480	- / -	- / -	- / -	- / -	24 / 43.075
Total												
Total Cost (Procurement + Support + Installation)	72.336	23.246	25.408	0.129	25.740	25.869	18.979	-	-	26.010	-	191.848

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 1036AZ2001 / Multi Sensor ABN Recon (MIP)	Modification Number / Title: AZ2052 / Guardrail Payloads (MIP)
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ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Modification Item 1 of 6: CHALS-SD Sensor Upgrades

Manufacturer Information

Manufacturer Name: ACET	Manufacturer Location: Sacramento, CA
Administrative Leadtime (in Months): 4	Production Leadtime (in Months): 18

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

Installation Information

Method of Implementation: Contractor

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	2 / 1.231	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	2 / 1.231
FY 2019	- / -	5 / 3.789	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	5 / 3.789
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	2 / 1.231	5 / 3.789	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	7 / 5.020

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot								
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4										
In	-	-	-	-	-	-	-	-	-	-	2	-	2	-	1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7
Out	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	2	-	1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 1036AZ2001 / Multi Sensor ABN Recon (MIP)	Modification Number / Title: AZ2052 / Guardrail Payloads (MIP)
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ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Modification Item 2 of 6: ELINT Sensor Upgrades

Manufacturer Information

Manufacturer Name: SNC EIS	Manufacturer Location: Los Gatos, CA
Administrative Leadtime (in Months): 3	Production Leadtime (in Months): 12

Dates	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Contract Dates							
Delivery Dates		Aug 2020					

Installation Information

Method of Implementation: Contractor

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	5 / 3.867	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	5 / 3.867
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	5 / 3.867	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	5 / 3.867

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot		
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4				
In	-	-	-	-	2	-	-	-	-	-	2	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5
Out	-	-	-	-	-	-	-	-	2	-	-	-	-	2	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10 **P-1 Line Item Number / Title:** 1036AZ2001 / Multi Sensor ABN Recon (MIP) **Modification Number / Title:** AZ2052 / Guardrail Payloads (MIP)

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

Modification Item 3 of 6: SIGINT Suite Sensor Upgrades

Manufacturer Information

Manufacturer Name: Contractor Manufacturer Location: TBD

Administrative Leadtime (in Months): 6 Production Leadtime (in Months): 12

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

Installation Information

Method of Implementation: TBD

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	0 / 1.787	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 1.787
FY 2021	- / -	- / -	- / -	- / -	3 / 6.360	3 / 6.360	- / -	- / -	- / -	- / -	- / -	3 / 6.360
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	4 / 8.480	- / -	- / -	- / -	- / -	4 / 8.480
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	- / -	- / -	0 / 1.787	- / -	3 / 6.360	3 / 6.360	4 / 8.480	- / -	- / -	- / -	- / -	7 / 16.627

Installation Schedule

PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot				
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4						
In	-	-	-	-	-	-	-	-	-	2	-	2	-	1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7
Out	-	-	-	-	-	-	-	-	-	-	-	-	2	-	2	-	1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 1036AZ2001 / Multi Sensor ABN Recon (MIP)	Modification Number / Title: AZ2052 / Guardrail Payloads (MIP)
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ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Modification Item 4 of 6: USFK ONS

Manufacturer Information

Manufacturer Name: ACET	Manufacturer Location: APG
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Administrative Leadtime (in Months):	Production Leadtime (in Months): 9
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Dates	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Contract Dates							
Delivery Dates	Mar 2019						

Installation Information

Method of Implementation: PASS Contract W175PT-10-D-D420 KZ01

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	0 / 1.402	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 1.402
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	0 / 1.402	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 1.402

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot	
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
In	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14
Out	-	-	-	-	-	-	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 1036AZ2001 / Multi Sensor ABN Recon (MIP)	Modification Number / Title: AZ2052 / Guardrail Payloads (MIP)
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ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Modification Item 5 of 6: LS

Manufacturer Information

Manufacturer Name: ACET	Manufacturer Location: APG, MD
Administrative Leadtime (in Months):	Production Leadtime (in Months): 18

Dates	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Contract Dates							
Delivery Dates	Sep 2019						

Installation Information

Method of Implementation: TBD

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	0 / 5.375	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 5.375
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	0 / 5.375	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 5.375

Installation Schedule

PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
Out	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 1036AZ2001 / Multi Sensor ABN Recon (MIP)	Modification Number / Title: AZ2052 / Guardrail Payloads (MIP)
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ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Modification Item 6 of 6: Full Motion Video (FMV)

Manufacturer Information

Manufacturer Name: Northrup Grumman	Manufacturer Location: Sacramento, CA
Administrative Leadtime (in Months): 1	Production Leadtime (in Months): 12

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

Installation Information

Method of Implementation: TBD

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	1 / 0.001	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / 0.001
FY 2019	2 / 5.456	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	2 / 5.456
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	2 / 5.327	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	2 / 5.327
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	5 / 10.784	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	5 / 10.784

Installation Schedule

PYS	In	Out	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
	5	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Exhibit P-3a, Individual Modification: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 1036AZ2001 / Multi Sensor ABN Recon (MIP)	Modification Number / Title: AZ2054 / EMARSS Payloads (MIP)

ID Code (A=Service Ready, B=Not Service Ready) :							MDAP/MAIS Code:					
Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	60.460	18.809	12.146	2.174	10.000	12.174	17.757	7.911	10.511	10.813	Continuing	Continuing
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	60.460	18.809	12.146	2.174	10.000	12.174	17.757	7.911	10.511	10.813	Continuing	Continuing
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	60.460	18.809	12.146	2.174	10.000	12.174	17.757	7.911	10.511	10.813	Continuing	Continuing
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	-	-	12,146.000	724.667	5,000.000	2,434.800	3,551.400	-	-	-	Continuing	Continuing

Description:

The Enhanced Medium Altitude Reconnaissance and Surveillance System (EMARSS) is the Army's newest generation C-12 based, direct support, manned airborne intelligence collection, processing, and targeting support system. It provides a persistent capability to detect, locate, classify/identify, and track surface targets with a high degree of timeliness and accuracy. EMARSS is assigned to the U.S. Army Intelligence and Security Command's Aerial Exploitation Battalions, providing Aerial Intelligence, Surveillance and Reconnaissance support to combatant commanders. EMARSS is also assigned to the United States Army Training and Doctrine Command (TRADOC) in support of training at the US Army Intelligence Center of Excellence (USAICoE). The Army Acquisition Objective for EMARSS is 36 systems, with an Army Procurement Objective of 24, to include the following variants: eight (8) EMARSS-G (Geo-INT); four (4) EMARSS-V (Vehicle and Dismount Exploitation Radar, VaDER); eight (8) EMARSS-M (Multi-INT); and four (4) EMARSS-S (SIGINT). Congressional Plus-up for up to two (2) EMARSS-E aircraft.

This funding line supports the procurement and upgrade of the following sensor payload capabilities: Signals Intelligence (SIGINT); Electro-optical/Infrared (EO/IR)/Full Motion Video (FMV); a Communications Intelligence (COMINT) to include Big Iron; Wide Area Aerial Surveillance (WAAS); Light Imaging Detection and Ranging (LiDAR) and improved Synthetic Aperture Radar / Moving Target Indicator (SAR/MTI) radar; line-of-site (LOS) and beyond line-of-site (BLOS) communications; Processing Exploitation and Dissemination (PED) supporting two Distributed Common Ground System - Army (DCGS-A) enabled operator workstations; and pre-planned product improvements.

FY 2021 Base procurement dollars in the amount of \$2.176 million supports integration, testing and SIGINT installations on EMARSS.

FY 2021 OCO procurement dollars in the amount of \$10.000 million supports sensor procurements, integration, installation, and testing that enable modern signals SIGINT updates on EMARSS as well as corresponding System Training Interface (STI) updates. Upgrades are required for continued operational readiness for Operation Freedom's Sentinel (OFS) mission support.

FY 2024 and FY 2025 procurement dollars support the integration and installation of RDT&E developed software to enhance SIGINT capabilities exploiting signals of interest relative to multi-domain operations.

Note: B kit recurring costs included under "Mods in Service; SIGINT Upgrades" section for prior submissions. FY 2021 and beyond show procurement of SIGINT sensors as separate line items under B Kit recurring costs.

Due to the variation of sensors and capabilities per variant, unit cost and sensor quantities per SIGINT system upgrade and installation differs significantly between EMARSS-V, M and S. Installation schedule based on current ironflow and assumes aircraft availability provided by INSCOM.

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Exhibit P-3a, Individual Modification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 1036AZ2001 / Multi Sensor ABN Recon (MIP)	Modification Number / Title: AZ2054 / EMARSS Payloads (MIP)
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ID Code (A=Service Ready, B=Not Service Ready) : **MDAP/MAIS Code:**

Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	18.809	12.146	2.174	10.000	12.174	17.757	7.911	10.511	10.813
Total: Secondary Distribution	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	18.809	12.146	2.174	10.000	12.174	17.757	7.911	10.511	10.813

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Exhibit P-3a, Individual Modification: PB 2021 Army										Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10					P-1 Line Item Number / Title: 1036AZ2001 / Multi Sensor ABN Recon (MIP)					Modification Number / Title: AZ2054 / EMARSS Payloads (MIP)			
ID Code (A=Service Ready, B=Not Service Ready) :							MDAP/MAIS Code:						
Models of Systems Affected: EMARSS				Modification Type: x				Related RDT&E PEs:					
Financial Plan	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
Procurement													
Modification Item 1 of 1: EMARSS Payloads													
A Kits													
Recurring													
MEP Contractor Testing	- / 3.800	- / -	- / 1.156	- / -	- / 0.624	- / 0.624	- / -	- / -	- / -	- / -	Continuing	Continuing	
GFE/Initial Spares	4 / 10.216	- / -	- / -	- / -	- / -	- / -	5 / 7.600	- / -	- / -	- / -	Continuing	Continuing	
PMO and SETA Support	- / 3.561	- / -	- / 1.215	- / -	- / 1.076	- / 1.076	- / 1.527	- / 1.011	- / 1.011	- / 1.013	Continuing	Continuing	
Engineering Support	- / 4.170	- / 1.765	- / 1.355	- / -	- / 0.900	- / 0.900	- / 1.792	- / 0.500	- / 4.500	- / 4.900	Continuing	Continuing	
Mods in Service; SIGINT Upgrades	- / -	- / 9.344	5 / 4.920	- / -	- / -	- / -	- / -	- / -	- / -	- / -	Continuing	Continuing	
TSA OPT Integration	- / -	- / 6.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	Continuing	Continuing	
A-Kit Procurements	- / -	- / -	- / 1.000	- / -	1 / 0.600	1 / 0.600	- / -	- / -	- / -	- / 0.900	Continuing	Continuing	
Mods in Service, LIDAR Obsolescence	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 4.300	- / 5.000	- / 4.000	Continuing	Continuing	
Simulated Training Interface	- / -	- / -	- / -	- / -	- / 3.200	- / 3.200	- / 1.638	- / -	- / -	- / -	Continuing	Continuing	
Subtotal: Recurring	4 / 21.747	- / 17.109	5 / 9.646	- / -	1 / 6.400	1 / 6.400	5 / 12.557	- / 5.811	- / 10.511	- / 10.813	Continuing	Continuing	
B Kits													
Recurring													
SIGINT Sensors	- / -	- / -	- / -	3 / 0.674	1 / 1.600	4 / 2.274	- / -	- / -	- / -	- / -	- / -	4 / 2.274	
Subtotal: Recurring	- / -	- / -	- / -	3 / 0.674	1 / 1.600	4 / 2.274	- / -	- / -	- / -	- / -	- / -	4 / 2.274	
Non-Recurring													
MARSS 13 Upgrade	1 / 8.600	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / 8.600	
RESET WAAS for EMARSS-G	- / 8.625	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 8.625	
Subtotal: Non-Recurring	1 / 17.225	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / 17.225	
Subtotal: EMARSS Payloads	5 / 38.972	- / 17.109	5 / 9.646	3 / 0.674	2 / 8.000	5 / 8.674	5 / 12.557	- / 5.811	- / 10.511	- / 10.813	Continuing	Continuing	
Subtotal: Procurement, All Modification Items	5 / 38.972	- / 17.109	5 / 9.646	3 / 0.674	2 / 8.000	5 / 8.674	5 / 12.557	- / 5.811	- / 10.511	- / 10.813	Continuing	Continuing	
Installation													
Modification Item 1 of 1: EMARSS Payloads	5 / 21.488	1 / 1.700	5 / 2.500	3 / 1.500	1 / 2.000	4 / 3.500	4 / 5.200	1 / 2.100	- / -	- / -	Continuing	Continuing	
Subtotal: Installation	5 / 21.488	1 / 1.700	5 / 2.500	3 / 1.500	1 / 2.000	4 / 3.500	4 / 5.200	1 / 2.100	- / -	- / -	Continuing	Continuing	
Total													
Total Cost (Procurement + Support + Installation)	60.460	18.809	12.146	2.174	10.000	12.174	17.757	7.911	10.511	10.813	Continuing	Continuing	

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Exhibit P-3a, Individual Modification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 1036AZ2001 / Multi Sensor ABN Recon (MIP)	Modification Number / Title: AZ2054 / EMARSS Payloads (MIP)
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ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Modification Item 1 of 1: EMARSS Payloads

Manufacturer Information

Manufacturer Name: TBD	Manufacturer Location: TBD
Administrative Leadtime (in Months): 8	Production Leadtime (in Months): 12

Dates	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Contract Dates	May 2019	May 2020	May 2021	May 2022	May 2023	May 2024	
Delivery Dates	Jul 2019	Jul 2020	Jul 2021	Jul 2022	Jul 2023	Jul 2024	

Installation Information

Method of Implementation: EMARSS Modifications

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	1 / 5.188	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	Continuing	Continuing
FY 2019	2 / 9.500	1 / 1.700	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	Continuing	Continuing
FY 2020	2 / 6.800	- / -	2 / 1.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	Continuing	Continuing
FY 2021	- / -	- / -	3 / 1.500	3 / 1.500	1 / 2.000	4 / 3.500	- / -	- / -	- / -	- / -	Continuing	Continuing
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	4 / 5.200	- / -	- / -	- / -	Continuing	Continuing
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / 2.100	- / -	- / -	Continuing	Continuing
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	5 / 21.488	1 / 1.700	5 / 2.500	3 / 1.500	1 / 2.000	4 / 3.500	4 / 5.200	1 / 2.100	- / -	- / -	Continuing	Continuing

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot		
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4				
In	1	-	-	-	1	-	-	2	-	1	2	2	2	2	1	1	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Out	-	-	-	1	-	-	-	1	2	1	2	1	3	1	2	1	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-

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Exhibit P-3a, Individual Modification: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 1036AZ2001 / Multi Sensor ABN Recon (MIP)	Modification Number / Title: AZ2056 / ABN ISR MODS (MIP)

ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	-	-	-	-	41.780	41.780	-	-	-	-	-	41.780
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	-	-	-	-	41.780	41.780	-	-	-	-	-	41.780
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	-	-	-	-	41.780	41.780	-	-	-	-	-	41.780

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

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

Description:

This is a New Start effort.

The Saturn Arch aircraft are Airborne Intelligence, Surveillance and Reconnaissance (AISR) aircraft that support a suite of imaging sensors designed to provide persistent surveillance to accomplish day and night image collection and exploitation of Improvised Explosive Devices (IEDs) in designated Named Areas of Interest (NAIs).

FY 2021 OCO procurement dollars in the amount of \$30.000 million supports the procurement of three (3) Hyperspectral Imaging Sensors for the Saturn Arch Program.

FY 21 OCO procurement dollars in the amount of \$3.418 million will be utilized to procure a GATM compliant cockpit and standardized ASE components and install those components as they transition off of the Saturn Arch contract.

Medium Altitude Reconnaissance and Surveillance System (MARSS) is a manned airborne Intelligence, Surveillance and Reconnaissance (ISR) system providing a capability to detect, locate, classify/identify, and track surface targets in day/night, near-all-weather conditions with a high degree of timeliness and accuracy. The MARSS aircraft require military and civilian avionics upgrades to support compliance with current and future requirements, to ensure the aircraft avionics avoid obsolescence, and that the aircraft remain capable and sustainable into the future.

FY21 OCO procurement dollars in the amount of \$8.362 million will be utilized for modifications that include Communications, Navigation and Surveillance (CNS) for the MARSS aircraft.

Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	-	-	-	41.780	41.780	-	-	-	-
Total: Secondary Distribution	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	-	-	-	41.780	41.780	-	-	-	-

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Exhibit P-3a, Individual Modification: PB 2021 Army										Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10					P-1 Line Item Number / Title: 1036AZ2001 / Multi Sensor ABN Recon (MIP)					Modification Number / Title: AZ2056 / ABN ISR MODS (MIP)			
ID Code (A=Service Ready, B=Not Service Ready) :							MDAP/MAIS Code:						
Models of Systems Affected: Saturn Arch				Modification Type: Operational				Related RDT&E PEs:					
Financial Plan	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
Procurement													
<i>Modification Item 1 of 1:</i> ABN ISR Mods													
A Kits													
Recurring													
Aircraft Survivability Equipment	- / -	- / -	- / -	- / -	- / 3.418	- / 3.418	- / -	- / -	- / -	- / -	- / -	- / 3.418	
Communications Navigation Surveillance	- / -	- / -	- / -	- / -	- / 18.362	- / 18.362	- / -	- / -	- / -	- / -	- / -	- / 18.362	
<i>Subtotal: Recurring</i>	- / -	- / -	- / -	- / -	- / 11.780	- / 11.780	- / -	- / -	- / -	- / -	- / -	- / 11.780	
B Kits													
Recurring													
Hyperspectral Imaging Sensor	- / -	- / -	- / -	- / -	3 / 30.000	3 / 30.000	- / -	- / -	- / -	- / -	- / -	3 / 30.000	
<i>Subtotal: Recurring</i>	- / -	- / -	- / -	- / -	3 / 30.000	3 / 30.000	- / -	- / -	- / -	- / -	- / -	3 / 30.000	
<i>Subtotal: ABN ISR Mods</i>	- / -	- / -	- / -	- / -	3 / 41.780	3 / 41.780	- / -	- / -	- / -	- / -	- / -	3 / 41.780	
<i>Subtotal: Procurement, All Modification Items</i>	- / -	- / -	- / -	- / -	3 / 41.780	3 / 41.780	- / -	- / -	- / -	- / -	- / -	3 / 41.780	
Installation													
<i>Subtotal: Installation</i>	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	
Total													
Total Cost (Procurement + Support + Installation)	-	-	-	-	41.780	41.780	-	-	-	-	-	41.780	

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Exhibit P-3a, Individual Modification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 1036AZ2001 / Multi Sensor ABN Recon (MIP)	Modification Number / Title: AZ2056 / ABN ISR MODS (MIP)
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ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Modification Item 1 of 1: ABN ISR Mods

Manufacturer Information

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

Dates	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Contract Dates			Nov 2020				
Delivery Dates					Nov 2022		

Installation Information

Method of Implementation: Contractor

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot		
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4				
In	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
Out	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3

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Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 02: Modification of Aircraft / BSA 10: Modification of Aircraft	P-1 Line Item Number / Title: 2706AA6605 / AH-64 MODS
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ID Code (A=Service Ready, B=Not Service Ready):	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	8,890.883	104.996	58.172	118.316	-	118.316	84.420	82.084	64.619	4.954	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	180.439	-	-	-	-	-	-	-	-	-	-	180.439
Net Procurement (P-1) (<i>\$ in Millions</i>)	8,710.444	104.996	58.172	118.316	-	118.316	84.420	82.084	64.619	4.954	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	180.439	-	-	-	-	-	-	-	-	-	-	180.439
Total Obligation Authority (<i>\$ in Millions</i>)	8,890.883	104.996	58.172	118.316	-	118.316	84.420	82.084	64.619	4.954	Continuing	Continuing

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

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

Description:

The AH-64 MODS (AA6606) program provides for modernization of the fielded AH-64D/AH-64E Apache fleet. AH-64D/AH-64E is a tandem cockpit, twin engine, single main rotor attack helicopter. The Apache aircraft incorporates the Longbow weapon system and provides the U.S. Army with significant target acquisition and firepower effectiveness, survivability, lethality, and fighting capabilities even during adverse weather conditions. The Apache is equipped with the Fire Control Radar/Radar Frequency Interferometer (FCR/RFI) mission kit and Fire and Forget Longbow HELLFIRE missiles. The Modernized Target Acquisition Designator Sight (MTADS) assembly is an Electro-Optical system that consists of a Day television (DTV), sensor, a Forward Looking Infrared (FLIR) sensor for day and night visibility as well as limited adverse weather operations, a Laser Spot Tracker (LST), and Laser Rangefinder/Designator (LRFD). The Modernized Pilot Night Vision Sensor (M-PNVS) is a FLIR system which allows Nap-of-Earth flight operations at night by the pilot independent of the co-pilot/gunner's FLIR. The Apache is armed with the HELLFIRE Antitank Missile, 2.75 inch rockets and a 30mm gun capable of defeating armor.

The AH-64 Mods Program allows for near-term operationally driven improvements to the Apache fleet, focusing on deployment lessons learned, and reliability improvements. Improvements will occur to the Airframe, Armament, Communications, Manned / Unmanned Teaming, Navigation, Sensors, Survivability, Support Elements, and Training Systems. Examples of modifications include Selected Component Recapitalization, Airframe and Sensor Capability upgrades, procurement of Modernized Day Sensor Assembly components, initial procurement of Modernized Radio-Frequency Interferometer (M-RFI), Software upgrades, Condition Based Maintenance (CBM), trainer concurrency, Computer/Processing and Data Display and Control upgrades. The AH-64D/AH-64E inventory crossover point (approx.400 AH-64D / 400 AH-64E) will occur in 2021. These modernization efforts are required to ensure the Longbow Apache remains a ready and relevant Soldier asset.

Secondary Distribution	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Army	Quantity	-	-	-	-	-	-	-	-
	Total Obligation Authority	104.996	58.172	118.316	-	118.316	84.420	82.084	64.619
Total: Secondary Distribution	Quantity	-	-	-	-	-	-	-	-
	Total Obligation Authority	104.996	58.172	118.316	-	118.316	84.420	82.084	64.619

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Exhibit P-40, Budget Line Item Justification: PB 2021 Army	Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 02: Modification of Aircraft / BSA 10: Modification of Aircraft	P-1 Line Item Number / Title: 2706AA6605 / AH-64 MODS

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

Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-3a	AA6606 / AH-64 APACHE MODS (Operational & Reliability Improvements and Resolve Obsolescence Issues)				- / 8,890.883	- / 104.996	- / 58.172	- / 118.316	- / -	- / 118.316
P-40	Total Gross/Weapon System Cost				- / 8,890.883	- / 104.996	- / 58.172	- / 118.316	- / -	- / 118.316
Exhibits Schedule					FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-3a	AA6606 / AH-64 APACHE MODS (Operational & Reliability Improvements and Resolve Obsolescence Issues)				- / 84.420	- / 82.084	- / 64.619	- / 4.954	Continuing	Continuing
P-40	Total Gross/Weapon System Cost				- / 84.420	- / 82.084	- / 64.619	- / 4.954	Continuing	Continuing

*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:
 FY2021 Base procurement dollars in the amount of \$118.316 million supports modification and service life extension efforts for the Airframe, Armament, Mission Command, Sensors, Survivability, Support Elements, Training Systems, and Manned/Unmanned Teaming. This also includes funding to Federate the Spike NLOS (Non Line Of Sight) missile system for the directed requirement. The FY2021 Spike NLOS request is a New Start effort.

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Exhibit P-3a, Individual Modification: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 2706AA6605 / AH-64 MODS	Modification Number / Title: AA6606 / AH-64 APACHE MODS

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

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	8,890.883	104.996	58.172	118.316	-	118.316	84.420	82.084	64.619	4.954	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	180.439	-	-	-	-	-	-	-	-	-	-	180.439
Net Procurement (P-1) (<i>\$ in Millions</i>)	8,710.444	104.996	58.172	118.316	-	118.316	84.420	82.084	64.619	4.954	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	180.439	-	-	-	-	-	-	-	-	-	-	180.439
Total Obligation Authority (<i>\$ in Millions</i>)	8,890.883	104.996	58.172	118.316	-	118.316	84.420	82.084	64.619	4.954	Continuing	Continuing

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

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

Description:

Airframe includes modifications to the Structural Subsystems, Propulsion/Drive/Rotor Systems, Health Monitoring System, and Recap Support/Kits. Structural Subsystems modifications include improvements to the assembled structural and aerodynamic components of the air vehicle to include the fuselage and associated manual flight control systems, rotor equipment, landing gear and associated equipment, environmental controls, racks, mounts, intersystem cables and distribution boxes. Propulsion/Drive/Rotor Systems together with Engine Electronic Digital Engine Control Unit (EDECUC) and Common Hydro-Mechanical Unit (CHMU) provides the capability to carry a heavier combat payload and allow for enhanced performance in high-altitude, hot climates. Landing Gear improvements (High Performance Shock Struts (HPSS)) will improve the aircraft crash survivability and allows for a heavier aircraft with greater combat loads. Provides sustainment, support and maintenance for the Apache test aircraft.

Mission Command includes modifications and/or upgrades to the various Apache processors and displays. Mission Computer / Processing modifications and/or upgrades include improvements to the master data processing unit(s) responsible for coordinating and directing the major avionics mission systems. System Simulation and Software Integration (S3I) Crew Station Working Group (CSWG) provides support for an AH-64E Engineering Analysis Cockpit as part of the Advance Prototyping and Engineering Experimentation (APBEX2) Lab to support continuous Operational Flight Program (OFP) software sustainment and product improvement. Battlefield Operations and Support System (BOSS) supports developmental / formal test to ensure interoperability and assists in certification testing of the Apache data link implementation. Data Link Test Tools (DLTT) supports developmental / formal test to ensure interoperability and assists in certification testing of the Apache data link implementation.

Sensors include modifications, operational improvements, and/or mitigation of capability issues to the Apache Sensor suite, which includes the MTADS/PNVS, the Modernized Day Sensor Assembly (MDSA). MDSA is the Modernized Laser Rangefinder/Designator (M-LFRD) which provides enhanced laser ranging, improved target designation, and target tracking capability by holding a stabilized laser beam on a distant stationary or moving point target for highly precise handoff to precision guided weapons. M-LFRD replaces the obsolete Laser Transceiver Unit, which mitigates ongoing risk, improves reliability and maintainability, and reduces operations and support costs. MDSA replaces the remaining legacy DSA components, adding a laser pointer, eye safe laser, and high definition color-camera capability. MDSA funding enables software integration, tooling, and test equipment procurement and system production.

Support Elements include the modification and production of those items, which are not part of the aircraft system but are required to maintain, service, or calibrate the aircraft systems or portions of the aircraft system while not directly engaged in the performance of its mission and will not be in the inventory for support of other weapon systems. Post Production Organic support establishes Depot Pilot Programs at Corpus Christi Army Depot (CCAD) and Tobyhanna Army Depot (TYAD) for selected Depot Level Repairables (DLR) as part of the Original Equipment Manufacturer (OEM) to Depot Transition. Post Production Organic Support (PPOS) provides Depot Maintenance Plant Equipment, Special Tools and Test Equipment, labor training and associated technical data for future repairs once the DLR has transitioned to the depot. PPOS improves Repair Turn Around Time and retain depot maintenance capabilities.

Training Systems include deliverable training services, Operator and Maintainer training devices, accessories, training aids, equipment, and parts used to facilitate instruction through which personnel will learn to operate and maintain the system with maximum efficiency. Examples include Operator / Maintainer Training (aircraft/classroom) devices, Cyber/RMF activities and new systems integration/concurrency to the

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Exhibit P-3a, Individual Modification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 2706AA6605 / AH-64 MODS	Modification Number / Title: AA6606 / AH-64 APACHE MODS
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ID Code (A=Service Ready, B=Not Service Ready) : **MDAP/MAIS Code:**

suite of training devices/systems, and updates to allow individual/team training tasks and collective training. Efforts include the production and upgrade of deliverable and fielded training systems, devices and equipment; updates to associated device/product hardware and software in the form of 3D Virtual Immersive Training, 3D models and desktop crew station emulation capability.

Apache will Federate the Spike NLOS (Non Line Of Sight) missile system by providing Program Management, Systems Engineering, Development Test, Live Fire Test, Life Cycle Management and Integrated Logistics. This effort will support the directed requirement for the AH-64D/E interim Long Range Precision Munition (LRPM) solution. The Army will optimize the Aviation munitions portfolio as part of this strategy creating reinvestment opportunities to close existing lethality gaps by making the portfolio sufficiently lethal for both manned and unmanned platforms against a broad range of increasingly more sophisticated threats. The Spike NLOS Kit consists of a bus controller, video recorder, weapons controller panel, hand control grip, weapons processor, communication pod, power relay box and associated wiring harnesses. Final fielded configuration will include 18 kits and 3 spares.

The Other Support costs that are identified in each Modification Item are proportionately shared between all Apache funding lines.

Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	104.996	58.172	118.316	-	118.316	84.420	82.084	64.619	4.954
Total: Secondary Distribution	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	104.996	58.172	118.316	-	118.316	84.420	82.084	64.619	4.954

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Exhibit P-3a, Individual Modification: PB 2021 Army										Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10					P-1 Line Item Number / Title: 2706AA6605 / AH-64 MODS					Modification Number / Title: AA6606 / AH-64 APACHE MODS			
ID Code (A=Service Ready, B=Not Service Ready) :							MDAP/MAIS Code:						
Models of Systems Affected: Longbow Apache				Modification Type: Operational & Reliability Improvements and Resolve Obsolescence Issues				Related RDT&E PEs:					
Financial Plan	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
Procurement													
Modification Item 1 of 7: Airframe													
A Kits													
Recurring													
Structural Subsystems	- / 12.535	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	Continuing	Continuing
Health Monitoring System	- / 28.164	- / 6.500	- / 8.880	- / 7.100	- / -	- / 7.100	- / 7.100	- / 7.100	- / 7.100	- / 7.100	- / 0.500	Continuing	Continuing
RESET / MEP Kits	- / 121.203	- / 13.944	- / 21.323	- / 6.055	- / -	- / 6.055	- / 13.306	- / 14.084	- / 14.295	- / -	- / -	Continuing	Continuing
Other Support	- / 5.356	- / 1.087	- / 1.994	- / 1.182	- / -	- / 1.182	- / 2.395	- / 2.640	- / 1.719	- / 0.042	- / -	Continuing	Continuing
Subtotal: Recurring	- / 167.258	- / 21.531	- / 32.197	- / 14.337	- / -	- / 14.337	- / 22.801	- / 23.824	- / 23.114	- / 0.542	- / -	Continuing	Continuing
Subtotal: Airframe	- / 167.258	- / 21.531	- / 32.197	- / 14.337	- / -	- / 14.337	- / 22.801	- / 23.824	- / 23.114	- / 0.542	- / -	Continuing	Continuing
Modification Item 2 of 7: Mission Command													
A Kits													
Recurring													
Processors	- / 52.723	- / 1.374	- / 5.848	- / 4.999	- / -	- / 4.999	- / 4.999	- / 4.999	- / 4.999	- / 4.999	- / 0.258	- / -	- / 80.199
Displays	- / 17.186	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 17.186
Other Support	- / 4.036	- / 0.073	- / 0.386	- / 0.449	- / -	- / 0.449	- / 0.587	- / 0.623	- / 0.402	- / 0.022	- / -	- / -	- / 16.578
Subtotal: Recurring	- / 63.945	- / 1.447	- / 6.234	- / 5.448	- / -	- / 5.448	- / 5.586	- / 5.622	- / 5.401	- / 0.280	- / -	- / -	- / 93.963
Subtotal: Mission Command	- / 63.945	- / 1.447	- / 6.234	- / 5.448	- / -	- / 5.448	- / 5.586	- / 5.622	- / 5.401	- / 0.280	- / -	- / -	- / 93.963
Modification Item 3 of 7: Sensors													
A Kits													
Recurring													
MTADS/PNVS	- / 37.896	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 37.896
M-RFI	27 / 43.338	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	27 / 43.338
Other Support	- / 120.641	- / 2.679	- / 0.154	- / 4.635	- / -	- / 4.635	- / 5.414	- / 5.330	- / 2.416	- / 0.035	- / -	- / -	- / 141.304
Subtotal: Recurring	27 / 101.875	- / 2.679	- / 0.154	- / 4.635	- / -	- / 4.635	- / 5.414	- / 5.330	- / 2.416	- / 0.035	- / -	- / -	27 / 122.538
B Kits													
Recurring													
M-LRFD	150 / 49.834	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	150 / 49.834
M-DSA	204 / 312.173	38 / 50.392	- / 2.326	24 / 51.599	- / -	24 / 51.599	17 / 46.126	14 / 42.771	5 / 30.072	- / 0.414	- / -	- / -	302 / 535.873
Subtotal: Recurring	354 / 362.007	38 / 50.392	- / 2.326	24 / 51.599	- / -	24 / 51.599	17 / 46.126	14 / 42.771	5 / 30.072	- / 0.414	- / -	- / -	452 / 585.707
Subtotal: Sensors	381 / 463.882	38 / 53.071	- / 2.480	24 / 56.234	- / -	24 / 56.234	17 / 51.540	14 / 48.101	5 / 32.488	- / 0.449	- / -	- / -	479 / 708.245

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army										Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10				P-1 Line Item Number / Title: 2706AA6605 / AH-64 MODS				Modification Number / Title: AA6606 / AH-64 APACHE MODS				
ID Code (A=Service Ready, B=Not Service Ready) :							MDAP/MAIS Code:					
Models of Systems Affected: Longbow Apache			Modification Type: Operational & Reliability Improvements and Resolve Obsolescence Issues				Related RDT&E PEs:					
Financial Plan	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Modification Item 4 of 7: Training Systems												
A Kits												
Recurring												
Operator Devices	- / 176.667	- / 20.759	- / 19.446	- / 10.908	- / -	- / 10.908	- / 10.680	- / 10.690	- / -	- / -	- / -	- / 109.150
Maintainer Devices	- / 117.644	- / 6.727	- / 6.746	- / 3.555	- / -	- / 3.555	- / 3.341	- / 3.344	- / 3.347	- / 3.398	- / -	- / 48.102
Other Support	- / 9.138	- / 1.461	- / 1.069	- / 10.401	- / -	- / 10.401	- / 10.472	- / 10.503	- / 10.269	- / 10.285	- / -	- / 13.598
Subtotal: Recurring	- / 103.449	- / 28.947	- / 17.261	- / 4.864	- / -	- / 4.864	- / 4.493	- / 4.537	- / 3.616	- / 3.683	- / -	- / 170.850
Subtotal: Training Systems	- / 103.449	- / 28.947	- / 17.261	- / 4.864	- / -	- / 4.864	- / 4.493	- / 4.537	- / 3.616	- / 3.683	- / -	- / 170.850
Modification Item 5 of 7: Hellfire Missile Launchers												
A Kits												
Recurring												
Hellfire Missile Launchers	- / 50.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 50.000
Subtotal: Recurring	- / 50.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 50.000
Subtotal: Hellfire Missile Launchers	- / 50.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 50.000
Modification Item 6 of 7: AH-64 Mods Prior Year Cost												
A Kits												
Recurring												
AH-64 Mods Prior Year Cost	- / 8,042.349	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 8,042.349
Subtotal: Recurring	- / 8,042.349	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 8,042.349
Subtotal: AH-64 Mods Prior Year Cost	- / 8,042.349	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 8,042.349
Modification Item 7 of 7: Spike NLOS Integration												
A Kits												
Recurring												
Spike NLOS Integration	- / -	- / -	- / -	15 / 37.433	- / -	15 / 37.433	- / -	- / -	- / -	- / -	- / -	15 / 37.433
Subtotal: Recurring	- / -	- / -	- / -	15 / 37.433	- / -	15 / 37.433	- / -	- / -	- / -	- / -	- / -	15 / 37.433
Subtotal: Spike NLOS Integration	- / -	- / -	- / -	15 / 37.433	- / -	15 / 37.433	- / -	- / -	- / -	- / -	- / -	15 / 37.433
Subtotal: Procurement, All Modification Items	381 / 8,890.883	38 / 104.996	- / 58.172	39 / 118.316	- / -	39 / 118.316	17 / 84.420	14 / 82.084	5 / 64.619	- / 4.954	Continuing	Continuing
Installation												
Modification Item 1 of 7: Airframe	1 / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / -
Modification Item 2 of 7: Mission Command	1 / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / -

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 2706AA6605 / AH-64 MODS	Modification Number / Title: AA6606 / AH-64 APACHE MODS
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ID Code (A=Service Ready, B=Not Service Ready) : **MDAP/MAIS Code:**

Models of Systems Affected: Longbow Apache	Modification Type: Operational & Reliability Improvements and Resolve Obsolescence Issues	Related RDT&E PEs:
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Financial Plan	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Modification Item 3 of 7: Sensors	327 / -	58 / -	- / -	30 / -	- / -	30 / -	17 / -	15 / -	7 / -	- / -	- / -	454 / -
Modification Item 4 of 7: Training Systems	1 / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / -
Modification Item 5 of 7: Hellfire Missile Launchers	1 / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / -
Modification Item 6 of 7: AH-64 Mods Prior Year Cost	1 / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / -
<i>Subtotal: Installation</i>	332 / -	58 / -	- / -	30 / -	- / -	30 / -	17 / -	15 / -	7 / -	- / -	- / -	459 / -
Total												
Total Cost (Procurement + Support + Installation)	8,890.883	104.996	58.172	118.316	-	118.316	84.420	82.084	64.619	4.954	Continuing	Continuing

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Exhibit P-3a, Individual Modification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 2706AA6605 / AH-64 MODS	Modification Number / Title: AA6606 / AH-64 APACHE MODS
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ID Code (A=Service Ready, B=Not Service Ready) : **MDAP/MAIS Code:**

Modification Item 1 of 7: Airframe

Manufacturer Information

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

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

Installation Information

Method of Implementation: Modifications

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	1 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / 0.000
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	1 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / 0.000

Installation Schedule

PYS	FY 2019	FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot				
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4						
In	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Out	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 2706AA6605 / AH-64 MODS	Modification Number / Title: AA6606 / AH-64 APACHE MODS

ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Modification Item 2 of 7: Mission Command

Manufacturer Information

Manufacturer Name: Various Manufacturer Location: Various

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

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

Installation Information

Method of Implementation: .

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	1 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / 0.000
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	1 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / 0.000

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot	
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
In	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Out	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1

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Exhibit P-3a, Individual Modification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 2706AA6605 / AH-64 MODS	Modification Number / Title: AA6606 / AH-64 APACHE MODS
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ID Code (A=Service Ready, B=Not Service Ready) : **MDAP/MAIS Code:**

Modification Item 3 of 7: Sensors

Manufacturer Information

Manufacturer Name: Various	Manufacturer Location: Various
Administrative Leadtime (in Months): 2	Production Leadtime (in Months): 24

Dates	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Contract Dates	Jul 2019	Jun 2020	Jun 2021	Jun 2022	Jun 2023	Jun 2024	
Delivery Dates	Oct 2020	Oct 2021	Jul 2021	Jul 2022	Jul 2023	Jul 2024	

Installation Information

Method of Implementation: Modifications

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	158 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	158 / 0.000
FY 2019	49 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	49 / 0.000
FY 2020	120 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	120 / 0.000
FY 2021	- / -	58 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	58 / 0.000
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	30 / 0.000	- / -	30 / 0.000	- / -	- / -	- / -	- / -	- / -	30 / 0.000
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	17 / 0.000	- / -	- / -	- / -	- / -	17 / 0.000
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	15 / 0.000	7 / 0.000	- / -	- / -	22 / 0.000
Total	327 / 0.000	58 / 0.000	- / -	30 / 0.000	- / -	30 / 0.000	17 / 0.000	15 / 0.000	7 / 0.000	- / -	- / -	454 / 0.000

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	219	26	-	13	19	7	-	-	-	6	8	6	4	4	4	5	4	4	3	3	4	1	1	1	2	1	1	1	1	23	371
Out	9	4	15	27	16	21	19	41	39	26	-	13	19	3	4	-	-	6	8	6	4	4	4	5	4	4	3	3	4	60	371

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Exhibit P-3a, Individual Modification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 2706AA6605 / AH-64 MODS	Modification Number / Title: AA6606 / AH-64 APACHE MODS
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ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Modification Item 4 of 7: Training Systems

Manufacturer Information

Manufacturer Name: Boeing / LSI Inc	Manufacturer Location: St. Louis, MO / Jacksonville, FL
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Administrative Leadtime (in Months):	Production Leadtime (in Months):
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Dates	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Contract Dates							
Delivery Dates							

Installation Information

Method of Implementation: Field Retrofits

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	1 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / 0.000
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	1 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / 0.000

Installation Schedule

PYS	In	Out	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
	1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
	1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 2706AA6605 / AH-64 MODS	Modification Number / Title: AA6606 / AH-64 APACHE MODS

ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Modification Item 5 of 7: Hellfire Missile Launchers

Manufacturer Information

Manufacturer Name: Lockheed Martin Missiles and Fire Control Manufacturer Location: Orlando, Florida

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

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

Installation Information

Method of Implementation: Armament

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	1 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / 0.000
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	1 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / 0.000

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot	
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
In	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Out	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 2706AA6605 / AH-64 MODS	Modification Number / Title: AA6606 / AH-64 APACHE MODS
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ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Modification Item 6 of 7: AH-64 Mods Prior Year Cost

Manufacturer Information

Manufacturer Name: Various	Manufacturer Location: Various
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Administrative Leadtime (in Months):	Production Leadtime (in Months):
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Dates	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Contract Dates							
Delivery Dates							

Installation Information

Method of Implementation: Modifications

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	1 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / 0.000
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	1 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / 0.000

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Out	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 2706AA6605 / AH-64 MODS	Modification Number / Title: AA6606 / AH-64 APACHE MODS
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ID Code (A=Service Ready, B=Not Service Ready) : **MDAP/MAIS Code:**

Modification Item 7 of 7: Spike NLOS Integration

Manufacturer Information

Manufacturer Name: TBD Manufacturer Location: TBD

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

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

Installation Information

Method of Implementation: TBD

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot				
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4						
In	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
Out	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1

UNCLASSIFIED

Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 02: Modification of Aircraft / BSA 10: Modification of Aircraft	P-1 Line Item Number / Title: 3264AA0252 / CH-47 Cargo Helicopter Mods (MYP)
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ID Code (A=Service Ready, B=Not Service Ready):	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: 278

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	11,042.371	27.807	11.785	15.548	-	15.548	5.488	2.814	3.011	2.769	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	1,168.857	-	-	-	-	-	-	-	-	-	-	1,168.857
Net Procurement (P-1) (<i>\$ in Millions</i>)	9,873.514	27.807	11.785	15.548	-	15.548	5.488	2.814	3.011	2.769	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	1,168.857	-	-	-	-	-	-	-	-	-	-	1,168.857
Total Obligation Authority (<i>\$ in Millions</i>)	11,042.371	27.807	11.785	15.548	-	15.548	5.488	2.814	3.011	2.769	Continuing	Continuing

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

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

Description:

The CH-47F Chinook, the Army's only heavy lift helicopter, is an essential component of the Army's Multi-Domain Battle framework.

The major modifications to the CH-47F include: the development, test, and fielding of updates for the Common Avionics Architecture System (CAAS) and the Digital Automatic Flight Control System (DAFCS) that provide improvements in cyber security, COMSEC, and aircraft handling qualities; the fielding of the Cargo Platform Health Environment (CPHE), the Improved Vibration Control System to COMPOS 2 & 3, Training Aids Devices Simulators and Simulations (TADSS) concurrency with the fleet, equipment refresh, the enduring requirement for software enhancement, and avionics hardware refresh and safety improvements. The Block I aircraft, with provisions for anticipated upgrades, is postured to support the rigorous demands of Multi-Domain Operations.

Avionics updates and safety improvements to maintain the H-47 Avionics and Software systems include: the Common Avionics Architecture System (CAAS), the Digital Automatic Flight Control System (DAFCS), and the Cargo Platform Health Environment (CPHE) systems. Requirements driven by changes in military interoperability, cyber security threats, and commercial airspace navigation require software systems updates, testing, integration, training and logistics support. The funding priorities are the development, testing, and fielding of improvements in cyber security, aircraft handling qualities, Degraded Visual Environment (DVE) performance, COMSEC improvements, A-PNT integration, multi-core processors, and expansion of the flexibility provided by the CAAS Modular Open Systems Architecture. The rapid pace of change in the commercial electronics hardware market, the evolving cyber security threats, and the requirement to remain interoperable, create a need for recurring updates to the design of avionics hardware and software.

Training Aids, Devices, Simulators, and Simulations (TADSS) system computers and projectors require a technical refresh. If any of these systems fail, all TADSS devices (Transportable Flight Proficiency Simulator (TFPS), Chinook Maintenance Trainer (CHMT), Chinook Avionics Trainer (CAT), and Virtual Interactive Environment (VIE)) will not function, negatively impacting aircrew and maintainer training and availability at the unit level. The CATs require concurrency upgrades to match the CH-47F CAAS V9.4 and DAFCS 3.3 fleet configuration enhancements.

Secondary Distribution	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Army	Quantity	-	-	-	-	-	-	-	-
	Total Obligation Authority	26.063	7.582	13.514	-	13.514	3.421	2.814	3.011
ANG	Quantity	-	-	-	-	-	-	-	-

UNCLASSIFIED

Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 02: Modification of Aircraft / BSA 10: Modification of Aircraft	P-1 Line Item Number / Title: 3264AA0252 / CH-47 Cargo Helicopter Mods (MYP)
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ID Code (A=Service Ready, B=Not Service Ready):	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: 278

Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
	Total Obligation Authority	1.744	4.203	2.034	-	2.034	2.067	-	-	-
Total:	Quantity	-	-	-	-	-	-	-	-	-
Secondary Distribution	Total Obligation Authority	27.807	11.785	15.548	-	15.548	5.488	2.814	3.011	2.769

UNCLASSIFIED

Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity:
 2031A: Aircraft Procurement, Army / BA 02: Modification of Aircraft / BSA 10: Modification of Aircraft

P-1 Line Item Number / Title:
 3264AA0252 / CH-47 Cargo Helicopter Mods (MYP)

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: 278

Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-3a	AA0252 / CH-47 Cargo Helicopter Mods (MYP) (Unclassified)				- / 11,042.371	- / 27.807	- / 11.785	- / 15.548	- / -	- / 15.548
P-40	Total Gross/Weapon System Cost				- / 11,042.371	- / 27.807	- / 11.785	- / 15.548	- / -	- / 15.548

Exhibits Schedule					FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-3a	AA0252 / CH-47 Cargo Helicopter Mods (MYP) (Unclassified)				- / 5.488	- / 2.814	- / 3.011	- / 2.769	Continuing	Continuing
P-40	Total Gross/Weapon System Cost				- / 5.488	- / 2.814	- / 3.011	- / 2.769	Continuing	Continuing

*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:

FY2021 Base procurement dollars in the amount of \$15.548 million supports avionics updates and safety improvements fielded across the fleet.

Funding procures critical avionics updates and safety improvements to maintain the H-47 Avionics and Software systems including the Common Avionics Architecture System (CAAS) and the Digital Automatic Flight Control System (DAFCS). Requirements driven by changes in military interoperability, cyber security threats, and commercial airspace navigation require software systems updates, testing, integration, training and logistics support. The funding priorities are the development, testing, and fielding of improvements in cyber security, aircraft handling qualities, Degraded Visual Environment (DVE) performance, COMSEC improvements, A-PNT integration, multi-core processors, and expansion of the flexibility provided by the CAAS Modular Open Systems Architecture.

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

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 3264AA0252 / CH-47 Cargo Helicopter Mods (MYP)	Modification Number / Title: AA0252 / CH-47 Cargo Helicopter Mods (MYP)

ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	11,042.371	27.807	11.785	15.548	-	15.548	5.488	2.814	3.011	2.769	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	1,168.857	-	-	-	-	-	-	-	-	-	-	1,168.857
Net Procurement (P-1) (<i>\$ in Millions</i>)	9,873.514	27.807	11.785	15.548	-	15.548	5.488	2.814	3.011	2.769	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	1,168.857	-	-	-	-	-	-	-	-	-	-	1,168.857
Total Obligation Authority (<i>\$ in Millions</i>)	11,042.371	27.807	11.785	15.548	-	15.548	5.488	2.814	3.011	2.769	Continuing	Continuing

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

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

Description:

Avionics updates and safety improvements to maintain the H-47 Avionics and Software systems include: the Common Avionics Architecture System (CAAS), the Digital Automatic Flight Control System (DAFCS), and the Cargo Platform Health Environment (CPHE) systems. Requirements driven by changes in military interoperability, cyber security threats, and commercial airspace navigation require software systems updates, testing, integration, training and logistics support. The funding priorities are the development, testing, and fielding of improvements in cyber security, aircraft handling qualities, Degraded Visual Environment (DVE) performance, COMSEC improvements, A-PNT integration, multi-core processors, and expansion of the flexibility provided by the CAAS Modular Open Systems Architecture.

CAAS provides the primary interface to the pilots for all aircraft systems. It monitors aircraft health, provides sophisticated navigation and communication capabilities, and provides tactical situational awareness and interoperability. The DAFCS provides aircraft stability and handling qualities necessary for safe aircraft handling in a variety of environmental and weather conditions. The CPHE system provides the mechanism to complete necessary rotor track and balance activities, evaluate drivetrain vibration levels for maintenance purposes, and record and evaluate the data necessary to have a Condition Based Maintenance and a Health and Usage Monitoring program. These three systems run on specialized computers that primarily consist of commercial electronic components. The rapid pace of change in the commercial electronics hardware market, the evolving cyber security threats, and the requirement to remain interoperable, create a need for recurring updates to the design of avionics hardware and software.

Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	26.063	7.582	13.514	-	13.514	3.421	2.814	3.011	2.769
ANG	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	1.744	4.203	2.034	-	2.034	2.067	-	-	-
Total: Secondary Distribution	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	27.807	11.785	15.548	-	15.548	5.488	2.814	3.011	2.769

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army										Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10					P-1 Line Item Number / Title: 3264AA0252 / CH-47 Cargo Helicopter Mods (MYP)					Modification Number / Title: AA0252 / CH-47 Cargo Helicopter Mods (MYP)			
ID Code (A=Service Ready, B=Not Service Ready) :							MDAP/MAIS Code:						
Models of Systems Affected: CH-47				Modification Type: Unclassified				Related RDT&E PEs:					
Financial Plan	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
Procurement													
Modification Item 1 of 10: Block I Software Safety & Avionics Upgrades													
A Kits													
Non-Recurring													
Avionics Updates (CAAS, DAFCS, CPHE)	- / -	- / 7.512	- / 10.607	- / 9.338	- / -	- / 9.338	- / 3.296	- / 1.690	- / 1.808	- / 1.663	Continuing	Continuing	
Safety Impr (DVE, SW Corrections, Cyber)	- / -	- / -	- / 1.178	- / 6.210	- / -	- / 6.210	- / 2.192	- / 1.124	- / 1.203	- / 1.106	Continuing	Continuing	
Subtotal: Non-Recurring	- / -	- / 7.512	- / 11.785	- / 15.548	- / -	- / 15.548	- / 5.488	- / 2.814	- / 3.011	- / 2.769	Continuing	Continuing	
B Kits													
Recurring													
SEPM	- / -	- / 0.295	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	Continuing	Continuing	
Subtotal: Recurring	- / -	- / 0.295	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	Continuing	Continuing	
Subtotal: Block I Software Safety & Avionics Upgrades	- / -	- / 7.807	- / 11.785	- / 15.548	- / -	- / 15.548	- / 5.488	- / 2.814	- / 3.011	- / 2.769	Continuing	Continuing	
Modification Item 2 of 10: Block I Improved Vibration Control System (IVCS)													
A Kits													
Recurring													
Kits	- / 114.528	70 / 14.845	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	Continuing	Continuing	
PM Support	- / 1.075	- / 0.200	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	Continuing	Continuing	
Subtotal: Recurring	- / 115.603	70 / 15.045	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	Continuing	Continuing	
Subtotal: Block I Improved Vibration Control System (IVCS)	- / 115.603	70 / 15.045	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	Continuing	Continuing	
Modification Item 3 of 10: Block I CH-47 Safety Mods \$5M or Less													
A Kits													
Recurring													
Voltage Standing Wave Ratio (VSWR)	- / 2.239	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	Continuing	Continuing	
FCTS (FADEC Continuity Test Set)	- / 6.430	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	Continuing	Continuing	
Misc Mods	- / 15.592	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	Continuing	Continuing	
Swashplate Assembly	- / 0.575	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	Continuing	Continuing	
Hook Load Measuring System	- / 10.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	Continuing	Continuing	
Engine Air Particle Separator (EAPS)	- / 21.195	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	Continuing	Continuing	

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army										Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10					P-1 Line Item Number / Title: 3264AA0252 / CH-47 Cargo Helicopter Mods (MYP)					Modification Number / Title: AA0252 / CH-47 Cargo Helicopter Mods (MYP)			
ID Code (A=Service Ready, B=Not Service Ready) :							MDAP/MAIS Code:						
Models of Systems Affected: CH-47				Modification Type: Unclassified				Related RDT&E PEs:					
Financial Plan	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
PM Support	- / 11.776	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	Continuing	Continuing	
Frangible Fuel Fitting	- / 10.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	Continuing	Continuing	
Subtotal: Recurring	- / 77.807	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	Continuing	Continuing	
Non-Recurring													
Critical Safety Issues	1 / 7.414	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	Continuing	Continuing	
Subtotal: Non-Recurring	1 / 7.414	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	Continuing	Continuing	
Subtotal: Block I CH-47 Safety Mods \$5M or Less	1 / 85.221	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	Continuing	Continuing	
Modification Item 4 of 10: Block I Cargo Platform Health Environment (CPHE)													
A Kits													
Recurring													
Kits Type 1	- / 2,515.579	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 2,515.579	
Kits Type 2	- / 554.381	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 554.381	
CPHE Software Upgrade	- / 595.796	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 595.796	
Services	- / 57.549	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 57.549	
PM Support	- / 11.170	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 11.170	
Subtotal: Recurring	- / 3,724.475	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 3,724.475	
Non-Recurring													
NRE	- / 6.750	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 6.750	
Subtotal: Non-Recurring	- / 6.750	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 6.750	
Subtotal: Block I Cargo Platform Health Environment (CPHE)	- / 3,731.225	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 3,731.225	
Modification Item 5 of 10: Improved Troop Seats (ITS)													
A Kits													
Recurring													
Installation Kits	- / 14.678	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 14.678	
Subtotal: Recurring	- / 14.678	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 14.678	
Subtotal: Improved Troop Seats (ITS)	- / 14.678	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 14.678	
Modification Item 6 of 10: Block I Adjustable Pitch Change Link													
A Kits													
Recurring													

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army										Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10					P-1 Line Item Number / Title: 3264AA0252 / CH-47 Cargo Helicopter Mods (MYP)					Modification Number / Title: AA0252 / CH-47 Cargo Helicopter Mods (MYP)			
ID Code (A=Service Ready, B=Not Service Ready) :							MDAP/MAIS Code:						
Models of Systems Affected: CH-47			Modification Type: Unclassified					Related RDT&E PEs:					
Financial Plan	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
Pitch Change Links	- / 2.311	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 2.311	
PM Support	- / 0.158	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.158	
Subtotal: Recurring	- / 2.469	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 2.469	
Non-Recurring													
NRE	- / 15.582	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 15.582	
Subtotal: Non-Recurring	- / 15.582	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 15.582	
Subtotal: Block I Adjustable Pitch Change Link	- / 18.051	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 18.051	
Modification Item 7 of 10: Block I COOLS & COOLS BPS													
A Kits													
Recurring													
Cargo Handling Floor System	- / 1,854.411	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 1,854.411	
Ballistic Protection System (BPS)	- / 333.768	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 333.768	
PM Support	- / 4.408	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 4.408	
Cargo Handling Floor System (OCO)	- / 29.300	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 29.300	
PM Support (OCO)	- / 8.010	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 8.010	
Subtotal: Recurring	- / 2,229.897	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 2,229.897	
Subtotal: Block I COOLS & COOLS BPS	- / 2,229.897	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 2,229.897	
Modification Item 8 of 10: Block I Engine Improvements													
A Kits													
Recurring													
T55 Engine Control Unit Prog (ECU)	- / 45.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 45.000	
New Engines	- / 4,495.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 4,495.000	
P3 Check Valve	- / 4.900	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 4.900	
Next Generation Torque System	- / 14.500	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 14.500	
Logistics	- / 39.953	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 39.953	
ECU Upgrade	- / 5.760	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 5.760	
RIMFIRE	- / 2.159	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 2.159	
PM Admin Support	- / 4.613	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 4.613	
Subtotal: Recurring	- / 4,611.885	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 4,611.885	
Non-Recurring													

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army										Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10					P-1 Line Item Number / Title: 3264AA0252 / CH-47 Cargo Helicopter Mods (MYP)					Modification Number / Title: AA0252 / CH-47 Cargo Helicopter Mods (MYP)			
ID Code (A=Service Ready, B=Not Service Ready) :							MDAP/MAIS Code:						
Models of Systems Affected: CH-47				Modification Type: Unclassified				Related RDT&E PEs:					
Financial Plan	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
ECP NRE/Incorporation	- / 1.062	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 1.062	
<i>Subtotal: Non-Recurring</i>	- / 1.062	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 1.062	
<i>Subtotal: Block I Engine Improvements</i>	- / 4,612.947	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 4,612.947	
Modification Item 9 of 10: Block I Aircraft Component Parts-Marking (UID)													
A Kits													
Non-Recurring													
Component Markings	- / 37.506	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 37.506	
<i>Subtotal: Non-Recurring</i>	- / 37.506	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 37.506	
<i>Subtotal: Block I Aircraft Component Parts-Marking (UID)</i>	- / 37.506	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 37.506	
Modification Item 10 of 10: Block I Systems Optimization & Payload Restoration													
A Kits													
Recurring													
PM Support	- / 7.853	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 7.853	
<i>Subtotal: Recurring</i>	- / 7.853	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 7.853	
Non-Recurring													
NRE	- / 157.065	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 157.065	
<i>Subtotal: Non-Recurring</i>	- / 157.065	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 157.065	
<i>Subtotal: Block I Systems Optimization & Payload Restoration</i>	- / 164.918	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 164.918	
<i>Subtotal: Procurement, All Modification Items</i>	1 / 11,010.046	70 / 22.852	- / 11.785	- / 15.548	- / -	- / 15.548	- / 5.488	- / 2.814	- / 3.011	- / 2.769	Continuing	Continuing	
Installation													
Modification Item 2 of 10: Block I Improved Vibration Control System (IVCS)	105 / 0.189	70 / 4.955	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	Continuing	Continuing	
Modification Item 4 of 10: Block I Cargo Platform Health Environment (CPHE)	216 / 12.569	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	Continuing	Continuing	
Modification Item 7 of 10: Block I COOLS & COOLS BPS	264 / 19.567	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	264 / 19.567	
<i>Subtotal: Installation</i>	585 / 32.325	70 / 4.955	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	Continuing	Continuing	
Total													

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 3264AA0252 / CH-47 Cargo Helicopter Mods (MYP)	Modification Number / Title: AA0252 / CH-47 Cargo Helicopter Mods (MYP)

ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Models of Systems Affected: CH-47	Modification Type: Unclassified	Related RDT&E PEs:
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Financial Plan	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Total Cost (Procurement + Support + Installation)	11,042.371	27.807	11.785	15.548	-	15.548	5.488	2.814	3.011	2.769	Continuing	Continuing

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army					Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10			P-1 Line Item Number / Title: 3264AA0252 / CH-47 Cargo Helicopter Mods (MYP)			Modification Number / Title: AA0252 / CH-47 Cargo Helicopter Mods (MYP)	
ID Code (A=Service Ready, B=Not Service Ready) :					MDAP/MAIS Code:		
Modification Item 1 of 10: Block I Software Safety & Avionics Upgrades							
Manufacturer Information							
Manufacturer Name: TBD				Manufacturer Location: TBD			
Administrative Leadtime (in Months):				Production Leadtime (in Months):			
Dates	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Contract Dates							
Delivery Dates							
Installation Information							
Method of Implementation (Organic): TBD					Installation Quantity: 462		

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 3264AA0252 / CH-47 Cargo Helicopter Mods (MYP)	Modification Number / Title: AA0252 / CH-47 Cargo Helicopter Mods (MYP)

ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Modification Item 2 of 10: Block I Improved Vibration Control System (IVCS)

Manufacturer Information

Manufacturer Name: Boeing	Manufacturer Location: Ridley Park PA
Administrative Leadtime (in Months): 6	Production Leadtime (in Months): 6

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

Installation Information

Method of Implementation: Various

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	105 / 0.189	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	Continuing	Continuing
FY 2019	- / -	70 / 4.955	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	Continuing	Continuing
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	Continuing	Continuing
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	Continuing	Continuing
Total	105 / 0.189	70 / 4.955	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	Continuing	Continuing

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	105	-	-	-	24	46	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	202	377
Out	105	-	-	-	-	-	12	12	12	12	12	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	202	377

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Exhibit P-3a, Individual Modification: PB 2021 Army					Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10			P-1 Line Item Number / Title: 3264AA0252 / CH-47 Cargo Helicopter Mods (MYP)			Modification Number / Title: AA0252 / CH-47 Cargo Helicopter Mods (MYP)	
ID Code (A=Service Ready, B=Not Service Ready) :					MDAP/MAIS Code:		
Modification Item 3 of 10: Block I CH-47 Safety Mods \$5M or Less							
Manufacturer Information							
Manufacturer Name: TBD				Manufacturer Location: TBD			
Administrative Leadtime (in Months):				Production Leadtime (in Months):			
Dates	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Contract Dates							
Delivery Dates							
Installation Information							
Method of Implementation (Organic): Various					Installation Quantity: 0		

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 3264AA0252 / CH-47 Cargo Helicopter Mods (MYP)	Modification Number / Title: AA0252 / CH-47 Cargo Helicopter Mods (MYP)

ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Modification Item 4 of 10: Block I Cargo Platform Health Environment (CPHE)

Manufacturer Information

Manufacturer Name: Boeing	Manufacturer Location: Ridley Park, PA
Administrative Leadtime (in Months): 3	Production Leadtime (in Months): 6

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

Installation Information

Method of Implementation: Various

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	216 / 12.569	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	Continuing	Continuing
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	216 / 12.569	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	Continuing	Continuing

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	108	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	202	310
Out	108	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	202	310

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army					Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10			P-1 Line Item Number / Title: 3264AA0252 / CH-47 Cargo Helicopter Mods (MYP)			Modification Number / Title: AA0252 / CH-47 Cargo Helicopter Mods (MYP)	
ID Code (A=Service Ready, B=Not Service Ready) :					MDAP/MAIS Code:		
Modification Item 5 of 10: Improved Troop Seats (ITS)							
Manufacturer Information							
Manufacturer Name: Boeing				Manufacturer Location: Ridley Park, PA			
Administrative Leadtime (in Months): 4				Production Leadtime (in Months): 12			
Dates	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Contract Dates							
Delivery Dates							
Installation Information							
Method of Implementation (Organic): Various					Installation Quantity: 0		

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army					Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10			P-1 Line Item Number / Title: 3264AA0252 / CH-47 Cargo Helicopter Mods (MYP)			Modification Number / Title: AA0252 / CH-47 Cargo Helicopter Mods (MYP)	
ID Code (A=Service Ready, B=Not Service Ready) :					MDAP/MAIS Code:		
Modification Item 6 of 10: Block I Adjustable Pitch Change Link							
Manufacturer Information							
Manufacturer Name: Boeing				Manufacturer Location: Ridley Park, PA			
Administrative Leadtime (in Months):				Production Leadtime (in Months):			
Dates	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Contract Dates							
Delivery Dates							
Installation Information							
Method of Implementation (Organic): User Installed					Installation Quantity: 0		

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 3264AA0252 / CH-47 Cargo Helicopter Mods (MYP)	Modification Number / Title: AA0252 / CH-47 Cargo Helicopter Mods (MYP)

ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Modification Item 7 of 10: Block I COOLS & COOLS BPS

Manufacturer Information

Manufacturer Name: Boeing	Manufacturer Location: Ridley Park, PA
Administrative Leadtime (in Months): 1	Production Leadtime (in Months): 1

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

Installation Information

Method of Implementation: Various

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	264 / 19.567	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	264 / 19.567
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	264 / 19.567	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	264 / 19.567

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	264	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	264
Out	264	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	264

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Exhibit P-3a, Individual Modification: PB 2021 Army					Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10			P-1 Line Item Number / Title: 3264AA0252 / CH-47 Cargo Helicopter Mods (MYP)			Modification Number / Title: AA0252 / CH-47 Cargo Helicopter Mods (MYP)	
ID Code (A=Service Ready, B=Not Service Ready) :					MDAP/MAIS Code:		
Modification Item 8 of 10: Block I Engine Improvements							
Manufacturer Information							
Manufacturer Name: Honeywell Inc				Manufacturer Location: Phoenix, AZ			
Administrative Leadtime (in Months):				Production Leadtime (in Months):			
Dates	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Contract Dates							
Delivery Dates							
Installation Information							
Method of Implementation (Organic): Various					Installation Quantity: 0		

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army					Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10			P-1 Line Item Number / Title: 3264AA0252 / CH-47 Cargo Helicopter Mods (MYP)			Modification Number / Title: AA0252 / CH-47 Cargo Helicopter Mods (MYP)	
ID Code (A=Service Ready, B=Not Service Ready) :					MDAP/MAIS Code:		
Modification Item 9 of 10: Block I Aircraft Component Parts-Marking (UID)							
Manufacturer Information							
Manufacturer Name: TBD				Manufacturer Location: TBD			
Administrative Leadtime (in Months):				Production Leadtime (in Months):			
Dates	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Contract Dates							
Delivery Dates							
Installation Information							
Method of Implementation (Organic): Various					Installation Quantity: 0		

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Exhibit P-3a, Individual Modification: PB 2021 Army					Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10			P-1 Line Item Number / Title: 3264AA0252 / CH-47 Cargo Helicopter Mods (MYP)			Modification Number / Title: AA0252 / CH-47 Cargo Helicopter Mods (MYP)	
ID Code (A=Service Ready, B=Not Service Ready) :					MDAP/MAIS Code:		
Modification Item 10 of 10: Block I Systems Optimization & Payload Restoration							
Manufacturer Information							
Manufacturer Name: TBD				Manufacturer Location: TBD			
Administrative Leadtime (in Months):				Production Leadtime (in Months):			
Dates	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Contract Dates							
Delivery Dates							
Installation Information							
Method of Implementation (Organic): Various					Installation Quantity: 0		

UNCLASSIFIED

Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 02: Modification of Aircraft / BSA 10: Modification of Aircraft	P-1 Line Item Number / Title: 3403A02111 / GRCS SEMA Mods (MIP)
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ID Code (A=Service Ready, B=Not Service Ready):	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	13.583	5.573	6.427	2.947	-	2.947	3.026	-	-	-	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	13.583	5.573	6.427	2.947	-	2.947	3.026	-	-	-	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	13.583	5.573	6.427	2.947	-	2.947	3.026	-	-	-	Continuing	Continuing

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

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

Description:

The RC-12X Guardrail Common Sensor (GRCS) is a fixed-wing, airborne Communications Intelligence (COMINT) and Electronic Intelligence (ELINT) collection and precision targeting location system. GRCS provides a persistent capability to detect, locate and classify/identify high value targets with a relevant degree of timeliness and accuracy. GRCS is assigned to two (2) U.S. Army Intelligence and Security Command (INSCOM) Aerial Exploitation Battalions providing Aerial Intelligence, Surveillance and Reconnaissance (AISR) support to combatant commanders. The Army's Acquisition Objective/Army's Procurement Objective is 19 RC-12X; seven (7) fielded to 3rd MI; and seven (7) fielded to the 204th MI, and five (5) trainers within Training and Doctrine Command (TRADOC) and INSCOM.

This funding line supports Army RC-12X aircraft performing the AISR mission. It provides for the following: procurement and associated testing of civil and military aircraft equipment, future integration efforts, and procurement of replacement and spare engines and props. These modifications address all Department of Defense (DoD) mandated safety equipment to current and evolving international and Army Standards. These modifications ensure continued worldwide deployment capability and safe operations. Lastly, this line supports future modifications in service.

The overall GRCS procurement/modernization efforts are found in the following two lines: AZ2052 Guardrail Payloads (Aircraft Procurement Army (APA) Military Intelligence Program (MIP) P-1 Line #20) and A02111 GRCS SEMA MODS (Aircraft Procurement Army (APA) Military Intelligence Program (MIP) P-1 Line #23). Separate funding lines support the Army Acquisition Executive's directive, codified in the October 28, 2011 memorandum, to assign overall acquisition lead for manned airborne intelligence systems to Program Executive Office for Aviation; and overall sensor, processing, exploitation, and dissemination responsibilities to Program Executive Officer for Intelligence, Electronic Warfare, and Sensors.

Secondary Distribution	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Army									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	5.573	6.427	2.947	-	2.947	3.026	-	-	-
Total:									
Secondary Distribution									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	5.573	6.427	2.947	-	2.947	3.026	-	-	-

Justification:

UNCLASSIFIED

Exhibit P-40, Budget Line Item Justification: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 02: Modification of Aircraft / BSA 10: Modification of Aircraft		P-1 Line Item Number / Title: 3403A02111 / GRCS SEMA Mods (MIP)
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		
<p>FY21 base procurement funding in the amount of \$2.947 million will support RC-12X aircraft modifications to procure and integrate the 1st Phase Assured Position, Navigation and Timing (A-PNT) solutions (Magna-F); Information Assurance support for aircraft systems; and RC-12X modifications in service. This line also funds the integration of ARC 201 Single Channel Ground Air Radio Systems (SINCGARS) kits to address modernization issues, and modifications to the communications suite.</p> <p>All COMPO 1. In accordance with Section 1815 of the FY 2008 National Defense Authorization Act (P.L. 110-181), this item is necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities.</p>		

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Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 02: Modification of Aircraft / BSA 10: Modification of Aircraft	P-1 Line Item Number / Title: 3404A02110 / ARL SEMA Mods (MIP)
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ID Code (A=Service Ready, B=Not Service Ready):	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	66.744	7.522	6.566	9.598	-	9.598	10.338	5.577	6.211	6.422	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	66.744	7.522	6.566	9.598	-	9.598	10.338	5.577	6.211	6.422	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	66.744	7.522	6.566	9.598	-	9.598	10.338	5.577	6.211	6.422	Continuing	Continuing

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

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

Description:

Airborne Reconnaissance Low - Enhanced (ARL-E) is a worldwide self-deployable airborne Intelligence Surveillance Reconnaissance (ISR) system designed for timely, accurate, assured support to tactical forces over the full spectrum of operations. This system is a De Havilland DHC-8 aircraft replacing the DHC-7 IAW the Aerial ISR (AISR) 2020 Strategy. ARL-E will enhance the ARL-M sensor capability sets through the procurement of new and refurbished sensors to meet the ARL-E Capabilities Production Document (CPD) requirements. It provides a persistent capability to include: Broad-Area Surveillance and/or Focused Stare on Target Areas of Interest (Point or Objective Targets), Electro-Optical/Infrared (EO/IR)/Full-Motion Video (FMV) , Multi-Mode Radar, Robust Communications Intelligence (COMINT), on-Board Collection, Analysis, Sensor Cross Cue and dissemination through Distributed Common Ground System-Army (DCGS-A) enabled workstations. ARL-E will be assigned to the U.S. Army Intelligence and Security Command (INSCOM) Aerial ISR Brigade providing AISR support to combatant commanders. For the overall system, the Army Acquisition Objective and the Army Procurement Objective, is nine (9). The Mission Equipment Package (MEP) objective is eight (8).

The funding line supports the conversion of Government Owned Contractor Operated (GOCO) Quick Reaction Capability (QRC) DeHavilland (DHC) 8-315 Aerial Intelligence Surveillance & Reconnaissance aircraft systems, leveraging seven (7) Saturn Arch (SA) and two (2) Desert Owls (DO). It provides for the following: the procurement of replacement and spare engines; procurement and associated testing of civil and military aircraft equipment, and future integration efforts. These modifications address all Department of Defense (DoD) mandated safety equipment to current and evolving international and Army Standards. These modifications ensure continued worldwide deployment capability and safe operations. Lastly, this line supports future modifications in services which includes Assured Position, Navigation and Timing (A-PNT).

Separate funding lines support the Army Acquisition Executive's directive, codified in the October 28, 2011 memorandum, to assign overall acquisition lead for manned airborne Intelligence systems to Program Executive Officer for Aviation; and overall sensor, processing, exploitation, and dissemination responsibilities to Program Executive Officer for Intelligence, Electronic Warfare, and Sensors. The A02110 ARL SEMA Mods (Aircraft Procurement Army (APA) Military Intelligence Program (MIP) P-1 Line #24) budget line provides for aircraft modification and A22050 ARL Payloads (Aircraft Procurement Army (APA) Military Intelligence Program (MIP) P-1 Line #20) provides for sensors.

Secondary Distribution	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Army									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	7.522	6.566	9.598	-	9.598	10.338	5.577	6.211	6.422

UNCLASSIFIED

Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 02: Modification of Aircraft / BSA 10: Modification of Aircraft	P-1 Line Item Number / Title: 3404A02110 / ARL SEMA Mods (MIP)
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ID Code (A=Service Ready, B=Not Service Ready):	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: N/A

Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Total:	Quantity	-	-	-	-	-	-	-	-	-
Secondary Distribution	Total Obligation Authority	7.522	6.566	9.598	-	9.598	10.338	5.577	6.211	6.422

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Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 02: Modification of Aircraft / BSA 10: Modification of Aircraft	P-1 Line Item Number / Title: 3404A02110 / ARL SEMA Mods (MIP)
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ID Code (A=Service Ready, B=Not Service Ready):	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: N/A

Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-3a	A02110 / ARL SEMA Mods (MIP) (Unclassified)				- / 66.744	- / 7.522	- / 6.566	- / 9.598	- / -	- / 9.598
P-40	Total Gross/Weapon System Cost				- / 66.744	- / 7.522	- / 6.566	- / 9.598	- / -	- / 9.598

Exhibits Schedule					FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-3a	A02110 / ARL SEMA Mods (MIP) (Unclassified)				- / 10.338	- / 5.577	- / 6.211	- / 6.422	Continuing	Continuing
P-40	Total Gross/Weapon System Cost				- / 10.338	- / 5.577	- / 6.211	- / 6.422	Continuing	Continuing

*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:

The FY21 base procurement funding in the amount of \$9.598 million will be utilized to fund the cockpit and Aircraft Survivability Equipment (ASE) integration of one aircraft and continued system verification, fielding and program sparing. Additionally, provides funding for modifications in service.

P3a prior year through FY21 quantities are for ASE and cockpit integration. Beyond FY21, quantities are for modifications in service to previously delivered aircraft.

FY21 P3a manufacturer name and location are for ASE integration contract only. Manufacturers for FYDP modifications are to be determined.

All COMPO 1 Active. In accordance with Section 1815 of the FY 2008 National Defense Authorization Act (P.L. 110-181), this item is necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 3404A02110 / ARL SEMA Mods (MIP)	Modification Number / Title: A02110 / ARL SEMA Mods (MIP)

ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	66.744	7.522	6.566	9.598	-	9.598	10.338	5.577	6.211	6.422	Continuing	Continuing
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	66.744	7.522	6.566	9.598	-	9.598	10.338	5.577	6.211	6.422	Continuing	Continuing
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	66.744	7.522	6.566	9.598	-	9.598	10.338	5.577	6.211	6.422	Continuing	Continuing

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

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

Description:

Airborne Reconnaissance Low - Enhanced (ARL-E) is a worldwide self-deployable airborne Intelligence Surveillance Reconnaissance (ISR) system designed for timely, accurate, assured support to tactical forces over the full spectrum of operations. This system is a De Havilland DHC-8 aircraft replacing the DHC-7 IAW the Aerial ISR (AISR) 2020 Strategy. ARL-E will enhance the ARL-M sensor capability sets through the procurement of new and refurbished sensors to meet the ARL-E Capabilities Production Document (CPD) requirements. It provides a persistent capability to include: Broad-Area Surveillance and/or Focused Stare on Target Areas of Interest (Point or Objective Targets), Electro-Optical/Infrared (EO/IR)/Full-Motion Video (FMV), Multi-Mode Radar, Robust Communications Intelligence (COMINT), on-Board Collection, Analysis, Sensor Cross Cue and dissemination through Distributed Common Ground System-Army (DCGS-A) enabled workstations. ARL-E will be assigned to the U.S. Army INSCOM Aerial ISR Brigade providing AISR support to combatant commanders. For the overall system, the Army Acquisition Objective and the Army Procurement Objective, is nine (9). The Mission Equipment Package (MEP) objective is eight (8).

The funding line supports the conversion of Government Owned Contractor Operated (GOCO) Quick Reaction Capability (QRC) DeHavilland (DHC) 8-315 Aerial Intelligence Surveillance & Reconnaissance aircraft systems, leveraging seven (7) Saturn Arch (SA) and two (2) Desert Owls (DO). It provides for the following: the procurement of replacement and spare engines; procurement and associated testing of civil and military aircraft equipment, and future integration efforts. These modifications address all Department of Defense (DoD) mandated safety equipment to current and evolving international and Army Standards. These modifications ensure continued worldwide deployment capability and safe operations. Lastly, this line supports future modifications in services which includes Assured Position, Navigation and Timing (A-PNT).

Secondary Distribution	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Army									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	7.522	6.566	9.598	-	9.598	10.338	5.577	6.211	6.422
Total:									
Secondary Distribution									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	7.522	6.566	9.598	-	9.598	10.338	5.577	6.211	6.422

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army										Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10				P-1 Line Item Number / Title: 3404A02110 / ARL SEMA Mods (MIP)						Modification Number / Title: A02110 / ARL SEMA Mods (MIP)			
ID Code (A=Service Ready, B=Not Service Ready) :							MDAP/MAIS Code:						
Models of Systems Affected: ARL SEMA Modifications				Modification Type: Unclassified					Related RDT&E PEs:				
Financial Plan	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
Procurement													
<i>Modification Item 1 of 1:</i> ARL SEMA Mods													
A Kits													
Recurring													
PMO	- / 12.150	- / 0.639	- / 0.558	- / 0.817	- / -	- / 0.817	- / 0.880	- / 0.475	- / 0.528	- / 0.546	Continuing	Continuing	
Spares	- / 7.042	- / -	- / -	- / 2.724	- / -	- / 2.724	- / 3.007	- / 2.082	- / -	- / -	Continuing	Continuing	
System T&E Support	- / 17.432	- / 1.046	- / -	- / -	- / -	- / -	- / 0.159	- / 0.162	- / 0.166	- / 0.169	Continuing	Continuing	
Training and Documentation	- / 0.059	- / 0.037	- / 0.037	- / 0.038	- / -	- / 0.038	- / 0.200	- / -	- / -	- / -	Continuing	Continuing	
<i>Subtotal: Recurring</i>	- / 36.683	- / 1.722	- / 0.595	- / 3.579	- / -	- / 3.579	- / 4.246	- / 2.719	- / 0.694	- / 0.715	Continuing	Continuing	
<i>Subtotal: ARL SEMA Mods</i>	- / 36.683	- / 1.722	- / 0.595	- / 3.579	- / -	- / 3.579	- / 4.246	- / 2.719	- / 0.694	- / 0.715	Continuing	Continuing	
<i>Subtotal: Procurement, All Modification Items</i>	- / 36.683	- / 1.722	- / 0.595	- / 3.579	- / -	- / 3.579	- / 4.246	- / 2.719	- / 0.694	- / 0.715	Continuing	Continuing	
Installation													
<i>Modification Item 1 of 1:</i> ARL SEMA Mods	7 / 30.061	1 / 5.800	1 / 5.971	1 / 6.019	- / -	1 / 6.019	2 / 6.092	1 / 2.858	2 / 5.517	1 / 5.707	Continuing	Continuing	
<i>Subtotal: Installation</i>	7 / 30.061	1 / 5.800	1 / 5.971	1 / 6.019	- / -	1 / 6.019	2 / 6.092	1 / 2.858	2 / 5.517	1 / 5.707	Continuing	Continuing	
Total													
Total Cost (Procurement + Support + Installation)	66.744	7.522	6.566	9.598	-	9.598	10.338	5.577	6.211	6.422	Continuing	Continuing	

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army			Date: February 2020	
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10		P-1 Line Item Number / Title: 3404A02110 / ARL SEMA Mods (MIP)		Modification Number / Title: A02110 / ARL SEMA Mods (MIP)

ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Modification Item 1 of 1: ARL SEMA Mods

Manufacturer Information

Manufacturer Name: LEIDOS	Manufacturer Location: Bridgewater, VA
Administrative Leadtime (in Months): 3	Production Leadtime (in Months): 12

Dates	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Contract Dates							
Delivery Dates	Jan 2019	Aug 2020	Aug 2021	Aug 2022	Aug 2023	Aug 2024	Aug 2025

Installation Information

Method of Implementation: ARL SEMA Mods

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	7 / 30.061	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	Continuing	Continuing
FY 2019	- / -	1 / 5.800	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	Continuing	Continuing
FY 2020	- / -	- / -	1 / 5.971	- / -	- / -	- / -	- / -	- / -	- / -	- / -	Continuing	Continuing
FY 2021	- / -	- / -	- / -	1 / 6.019	- / -	1 / 6.019	- / -	- / -	- / -	- / -	Continuing	Continuing
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	2 / 6.092	- / -	- / -	- / -	Continuing	Continuing
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / 2.858	- / -	- / -	Continuing	Continuing
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	2 / 5.517	- / -	Continuing	Continuing
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / 5.707	Continuing	Continuing
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	7 / 30.061	1 / 5.800	1 / 5.971	1 / 6.019	- / -	1 / 6.019	2 / 6.092	1 / 2.858	2 / 5.517	1 / 5.707	Continuing	Continuing

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot				
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4						
In	7	-	1	-	-	-	-	-	1	-	-	-	1	-	-	-	2	-	-	-	1	-	-	-	2	-	-	-	1	-	-	-	1	-	16
Out	4	-	1	-	1	-	-	-	2	-	-	-	1	-	-	-	1	-	-	-	2	-	-	-	1	-	-	-	2	-	-	-	1	16	

UNCLASSIFIED

Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 02: Modification of Aircraft / BSA 10: Modification of Aircraft	P-1 Line Item Number / Title: 3405A02112 / EMARSS SEMA Mods (MIP)
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ID Code (A=Service Ready, B=Not Service Ready):	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	136.741	60.248	43.139	2.452	26.460	28.912	1.717	1.749	2.180	2.222	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	136.741	60.248	43.139	2.452	26.460	28.912	1.717	1.749	2.180	2.222	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	136.741	60.248	43.139	2.452	26.460	28.912	1.717	1.749	2.180	2.222	Continuing	Continuing

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

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

Description:

The Enhanced Medium Altitude Reconnaissance and Surveillance System (EMARSS) is the Army's newest generation C-12 based, direct support, manned airborne intelligence collection, processing, and targeting support system. It provides a persistent capability to detect, locate, classify/identify, and track surface targets with a high degree of timeliness and accuracy. EMARSS is assigned to the U.S. Army Intelligence and Security Command (INSCOM) Aerial Exploitation Battalions, providing Aerial Intelligence, Surveillance and Reconnaissance support to combatant commanders. EMARSS is also assigned to the United States Army Training and Doctrine Command (TRADOC) in support of training at the US Army Intelligence Center of Excellence (USAICoE). The Army Acquisition Objective for EMARSS is 36 systems, with an Army Procurement Objective of 24, to include the following variants: eight (8) EMARSS-G (Geo-INT); four (4) EMARSS-V (Vehicle and Dismount Exploitation Radar, VaDER); eight (8) EMARSS-M (Multi-INT); and four (4) EMARSS-S (SIGINT). Congressional Plus-up for EMARSS-E aircraft.

The budget line supports the conversion of Special Electronic Mission Aircraft (SEMA) Government-owned Quick Reaction Capability (QRC) Aerial Intelligence Surveillance & Reconnaissance (AISR) systems: Liberty Project Aircraft (LPA), Constant Hawk (CH) and Tactical Operations (TACOP), VaDER (Vehicle and Dismount exploitation Radar) into Enhanced Medium Altitude Reconnaissance and Surveillance Systems (EMARSS) Capabilities Production Document (CPD) compliant systems. It provides for the following: the procurement of replacement and spare engines; procurement and associated testing of civil and military aircraft equipment; and integration/installation of ISR Mission Equipment Package (MEP). These modifications address all Department of Defense (DoD) mandated safety equipment to current and evolving international and Army Standards. These modifications ensure continued worldwide deployment capability and safe operations. Lastly, this line supports future modifications in service.

The overall EMARSS procurement/modernization efforts are found in the following two lines; AZ2054 EMARSS Payloads (Aircraft Procurement Army (APA) Military Intelligence Program (MIP) P-1 Line #20) line provides for sensors and A02112 EMARSS SEMA Mods (Aircraft Procurement Army (APA) Military Intelligence Program (MIP) P-1 Line #25) provides for aircraft modifications. Separate funding lines support the Army Acquisition Executive's directive, codified in the October 28, 2011 memorandum, to assign overall acquisition lead for manned airborne intelligence systems to Program Executive Officer for Aviation; and overall sensor, processing, exploitation, and dissemination responsibilities to Program Executive Officer for Intelligence, Electronic Warfare, and Sensors.

Secondary Distribution	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Army									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	60.248	43.139	2.452	26.460	28.912	1.717	1.749	2.180	2.222
Total:									
Quantity	-	-	-	-	-	-	-	-	-

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Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 02: Modification of Aircraft / BSA 10: Modification of Aircraft	P-1 Line Item Number / Title: 3405A02112 / EMARSS SEMA Mods (MIP)
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ID Code (A=Service Ready, B=Not Service Ready):	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: N/A

Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Secondary Distribution	Total Obligation Authority	60.248	43.139	2.452	26.460	28.912	1.717	1.749	2.180	2.222

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UNCLASSIFIED

Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 02: Modification of Aircraft / BSA 10: Modification of Aircraft	P-1 Line Item Number / Title: 3405A02112 / EMARSS SEMA Mods (MIP)
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ID Code (A=Service Ready, B=Not Service Ready):	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: N/A

Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-3a	A02112 / EMARSS SEMA Mods (MIP) (Unclassified)				- / 136.741	- / 60.248	- / 43.139	- / 2.452	- / 26.460	- / 28.912
P-40	Total Gross/Weapon System Cost				- / 136.741	- / 60.248	- / 43.139	- / 2.452	- / 26.460	- / 28.912

Exhibits Schedule					FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-3a	A02112 / EMARSS SEMA Mods (MIP) (Unclassified)				- / 1.717	- / 1.749	- / 2.180	- / 2.222	Continuing	Continuing
P-40	Total Gross/Weapon System Cost				- / 1.717	- / 1.749	- / 2.180	- / 2.222	Continuing	Continuing

*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:

FY21 Base Procurement dollars in the amount of \$2.452 million supports modifications in service, such as the procurement of Mission Enhancement Kits (MEK). Mission Enhancement kits include PT6A-67A engines, light weight composite propellers, light weight lithium ion batteries and anti-lock braking system which are designed to increase endurance, increase safety, and reduce risk in the extreme environmental conditions of high altitude combined with hot temperature conditions. Mission Enhancement Kits will increase operational capability by allowing the aircraft to carry more fuel, which equates to more time on station. Modifications in service also include modernized avionics, such as Assured Position, Navigation and Timing (A-PNT), cockpit management unit, Blue Force Tracking-Aviation (BFT-AVN) to BFT-2 conversion, APX-123 Transponder to APX-119 Transponder and Aircraft Survivability Equipment (ASE) integration.

FY21 OCO Procurement dollars in the amount of \$26.460 million supports the procurement of Mission Enhancement Kits and the RESET of EMARSS aircraft.

P3a prior year quantities are for aircraft integration. Starting FY19, quantities are for modifications in service to previously delivered aircraft.

P3a manufacturer name and location are for aircraft integration contract only. Modifications in service contracts are to be determined.

All COMPO 1 Active. 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-3a, Individual Modification: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 3405A02112 / EMARSS SEMA Mods (MIP)	Modification Number / Title: A02112 / EMARSS SEMA Mods (MIP)

ID Code (A=Service Ready, B=Not Service Ready) :		MDAP/MAIS Code:										
Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	136.741	60.248	43.139	2.452	26.460	28.912	1.717	1.749	2.180	2.222	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	136.741	60.248	43.139	2.452	26.460	28.912	1.717	1.749	2.180	2.222	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	136.741	60.248	43.139	2.452	26.460	28.912	1.717	1.749	2.180	2.222	Continuing	Continuing
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Thousands</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

The Enhanced Medium Altitude Reconnaissance and Surveillance System (EMARSS) is the Army's newest generation C-12 based, direct support, manned airborne intelligence collection, processing, and targeting support system. It provides a persistent capability to detect, locate, classify/identify, and track surface targets with a high degree of timeliness and accuracy. EMARSS is assigned to the U.S. Army Intelligence and Security Command's Aerial Exploitation Battalions, providing Aerial Intelligence, Surveillance and Reconnaissance support to combatant commanders. EMARSS is also assigned to the United States Army Training and Doctrine Command (TRADOC) in support of training at the US Army Intelligence Center of Excellence (USAICoE). The Army Acquisition Objective for EMARSS is 36 systems, with an Army Procurement Objective of 24, to include the following variants: eight (8) EMARSS-G (Geo-INT); four (4) EMARSS-V (Vehicle and Dismount Exploitation Radar, VaDER); eight (8) EMARSS-M (Multi-INT); and four (4) EMARSS-S (SIGINT). Congressional Plus-up for EMARSS-E aircraft.

The budget line supports the conversion of Special Electronic Mission Aircraft (SEMA) Government-owned Quick Reaction Capability (QRC) Aerial Intelligence Surveillance & Reconnaissance (AISR) systems: Liberty Project Aircraft (LPA), Constant Hawk (CH) and Tactical Operations (TACOP), VaDER (Vehicle and Dismount exploitation Radar) into Enhanced Medium Altitude Reconnaissance and Surveillance Systems (EMARSS) Capabilities Production Document (CPD) compliant systems. It provides for the following: the procurement of replacement and spare engines; procurement and associated testing of civil and military aircraft equipment; and integration/installation of ISR Mission Equipment Package (MEP). These modifications address all Department of Defense (DoD) mandated safety equipment to current and evolving international and Army Standards. These modifications ensure continued worldwide deployment capability and safe operations. Lastly, this line supports future modifications in service.

The APO quantity of 24 is funded as follows: Aerial Common Sensor (ACS) (MIP) (A02005) FY14-FY16 modified 16. EMARSS SEMA Mods (MIP) (A02112) and EMARSS Payloads (MIP) (AZ2054) FY17-FY18, modified the remaining 8.

Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	60.248	43.139	2.452	26.460	28.912	1.717	1.749	2.180	2.222
Total: Secondary Distribution	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	60.248	43.139	2.452	26.460	28.912	1.717	1.749	2.180	2.222

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army										Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10				P-1 Line Item Number / Title: 3405A02112 / EMARSS SEMA Mods (MIP)						Modification Number / Title: A02112 / EMARSS SEMA Mods (MIP)			
ID Code (A=Service Ready, B=Not Service Ready) :							MDAP/MAIS Code:						
Models of Systems Affected: EMARSS				Modification Type: Unclassified				Related RDT&E PEs:					
Financial Plan	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
Procurement													
<i>Modification Item 1 of 1: EMARSS SEMA Modifications</i>													
A Kits													
Recurring													
EMARSS-E Pods	- / -	- / 39.800	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	Continuing	Continuing
RESET	- / -	- / -	4 / 5.080	- / -	4 / 5.080	4 / 5.080	- / -	- / -	- / -	- / -	- / -	Continuing	Continuing
EMARSS Performance Enhancements	- / 23.100	4 / 15.800	8 / 34.200	- / -	5 / 21.380	5 / 21.380	- / -	- / -	- / -	- / -	- / -	Continuing	Continuing
PMO and SETA Support	- / 17.386	- / 1.738	- / 0.328	- / 0.209	- / -	- / 0.209	- / 0.146	- / 0.149	- / 0.185	- / 0.189	- / 0.189	Continuing	Continuing
Initial Spares	- / 2.433	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	Continuing	Continuing
Testing	- / 2.188	- / -	- / 0.545	- / 0.594	- / -	- / 0.594	- / -	- / -	- / -	- / -	- / -	Continuing	Continuing
<i>Subtotal: Recurring</i>	- / 35.107	4 / 57.338	12 / 40.153	- / 0.803	9 / 26.460	9 / 27.263	- / 0.146	- / 0.149	- / 0.185	- / 0.189	- / 0.189	Continuing	Continuing
<i>Subtotal: EMARSS SEMA Modifications</i>	- / 35.107	4 / 57.338	12 / 40.153	- / 0.803	9 / 26.460	9 / 27.263	- / 0.146	- / 0.149	- / 0.185	- / 0.189	- / 0.189	Continuing	Continuing
<i>Subtotal: Procurement, All Modification Items</i>	- / 35.107	4 / 57.338	12 / 40.153	- / 0.803	9 / 26.460	9 / 27.263	- / 0.146	- / 0.149	- / 0.185	- / 0.189	- / 0.189	Continuing	Continuing
Installation													
<i>Modification Item 1 of 1: EMARSS SEMA Modifications</i>	10 / 101.634	1 / 2.910	1 / 2.986	1 / 1.649	- / -	1 / 1.649	1 / 1.571	1 / 1.600	1 / 1.995	1 / 2.033	1 / 2.033	Continuing	Continuing
<i>Subtotal: Installation</i>	10 / 101.634	1 / 2.910	1 / 2.986	1 / 1.649	- / -	1 / 1.649	1 / 1.571	1 / 1.600	1 / 1.995	1 / 2.033	1 / 2.033	Continuing	Continuing
Total													
Total Cost (Procurement + Support + Installation)	136.741	60.248	43.139	2.452	26.460	28.912	1.717	1.749	2.180	2.222	2.222	Continuing	Continuing

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 3405A02112 / EMARSS SEMA Mods (MIP)	Modification Number / Title: A02112 / EMARSS SEMA Mods (MIP)
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ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Modification Item 1 of 1: EMARSS SEMA Modifications

Manufacturer Information

Manufacturer Name: SNC	Manufacturer Location: Hagerstown, MD
Administrative Leadtime (in Months): 2	Production Leadtime (in Months): 6

Dates	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Contract Dates							
Delivery Dates	Mar 2019	Mar 2020	Mar 2021	Mar 2022	Mar 2023	Mar 2024	Mar 2025

Installation Information

Method of Implementation: EMARSS Modifications

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	10 / 101.634	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	Continuing	Continuing
FY 2019	- / -	1 / 2.910	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	Continuing	Continuing
FY 2020	- / -	- / -	1 / 2.986	- / -	- / -	- / -	- / -	- / -	- / -	- / -	Continuing	Continuing
FY 2021	- / -	- / -	- / -	1 / 1.649	- / -	1 / 1.649	- / -	- / -	- / -	- / -	Continuing	Continuing
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	1 / 1.571	- / -	- / -	- / -	Continuing	Continuing
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / 1.600	- / -	- / -	Continuing	Continuing
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / 1.995	- / -	Continuing	Continuing
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / 2.033	Continuing	Continuing
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	10 / 101.634	1 / 2.910	1 / 2.986	1 / 1.649	- / -	1 / 1.649	1 / 1.571	1 / 1.600	1 / 1.995	1 / 2.033	Continuing	Continuing

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot								
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4										
In	10	-	1	-	-	-	1	-	-	-	1	-	-	-	1	-	-	-	1	-	-	-	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	17
Out	6	-	1	3	1	-	-	-	1	-	-	-	1	-	-	-	1	-	-	-	1	-	-	-	1	-	-	-	1	-	-	-	1	-	-	-	1	-	17

UNCLASSIFIED

Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 02: Modification of Aircraft / BSA 10: Modification of Aircraft	P-1 Line Item Number / Title: 4194AA0270 / Utility/Cargo Airplane Mods
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ID Code (A=Service Ready, B=Not Service Ready):	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	368.138	17.719	21.838	13.868	-	13.868	-	-	-	-	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	368.138	17.719	21.838	13.868	-	13.868	-	-	-	-	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	368.138	17.719	21.838	13.868	-	13.868	-	-	-	-	Continuing	Continuing

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

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

Description:

The budget line supports the updates and modernization of Army Fixed Wing Aircraft communication, navigation, surveillance, survivability equipment, and Department of Defense (DoD) mandated safety equipment to current and evolving international and Army standards. The budget line provides for the procurement of replacement and spare engines for Fixed Wing Aircraft. In addition, it provides for the procurement and associated testing of civil and military aircraft modification equipment. This budget line will also be used to modify Fixed Wing Aircraft to include Engineer, Furnish and Install (EF&I) of modifications as a complete contractual effort. It also leverages Federal Aviation Administration (FAA) supplemental type certificates (STC) that are already in existence and applies STCs to aircraft modifications. These modifications ensure continued worldwide deployment capability and safe operations. This Procurement line funds aircraft modifications for all three (3) Compos; Active, Army National Guard, and Army Reserve.

Average unit cost on the P-3a are variable and dependent upon aircraft selection and requirements.

Secondary Distribution	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Army									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	6.422	18.743	10.397	-	10.397	-	-	-	-
ANG									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	-	3.095	3.471	-	3.471	-	-	-	-
AR									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	11.297	-	-	-	-	-	-	-	-
Total: Secondary Distribution									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	17.719	21.838	13.868	-	13.868	-	-	-	-

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Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity:
2031A: Aircraft Procurement, Army / BA 02: Modification of Aircraft / BSA 10: Modification of Aircraft

P-1 Line Item Number / Title:
4194AA0270 / Utility/Cargo Airplane Mods

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

Line Item MDAP/MAIS Code: N/A

Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-3a	AA0270 / Utility/Cargo Airplane Mods (Rationalization, Standardization, Interoperability, Compatibility, Simplification)				- / 368.138	- / 17.719	- / 21.838	- / 13.868	- / -	- / 13.868
P-40	Total Gross/Weapon System Cost				- / 368.138	- / 17.719	- / 21.838	- / 13.868	- / -	- / 13.868

Exhibits Schedule					FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-3a	AA0270 / Utility/Cargo Airplane Mods (Rationalization, Standardization, Interoperability, Compatibility, Simplification)				- / -	- / -	- / -	- / -	Continuing	Continuing
P-40	Total Gross/Weapon System Cost				- / -	- / -	- / -	- / -	Continuing	Continuing

*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 2021 Base procurement dollars in the amount of \$13.868 million supports aircraft modifications to Communications, Navigation, and Surveillance (CNS), Aircraft Survivability Equipment (ASE), and future modifications in service that meets current and future air traffic management requirements.

In addition, equipment included in the modifications will enhance the safety of passengers and crew. The upgrades will also permit the Army Fixed Wing Aircraft to operate in compliance with other existing and emerging regulations. As requirement for new avionics equipment continue, aircraft delays and airspace exclusions are likely for aircraft not properly equipped. Upgrade of communication and navigation systems will enhance reliability and maintainability, thereby improving aircraft availability for mission requirements. The associated aircraft modifications will assure worldwide deployability for those required to deploy. This Procurement line funds aircraft modifications for all three (3) Compos; Active, Army National Guard, and Army Reserve.

Average unit cost on the P-3a are variable and dependent upon aircraft selection and requirements.

Comments:
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-3a, Individual Modification: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 4194AA0270 / Utility/Cargo Airplane Mods	Modification Number / Title: AA0270 / Utility/Cargo Airplane Mods

ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	368.138	17.719	21.838	13.868	-	13.868	-	-	-	-	Continuing	Continuing
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	368.138	17.719	21.838	13.868	-	13.868	-	-	-	-	Continuing	Continuing
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	368.138	17.719	21.838	13.868	-	13.868	-	-	-	-	Continuing	Continuing

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

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

Description:

The budget line supports the updates and modernization of Army Fixed Wing Aircraft communication, navigation, surveillance, survivability equipment, and Department of Defense (DoD) mandated safety equipment to current and evolving international and Army standards. The budget line provides for the procurement of replacement and spare engines for fixed wing aircraft. In addition, it provides for the procurement and associated testing of civil and military aircraft modification equipment. This budget line will also be used to modify fixed wing aircraft to include Engineer, Furnish and Install (EF&I) of modifications as a complete contractual effort. It also leverages Federal Aviation Administration (FAA) supplemental type certificates (STC) that are already in existence and applies STCs to aircraft modifications. These modifications ensure continued worldwide deployment capability and safe operations. This Procurement line funds aircraft modifications for all three (3) Compos; Active, Army National Guard, and Army Reserve.

Average unit cost on the P-3a are variable and dependent upon aircraft selection and requirements.

Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	6.422	18.743	10.397	-	10.397	-	-	-	-
ANG	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	-	3.095	3.471	-	3.471	-	-	-	-
AR	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	11.297	-	-	-	-	-	-	-	-
Total: Secondary Distribution	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	17.719	21.838	13.868	-	13.868	-	-	-	-

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army										Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10				P-1 Line Item Number / Title: 4194AA0270 / Utility/Cargo Airplane Mods						Modification Number / Title: AA0270 / Utility/Cargo Airplane Mods			
ID Code (A=Service Ready, B=Not Service Ready) :							MDAP/MAIS Code:						
Models of Systems Affected: All series Army fixed wing aircraft				Modification Type: Rationalization, Standardization, Interoperability, Compatibility, Simplification					Related RDT&E PEs:				
Financial Plan	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
Procurement													
<i>Modification Item 1 of 1: Fixed Wing Aircraft Modifications</i>													
A Kits													
Recurring													
Installation Kits	318 / 218.644	11 / 10.631	10 / 12.158	8 / 6.272	- / -	8 / 6.272	- / -	- / -	- / -	- / -	- / -	347 / 247.705	
Data	- / 1.825	- / 0.089	- / 0.119	- / 0.070	- / -	- / 0.070	- / -	- / -	- / -	- / -	Continuing	Continuing	
Program Management	- / 3.464	- / 1.063	- / 1.315	- / 1.179	- / -	- / 1.179	- / -	- / -	- / -	- / -	Continuing	Continuing	
<i>Subtotal: Recurring</i>	<i>318 / 223.933</i>	<i>11 / 11.783</i>	<i>10 / 13.592</i>	<i>8 / 7.521</i>	<i>- / -</i>	<i>8 / 7.521</i>	<i>- / -</i>	<i>- / -</i>	<i>- / -</i>	<i>- / -</i>	<i>Continuing</i>	<i>Continuing</i>	
<i>Subtotal: Fixed Wing Aircraft Modifications</i>	<i>318 / 223.933</i>	<i>11 / 11.783</i>	<i>10 / 13.592</i>	<i>8 / 7.521</i>	<i>- / -</i>	<i>8 / 7.521</i>	<i>- / -</i>	<i>- / -</i>	<i>- / -</i>	<i>- / -</i>	<i>Continuing</i>	<i>Continuing</i>	
<i>Subtotal: Procurement, All Modification Items</i>	<i>318 / 223.933</i>	<i>11 / 11.783</i>	<i>10 / 13.592</i>	<i>8 / 7.521</i>	<i>- / -</i>	<i>8 / 7.521</i>	<i>- / -</i>	<i>- / -</i>	<i>- / -</i>	<i>- / -</i>	<i>Continuing</i>	<i>Continuing</i>	
Installation													
<i>Modification Item 1 of 1: Fixed Wing Aircraft Modifications</i>													
<i>Subtotal: Installation</i>	<i>318 / 144.205</i>	<i>11 / 5.936</i>	<i>10 / 8.246</i>	<i>8 / 6.347</i>	<i>- / -</i>	<i>8 / 6.347</i>	<i>- / -</i>	<i>- / -</i>	<i>- / -</i>	<i>- / -</i>	<i>Continuing</i>	<i>Continuing</i>	
Total													
Total Cost (Procurement + Support + Installation)	368.138	17.719	21.838	13.868	-	13.868	-	-	-	-	Continuing	Continuing	

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Exhibit P-3a, Individual Modification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 4194AA0270 / Utility/Cargo Airplane Mods	Modification Number / Title: AA0270 / Utility/Cargo Airplane Mods
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ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Modification Item 1 of 1: Fixed Wing Aircraft Modifications

Manufacturer Information

Manufacturer Name: Multiple Commercial Vendors	Manufacturer Location: TBD
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Administrative Leadtime (in Months): 2	Production Leadtime (in Months): 6
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Dates	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Contract Dates	Dec 2018	Dec 2019	Dec 2020				
Delivery Dates	Jun 2019	Jun 2020	Jun 2021				

Installation Information

Method of Implementation: Contractor

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	318 / 144.205	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	Continuing	Continuing
FY 2019	- / -	11 / 5.936	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	Continuing	Continuing
FY 2020	- / -	- / -	10 / 8.246	- / -	- / -	- / -	- / -	- / -	- / -	- / -	Continuing	Continuing
FY 2021	- / -	- / -	- / -	8 / 6.347	- / -	8 / 6.347	- / -	- / -	- / -	- / -	Continuing	Continuing
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	318 / 144.205	11 / 5.936	10 / 8.246	8 / 6.347	- / -	8 / 6.347	- / -	- / -	- / -	- / -	Continuing	Continuing

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot								
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4										
In	318	2	3	3	3	2	2	3	3	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	347
Out	306	12	2	3	3	3	2	2	3	3	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	347

UNCLASSIFIED

Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 02: Modification of Aircraft / BSA 10: Modification of Aircraft	P-1 Line Item Number / Title: 6949AA0480 / Utility Helicopter Mods
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ID Code (A=Service Ready, B=Not Service Ready):	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	1,643.404	32.443	16.744	25.842	-	25.842	34.349	34.961	35.143	4.995	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	13.500	-	-	-	-	-	-	-	-	-	-	13.500
Net Procurement (P-1) (<i>\$ in Millions</i>)	1,629.904	32.443	16.744	25.842	-	25.842	34.349	34.961	35.143	4.995	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	13.500	-	-	-	-	-	-	-	-	-	-	13.500
Total Obligation Authority (<i>\$ in Millions</i>)	1,643.404	32.443	16.744	25.842	-	25.842	34.349	34.961	35.143	4.995	Continuing	Continuing

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

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

Description:

Utility Helicopter Mods include modifications to the UH-60 Black Hawk and the UH-72A Lakota helicopters. The UH-60 Black Hawk helicopter is the Army's utility helicopter for the near and midterm force. It is a twin engine, single rotor, four bladed utility helicopter used for air assault, general support, command & control, and aero-medical evacuations (MEDEVAC). The UH-60 is joint force capable, providing 24 hour/day support including operations at night and in adverse weather conditions. The UH-60 is designed to carry a crew of four plus eleven combat equipped troops or an external load up to 9,000 pounds. The UH-60 Black Hawk was fielded in 1978 as a replacement for the UH-1. From 1978 to 1988, UH-60As were produced. In 1989 production of UH-60Ls with improved engines and drive train began. In 2007, full rate production of UH-60Ms began which provided a digital cockpit, digital Flight Management System (FMS), improved engine, and wide-cord main rotor blades. The UH-72A Lakota helicopter provides general aviation support for aviation units in the active and reserve components.

Secondary Distribution	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Army									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	32.443	16.744	25.842	-	25.842	34.349	34.961	35.143	4.995
Total:									
Secondary Distribution									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	32.443	16.744	25.842	-	25.842	34.349	34.961	35.143	4.995

UNCLASSIFIED

Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 02: Modification of Aircraft / BSA 10: Modification of Aircraft	P-1 Line Item Number / Title: 6949AA0480 / Utility Helicopter Mods
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ID Code (A=Service Ready, B=Not Service Ready):	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: N/A

Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-3a	AA0492 / UTILITY HELICOPTER MODS (Operational)				- / 1,643.404	- / 32.443	- / 16.744	- / 25.842	- / -	- / 25.842
P-40	Total Gross/Weapon System Cost				- / 1,643.404	- / 32.443	- / 16.744	- / 25.842	- / -	- / 25.842

Exhibits Schedule					FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-3a	AA0492 / UTILITY HELICOPTER MODS (Operational)				- / 34.349	- / 34.961	- / 35.143	- / 4.995	Continuing	Continuing
P-40	Total Gross/Weapon System Cost				- / 34.349	- / 34.961	- / 35.143	- / 4.995	Continuing	Continuing

*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:

FY21 Base Procurement dollars in the amount of \$5.076 million will install Electronic Standby Instrument Systems (ESIS). ESIS functions include: Attitude Indication, Slip/Skid Indication, Airspeed, Heading, and Vertical Speed. The system consists of the GH-4001 Backup Attitude Indicator (BAI), MAG-3000 Magnetometer, and Emergency Power Supply. To offset the effects of a dual Attitude Heading Reference Unit (AHRU) failure, installation of a BAI is required to provide attitude information to the pilots in the event a single/dual Fiber Optic Gyro (FOG) failure occurs. The GH-4001 serves as the best long-term solution to the fleet. In order to comply with Army SOF H-60-13-SOF-1, the UH-60A/L is required to have Electronic Standby Instrument System (ESIS) along with dual Attitude Heading Reference System (AHRS).

FY21 Base Procurement dollars in the amount of \$15.103 million will procure and install Upturned Exhaust Systems II (UES II). The Upturned Exhaust System II (UES II) provides a Safety, Reliability, Maintainability, and reduced Weight improvement over the current UES design. It also provides the following benefits: Substantial reductions in IR signature to counter emerging threats; Common hardware across all H-60 platforms; and 100% organic reparability. This is a New Start effort.

FY21 Base Procurement dollars in the amount of \$5.663 million will procure 60 kVA Generators. The UH-60L/M/V 60kVA generator provides additional power for future systems such as Common Infrared Countermeasure (CIRCM), Degraded Visual Environment (DVE), and the Future Waveform Radio. This is a New Start effort.

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

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Exhibit P-3a, Individual Modification: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 6949AA0480 / Utility Helicopter Mods	Modification Number / Title: AA0492 / UTILITY HELICOPTER MODS

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

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	1,643.404	32.443	16.744	25.842	-	25.842	34.349	34.961	35.143	4.995	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	13.500	-	-	-	-	-	-	-	-	-	-	13.500
Net Procurement (P-1) (<i>\$ in Millions</i>)	1,629.904	32.443	16.744	25.842	-	25.842	34.349	34.961	35.143	4.995	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	13.500	-	-	-	-	-	-	-	-	-	-	13.500
Total Obligation Authority (<i>\$ in Millions</i>)	1,643.404	32.443	16.744	25.842	-	25.842	34.349	34.961	35.143	4.995	Continuing	Continuing

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

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

Description:

FY21 Base Procurement dollars in the amount of \$5.076 million will install Electronic Standby Instrument Systems (ESIS). ESIS functions include: Attitude Indication, Slip/Skid Indication, Airspeed, Heading, and Vertical Speed. The system consists of the GH-4001 Backup Attitude Indicator (BAI), MAG-3000 Magnetometer, and Emergency Power Supply. To offset the effects of a dual Attitude Heading Reference Unit (AHRU) failure, installation of a BAI is required to provide attitude information to the pilots in the event a single/dual Fiber Optic Gyro (FOG) failure occurs. The GH-4001 serves as the best long-term solution to the fleet. In order to comply with Army SOF H-60-13-SOF-1, the UH-60A/L is required to have Electronic Standby Instrument System (ESIS) along with dual Attitude Heading Reference System (AHRS).

FY21 Base Procurement dollars in the amount of \$15.103 million will procure and install Upturned Exhaust Systems II (UES II). The Upturned Exhaust System II (UES II) provides a Safety, Reliability, Maintainability, and reduced Weight improvement over the current UES design. It also provides the following benefits: Substantial reductions in IR signature to counter emerging threats; Common hardware across all H-60 platforms; and 100% organic reparability.

FY21 Base Procurement dollars in the amount of \$5.663 million will procure 60 kVA Generators. The UH-60L/M/V 60kVA generator provides additional power for future systems such as Common Infrared Countermeasure (CIRCM), Degraded Visual Environment (DVE), and the Future Waveform Radio.

Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	32.443	16.744	25.842	-	25.842	34.349	34.961	35.143	4.995
Total:	Quantity	-	-	-	-	-	-	-	-	-
Secondary Distribution	Total Obligation Authority	32.443	16.744	25.842	-	25.842	34.349	34.961	35.143	4.995

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Exhibit P-3a, Individual Modification: PB 2021 Army										Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10					P-1 Line Item Number / Title: 6949AA0480 / Utility Helicopter Mods					Modification Number / Title: AA0492 / UTILITY HELICOPTER MODS			
ID Code (A=Service Ready, B=Not Service Ready) :							MDAP/MAIS Code:						
Models of Systems Affected: UH-60L				Modification Type: Operational				Related RDT&E PEs:					
Financial Plan	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
Procurement													
Modification Item 1 of 12: UH-60A to UH-60L Conversion													
A Kits													
Recurring													
other	276 / 375.248	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	276 / 375.248	
Subtotal: Recurring	276 / 375.248	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	276 / 375.248	
Non-Recurring													
other	- / 970.656	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 970.656	
Subtotal: Non-Recurring	- / 970.656	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 970.656	
Subtotal: UH-60A to UH-60L Conversion	276 / 1,345.904	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	276 / 1,345.904	
Modification Item 2 of 12: External High Speed Hoist													
A Kits													
Recurring													
Other	285 / 82.321	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	285 / 82.321	
Subtotal: Recurring	285 / 82.321	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	285 / 82.321	
Subtotal: External High Speed Hoist	285 / 82.321	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	285 / 82.321	
Modification Item 3 of 12: Upturned Exhaust System (UES)													
A Kits													
Non-Recurring													
Non Recurring	- / 1.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 1.000	
Subtotal: Non-Recurring	- / 1.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 1.000	
Subtotal: Upturned Exhaust System (UES)	- / 1.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 1.000	
Modification Item 4 of 12: Backup Altitude Indicators													
A Kits													
Recurring													
Kit Quantity	265 / 14.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	265 / 14.000	
Subtotal: Recurring	265 / 14.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	265 / 14.000	
Subtotal: Backup Altitude Indicators	265 / 14.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	265 / 14.000	
Modification Item 5 of 12: Crashworthy External Fuel System (CEFS)													

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Exhibit P-3a, Individual Modification: PB 2021 Army										Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10					P-1 Line Item Number / Title: 6949AA0480 / Utility Helicopter Mods					Modification Number / Title: AA0492 / UTILITY HELICOPTER MODS			
ID Code (A=Service Ready, B=Not Service Ready) :							MDAP/MAIS Code:						
Models of Systems Affected: UH-60L				Modification Type: Operational				Related RDT&E PEs:					
Financial Plan	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
A Kits													
Recurring													
A-Kits (A/L)	822 / 45.857	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	822 / 45.857	
A-Kits (GFE to Production)	32 / 2.599	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	32 / 2.599	
A-Kits (GFE to SAR Act)	10 / 0.600	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	10 / 0.600	
B-kits	431 / 56.200	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	431 / 56.200	
Support Equipment/Other	- / 34.563	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 34.563	
Subtotal: Recurring	1,295 / 139.819	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1,295 / 139.819	
Subtotal: Crashworthy External Fuel System (CEFS)	1,295 / 139.819	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1,295 / 139.819	
Modification Item 6 of 12: Engine Inlet Barrier Filter (EIBF)													
A Kits													
Recurring													
EIBF A-Kit	30 / 0.840	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	30 / 0.840	
Subtotal: Recurring	30 / 0.840	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	30 / 0.840	
B Kits													
Recurring													
EIBF B-Kit	50 / 5.500	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	50 / 5.500	
Subtotal: Recurring	50 / 5.500	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	50 / 5.500	
Subtotal: Engine Inlet Barrier Filter (EIBF)	80 / 6.340	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	80 / 6.340	
Modification Item 7 of 12: Enhanced Ballistic Armor Protection System (EBAPS)													
A Kits													
Recurring													
EBAPs Kit	148 / 10.640	79 / 10.000	77 / 10.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	304 / 30.640	
Other	- / 15.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 15.000	
Subtotal: Recurring	148 / 15.640	79 / 10.000	77 / 10.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	304 / 35.640	
Subtotal: Enhanced Ballistic Armor Protection System (EBAPS)	148 / 15.640	79 / 10.000	77 / 10.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	304 / 35.640	
Modification Item 8 of 12: UH-72 Sustainability Improvements													
A Kits													
Non-Recurring													

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Exhibit P-3a, Individual Modification: PB 2021 Army										Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10				P-1 Line Item Number / Title: 6949AA0480 / Utility Helicopter Mods						Modification Number / Title: AA0492 / UTILITY HELICOPTER MODS		
ID Code (A=Service Ready, B=Not Service Ready) :							MDAP/MAIS Code:					
Models of Systems Affected: UH-60L				Modification Type: Operational				Related RDT&E PEs:				
Financial Plan	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
UH-72 Sustainability Improvements	- / -	- / 10.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 10.000
<i>Subtotal: Non-Recurring</i>	- / -	- / 10.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 10.000
<i>Subtotal: UH-72 Sustainability Improvements</i>	- / -	- / 10.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 10.000
Modification Item 9 of 12: UH-60M Weight Reduction - Tail Rotor System Design												
A Kits												
Non-Recurring												
UH-60M Weight Reduction Tail Rotor Desig	- / -	- / 6.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 6.000
<i>Subtotal: Non-Recurring</i>	- / -	- / 6.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 6.000
<i>Subtotal: UH-60M Weight Reduction - Tail Rotor System Design</i>	- / -	- / 6.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 6.000
Modification Item 10 of 12: Electronic Standby Instrument System (ESIS)												
A Kits												
Recurring												
A Kit Recurring	33 / 4.877	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	33 / 4.877
<i>Subtotal: Recurring</i>	33 / 4.877	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	33 / 4.877
B Kits												
Recurring												
B Kit Recurring	26 / 4.804	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	26 / 4.804
<i>Subtotal: Recurring</i>	26 / 4.804	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	26 / 4.804
<i>Subtotal: Electronic Standby Instrument System (ESIS)</i>	59 / 9.681	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	59 / 9.681
Modification Item 11 of 12: Generators 60 kVA												
B Kits												
Recurring												
Generator B-Kits	90 / 12.615	- / -	- / -	46 / 5.663	- / -	46 / 5.663	19 / 2.386	232 / 29.680	21 / 2.743	- / -	- / -	408 / 53.087
<i>Subtotal: Recurring</i>	90 / 12.615	- / -	- / -	46 / 5.663	- / -	46 / 5.663	19 / 2.386	232 / 29.680	21 / 2.743	- / -	- / -	408 / 53.087
<i>Subtotal: Generators 60 kVA</i>	90 / 12.615	- / -	- / -	46 / 5.663	- / -	46 / 5.663	19 / 2.386	232 / 29.680	21 / 2.743	- / -	- / -	408 / 53.087
Modification Item 12 of 12: Upturned Exhaust System II (UES II)												
B Kits												
Recurring												

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army										Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10					P-1 Line Item Number / Title: 6949AA0480 / Utility Helicopter Mods					Modification Number / Title: AA0492 / UTILITY HELICOPTER MODS			
ID Code (A=Service Ready, B=Not Service Ready) :							MDAP/MAIS Code:						
Models of Systems Affected: UH-60L				Modification Type: Operational				Related RDT&E PEs:					
Financial Plan	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
B Kit Recurring	- / -	- / -	- / -	72 / 14.227	- / -	72 / 14.227	150 / 30.102	- / -	146 / 30.516	22 / 4.705	Continuing	Continuing	
<i>Subtotal: Recurring</i>	- / -	- / -	- / -	72 / 14.227	- / -	72 / 14.227	150 / 30.102	- / -	146 / 30.516	22 / 4.705	Continuing	Continuing	
<i>Subtotal: Upturned Exhaust System II (UES II)</i>	- / -	- / -	- / -	72 / 14.227	- / -	72 / 14.227	150 / 30.102	- / -	146 / 30.516	22 / 4.705	Continuing	Continuing	
<i>Subtotal: Procurement, All Modification Items</i>	2,498 / 1,627.320	79 / 26.000	77 / 10.000	118 / 19.890	- / -	118 / 19.890	169 / 32.488	232 / 29.680	167 / 33.259	22 / 4.705	Continuing	Continuing	
Installation													
Modification Item 5 of 12: Crashworthy External Fuel System (CEFS)	431 / 6.279	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	431 / 6.279	
Modification Item 6 of 12: Engine Inlet Barrier Filter (EIBF)	30 / 3.513	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	30 / 3.513	
Modification Item 10 of 12: Electronic Standby Instrument System (ESIS)	80 / 6.292	82 / 6.443	84 / 6.744	62 / 5.076	- / -	62 / 5.076	- / -	62 / 5.281	- / -	- / -	Continuing	Continuing	
Modification Item 12 of 12: Upturned Exhaust System II (UES II)	- / -	- / -	- / -	72 / 0.876	- / -	72 / 0.876	150 / 1.861	- / -	146 / 1.884	22 / 0.290	Continuing	Continuing	
<i>Subtotal: Installation</i>	541 / 16.084	82 / 6.443	84 / 6.744	134 / 5.952	- / -	134 / 5.952	150 / 1.861	62 / 5.281	146 / 1.884	22 / 0.290	Continuing	Continuing	
Total													
Total Cost (Procurement + Support + Installation)	1,643.404	32.443	16.744	25.842	-	25.842	34.349	34.961	35.143	4.995	Continuing	Continuing	

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Exhibit P-3a, Individual Modification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 6949AA0480 / Utility Helicopter Mods	Modification Number / Title: AA0492 / UTILITY HELICOPTER MODS
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ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Modification Item 1 of 12: UH-60A to UH-60L Conversion

Manufacturer Information

Manufacturer Name: Corpus Christi Army Depot	Manufacturer Location: Corpus Christi Army Depot
Administrative Leadtime (in Months):	Production Leadtime (in Months):

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

Installation Information

Method of Implementation: Depot

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	276	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	276
Out	276	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	276

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Exhibit P-3a, Individual Modification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 6949AA0480 / Utility Helicopter Mods	Modification Number / Title: AA0492 / UTILITY HELICOPTER MODS
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ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Modification Item 2 of 12: External High Speed Hoist

Manufacturer Information

Manufacturer Name: Breeze Eastern, Inc	Manufacturer Location: Whippany, NJ
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Administrative Leadtime (in Months):	Production Leadtime (in Months):
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Dates	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Contract Dates							
Delivery Dates							

Installation Information

Method of Implementation: Organic

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot	
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
In	285	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	285
Out	285	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	285

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Exhibit P-3a, Individual Modification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 6949AA0480 / Utility Helicopter Mods	Modification Number / Title: AA0492 / UTILITY HELICOPTER MODS
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ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Modification Item 3 of 12: Upturned Exhaust System (UES)

Manufacturer Information

Manufacturer Name: Undetermined	Manufacturer Location: Undetermined
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Administrative Leadtime (in Months):	Production Leadtime (in Months):
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Dates	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Contract Dates							
Delivery Dates							

Installation Information

Method of Implementation: Organic

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot	
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
In	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Out	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1

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Exhibit P-3a, Individual Modification: PB 2021 Army	Date: February 2020
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Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 6949AA0480 / Utility Helicopter Mods	Modification Number / Title: AA0492 / UTILITY HELICOPTER MODS
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ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Modification Item 4 of 12: Backup Altitude Indicators

Manufacturer Information

Manufacturer Name: PIF	Manufacturer Location: Redstone Arsenal Alabama
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Administrative Leadtime (in Months):	Production Leadtime (in Months):
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Dates	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Contract Dates							
Delivery Dates							

Installation Information

Method of Implementation: Organic

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -

Installation Schedule

PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
In	265	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Out	265	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Exhibit P-3a, Individual Modification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 6949AA0480 / Utility Helicopter Mods	Modification Number / Title: AA0492 / UTILITY HELICOPTER MODS
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ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Modification Item 5 of 12: Crashworthy External Fuel System (CEFS)

Manufacturer Information

Manufacturer Name: Robertson Fuel Systems, LLC	Manufacturer Location: Tempe, AZ
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Administrative Leadtime (in Months):	Production Leadtime (in Months):
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Dates	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Contract Dates							
Delivery Dates							

Installation Information

Method of Implementation: Organic

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	431 / 6.279	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	431 / 6.279
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	431 / 6.279	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	431 / 6.279

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	431	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	431
Out	431	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	431

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 6949AA0480 / Utility Helicopter Mods	Modification Number / Title: AA0492 / UTILITY HELICOPTER MODS

ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Modification Item 6 of 12: Engine Inlet Barrier Filter (EIBF)

Manufacturer Information

Manufacturer Name: Donaldson Aerospace & Defense	Manufacturer Location: St Louis MO
Administrative Leadtime (in Months): 1	Production Leadtime (in Months): 12

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

Installation Information

Method of Implementation: Various

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2019	30 / 3.513	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	30 / 3.513
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	30 / 3.513	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	30 / 3.513

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot	
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
In	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Out	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 6949AA0480 / Utility Helicopter Mods	Modification Number / Title: AA0492 / UTILITY HELICOPTER MODS
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ID Code (A=Service Ready, B=Not Service Ready) : **MDAP/MAIS Code:**

Modification Item 7 of 12: Enhanced Ballistic Armor Protection System (EBAPS)

Manufacturer Information

Manufacturer Name: LSF FY18 TPG FY19-20 Manufacturer Location: Miami Lakes, Florida

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

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

Installation Information

Method of Implementation: Organic

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -

Installation Schedule

PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
In	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Out	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 6949AA0480 / Utility Helicopter Mods	Modification Number / Title: AA0492 / UTILITY HELICOPTER MODS
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ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Modification Item 8 of 12: UH-72 Sustainability Improvements

Manufacturer Information

Manufacturer Name: Undetermined	Manufacturer Location: Undetermined
Administrative Leadtime (in Months):	Production Leadtime (in Months):

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

Installation Information

Method of Implementation: Various

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -

Installation Schedule

PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Out	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10 **P-1 Line Item Number / Title:** 6949AA0480 / Utility Helicopter Mods **Modification Number / Title:** AA0492 / UTILITY HELICOPTER MODS

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

Modification Item 9 of 12: UH-60M Weight Reduction - Tail Rotor System Design

Manufacturer Information

Manufacturer Name: Undetermined Manufacturer Location: Undetermined
 Administrative Leadtime (in Months): Production Leadtime (in Months):

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

Installation Information

Method of Implementation: Various

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -

Installation Schedule

PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
In	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Out	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 6949AA0480 / Utility Helicopter Mods	Modification Number / Title: AA0492 / UTILITY HELICOPTER MODS
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ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Modification Item 10 of 12: Electronic Standby Instrument System (ESIS)

Manufacturer Information

Manufacturer Name: L-3	Manufacturer Location: Grand Rapids MI
Administrative Leadtime (in Months): 6	Production Leadtime (in Months): 12

Dates	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Contract Dates			Mar 2021		Mar 2023		
Delivery Dates			Mar 2022		Mar 2024		

Installation Information

Method of Implementation: Various

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2019	80 / 6.292	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	Continuing	Continuing
FY 2020	- / -	82 / 6.443	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	Continuing	Continuing
FY 2021	- / -	- / -	84 / 6.744	- / -	- / -	- / -	- / -	- / -	- / -	- / -	Continuing	Continuing
FY 2022	- / -	- / -	- / -	62 / 5.076	- / -	62 / 5.076	- / -	- / -	- / -	- / -	Continuing	Continuing
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	62 / 5.281	- / -	- / -	Continuing	Continuing
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	80 / 6.292	82 / 6.443	84 / 6.744	62 / 5.076	- / -	62 / 5.076	- / -	62 / 5.281	- / -	- / -	Continuing	Continuing

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
Out	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 6949AA0480 / Utility Helicopter Mods	Modification Number / Title: AA0492 / UTILITY HELICOPTER MODS
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ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Modification Item 11 of 12: Generators 60 kVA

Manufacturer Information

Manufacturer Name: Undetermined	Manufacturer Location: Undetermined
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Administrative Leadtime (in Months):	Production Leadtime (in Months):
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Dates	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Contract Dates							
Delivery Dates							

Installation Information

Method of Implementation: Various

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -

Installation Schedule

PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
Out	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 6949AA0480 / Utility Helicopter Mods	Modification Number / Title: AA0492 / UTILITY HELICOPTER MODS

ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Modification Item 12 of 12: Upturned Exhaust System II (UES II)

Manufacturer Information

Manufacturer Name: Sikorsky	Manufacturer Location: Stratford CT
Administrative Leadtime (in Months): 6	Production Leadtime (in Months): 12

Dates	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Contract Dates			Mar 2021	Mar 2022		Mar 2024	
Delivery Dates			Mar 2022	Mar 2023		Mar 2025	

Installation Information

Method of Implementation: Various

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	72 / 0.876	- / -	72 / 0.876	- / -	- / -	- / -	- / -	Continuing	Continuing
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	150 / 1.861	- / -	- / -	- / -	Continuing	Continuing
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	146 / 1.884	- / -	Continuing	Continuing
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	22 / 0.290	Continuing	Continuing
Total	- / -	- / -	- / -	72 / 0.876	- / -	72 / 0.876	150 / 1.861	- / -	146 / 1.884	22 / 0.290	Continuing	Continuing

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
Out	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1

UNCLASSIFIED

Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 02: Modification of Aircraft / BSA 10: Modification of Aircraft	P-1 Line Item Number / Title: 8658AA0712 / Network And Mission Plan
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ID Code (A=Service Ready, B=Not Service Ready):	Program Elements for Code B Items: N/A	Other Related Program Elements: 0604201A
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Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	733.536	118.614	98.236	77.432	-	77.432	42.391	50.477	43.275	41.057	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	733.536	118.614	98.236	77.432	-	77.432	42.391	50.477	43.275	41.057	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	733.536	118.614	98.236	77.432	-	77.432	42.391	50.477	43.275	41.057	Continuing	Continuing

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

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

Description:

The Network and Mission Plan budget line includes the Aviation Mission Planning System (AMPS), the Improved Data Modem (IDM), and the Aircraft Notebook (ACN).

The AMPS system supports pre-mission planning and rehearsal, including route planning, communications planning, and aircraft configuration. It receives data from multiple sources and provides that data digitally to the aircraft to support aviation missions. That data is loaded onto the aircraft platforms utilizing a Data Transfer Device initializing the communication, navigation, and weapons systems on the aircraft. The AMPS hardware is planned to be replaced after five years of use to accommodate rapid commercial technology changes. The AMPS program includes management of the Commander's Aviation Risk Tool and the Centralized Aviation Flight Records System (CAFRS). The AMPS program also manages and supports FliteScene Software licenses, maintenance agreements, and related engineering services. FliteScene is a digital map technology application that provides enhanced navigation capabilities to the military flight crew and enhances mission effectiveness.

The Improved Data Modem (IDM) is the common solution for digitizing Army Aviation and is fielded on every modernized, rotary-wing Army aircraft, including the CH-47 Chinook, AH-64 Apache and UH-60 Black Hawk. The IDM provides the Army rotary wing fleet with critical communication capabilities, enables connectivity to multiple radios used by rotary-wing aircraft and the Blue Force Tracker transceiver, and provides the means for rapid data transfer. The Aviation Mission Common Server (AMCS) effort is a capability upgrade and replacement for the current Army IDM-401. The AMCS program will implement IDM and Common Operating Environment capabilities utilizing a flexible open systems architecture and distributed processing resources to perform an array of non-flight critical computing, data processing, radio and communications management, and graphics generation functions for the enduring and future Army Aviation fleet and de-couple non-flight critical mission system technology integration from flight critical components. The AMCS program will satisfy Army Future Airborne Capability Environment (FACE) requirements for hardware, software, and firmware and be able to satisfy cybersecurity requirements. The AMCS program will replace the current IDM-401 with a common server capability to support current IDM-401 functionality, provide enhanced data and graphics processing, and provide a FACE architecture through which Aviation platforms will be able to rapidly integrate technology upgrades required to keep pace with evolving threats. The AMCS program will enable the rapid insertion and update of capabilities into Army Aviation operations without requiring lengthy, costly and out of sync software updates to flight mission computers; resulting in affordable, synchronized integration and fielding of Aviation capabilities required for the Multi-Domain Battlefield. The AMCS program will be the center of the future Common Digital Backbone for the enduring and future Army Aviation fleets, and is the key enabler for Army Aviation Multi-Domain Operations.

The ACN is an Army Aviation program required for the completion of aviation maintenance activities and the documentation required to maintain airworthiness for all Army aircraft. Aircraft maintainers use ACN to record maintenance actions, order parts, and report readiness. It implements Army Aviation policy and procedures and integrates with other reporting systems to reduce manual entries and increase data accuracy. The ACN is being fielded to all Army Aviation units, Rotary-wing, Fixed-wing and Unmanned Aircraft System equipped units and will completely replace the Unit Level Logistics System - Aviation (Enhanced) and Unmanned Aircraft Systems - Initiative systems.

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Exhibit P-40, Budget Line Item Justification: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 02: Modification of Aircraft / BSA 10: Modification of Aircraft		P-1 Line Item Number / Title: 8658AA0712 / Network And Mission Plan
ID Code (A=Service Ready, B=Not Service Ready):	Program Elements for Code B Items: N/A	Other Related Program Elements: 0604201A
Line Item MDAP/MAIS Code: N/A		

This exhibit is for a budget line that procures multiple items and does not have a single Army Acquisition Objective.

Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	74.015	92.788	75.368	-	75.368	41.791	49.877	42.915	41.057
ANG	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	33.748	4.944	1.872	-	1.872	0.552	0.552	0.240	-
AR	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	10.851	0.504	0.192	-	0.192	0.048	0.048	0.120	-
Total: Secondary Distribution	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	118.614	98.236	77.432	-	77.432	42.391	50.477	43.275	41.057

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Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 02: Modification of Aircraft / BSA 10: Modification of Aircraft	P-1 Line Item Number / Title: 8658AA0712 / Network And Mission Plan
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ID Code (A=Service Ready, B=Not Service Ready):	Program Elements for Code B Items: N/A	Other Related Program Elements: 0604201A
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Line Item MDAP/MAIS Code: N/A

Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-3a	AA0712 / Network And Mission Plan (Rationalization, Standardization, Interoperability, Compatibility, Simplification)				- / 733.536	- / 118.614	- / 98.236	- / 77.432	- / -	- / 77.432
P-40	Total Gross/Weapon System Cost				- / 733.536	- / 118.614	- / 98.236	- / 77.432	- / -	- / 77.432

Exhibits Schedule					FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-3a	AA0712 / Network And Mission Plan (Rationalization, Standardization, Interoperability, Compatibility, Simplification)				- / 42.391	- / 50.477	- / 43.275	- / 41.057	Continuing	Continuing
P-40	Total Gross/Weapon System Cost				- / 42.391	- / 50.477	- / 43.275	- / 41.057	Continuing	Continuing

*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 2021 Base procurement dollars in the amount of \$16.124 million supports AMPS software revisions necessary for aviation fleet modernization programs in support of Army Aviation's 27 aircraft variants. This will maintain interoperability and commonality with Army Mission Command initiatives.

FY 2021 Base procurement dollars of \$24.496 million supports the procurement of IDM-401 B-Kits to upgrade the fleet from the IDM-304 and IDM-304B variants, provide necessary Government Furnished Equipment to rotary-wing fleet platform production lines, and to provide a technology refresh to the IDM hardware. The funding will also address modifications to the IDM application software and the host computing environment to support an open systems approach to the integration of application software, which will drive down future software costs. The funding will maintain compliance with cybersecurity requirements and enhance the functionality of the IDM to support Army Networking initiatives for integrating new radios and mission command modernization through the procurement of software applications to be hosted on the computing environment. These IDM-401 units support Army Aircraft production lines and modification work order installations.

FY 2021 Base procurement dollars in the amount of \$36.812 supports the integration and test of the AMCS as the modernized replacement of the IDM-401, bringing a FACE hardware and software architecture to the Army rotary-wing fleet which will enable the rapid integration of aviation enabling capabilities at a lower cost than traditional integration methods. The funding also ensures enabling software applications such as Aviation Survivability Equipment B-Kit Emulator (ABE), Aviation Radio Control Module (ARCM), and other critical software applications are hosted and fully integrated on the new hardware configuration. This is a New Start effort.

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

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Exhibit P-3a, Individual Modification: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 8658AA0712 / Network And Mission Plan	Modification Number / Title: AA0712 / Network And Mission Plan

ID Code (A=Service Ready, B=Not Service Ready) :		MDAP/MAIS Code:										
Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	733.536	118.614	98.236	77.432	-	77.432	42.391	50.477	43.275	41.057	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	733.536	118.614	98.236	77.432	-	77.432	42.391	50.477	43.275	41.057	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	733.536	118.614	98.236	77.432	-	77.432	42.391	50.477	43.275	41.057	Continuing	Continuing
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Thousands</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

The Network and Mission Plan budget line includes the Aviation Mission Planning System (AMPS), the Improved Data Modem (IDM), the Aviation Data Exploitation Capability (ADEC), and the Aircraft Notebook (ACN).

The AMPS system supports pre-mission planning and rehearsal, including route planning, communications planning, and aircraft configuration. It receives data from multiple sources and provides that data digitally to the aircraft to support aviation missions. That data is loaded onto the aircraft platforms utilizing a Data Transfer Device initializing the communication, navigation, and weapons systems on the aircraft. The AMPS hardware is planned to be replaced after five years of use to accommodate rapid commercial technology changes. The AMPS program includes management of the Commander's Aviation Risk Tool and the Centralized Aviation Flight Records System (CAFRS). The AMPS program also manages and supports FliteScene Software licenses, maintenance agreements, and related engineering services. FliteScene is a digital map technology application that provides enhanced navigation capabilities to the military flight crew and enhances mission effectiveness.

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The ACN is an Army Aviation program required for the completion of aviation maintenance activities and the documentation required to maintain airworthiness for all Army aircraft. Aircraft maintainers use ACN to record maintenance actions, order parts, and report readiness. It implements Army Aviation policy and procedures and integrates with other reporting systems to reduce manual entries and increase data accuracy. The ACN is being fielded to all Army Aviation units, Rotary-wing, Fixed-wing and Unmanned Aircraft System equipped units and will completely replace the Unit Level Logistics System - Aviation (Enhanced) and Unmanned Aircraft Systems - Initiative systems.

This exhibit is for a budget line that procures multiple items and does not have a single Army Acquisition Objective.

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 8658AA0712 / Network And Mission Plan	Modification Number / Title: AA0712 / Network And Mission Plan
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ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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FY 2021 Base procurement dollars in the amount of \$16.124 million supports AMPS software revisions necessary for aviation fleet modernization programs in support of Army Aviation's 27 aircraft variants. This will maintain interoperability and commonality with Army Mission Command initiatives.

FY 2021 Base procurement dollars of \$24.496 million supports the procurement of IDM-401 units to upgrade the fleet from the IDM-304 and IDM-304B variants, provide necessary Government Furnished Equipment to rotary-wing fleet platform production lines, and to provide a technology refresh to the IDM hardware. The funding will also address modifications to the IDM application software and the host computing environment to support an open systems approach to the integration of application software, which will drive down future software costs. The funding will maintain compliance with cybersecurity requirements and enhances the functionality of the IDM to support Army Networking initiatives for integrating new radios and mission command modernization through the procurement of software applications to be hosted on the computing environment. These IDM-401 units support Army Aircraft production lines and modification work order installations.

FY 2021 Base procurement dollars in the amount of \$36.812 supports the integration and test of the AMCS as the modernized replacement of the IDM-401, bringing a FACE hardware and software architecture to the Army rotary wing fleet which will enable the rapid integration of aviation enabling capabilities at lower cost than traditional integration methods. The funding also ensures enabling software applications such as Aviation Survivability Equipment B-Kit Emulator (ABE), Aviation Radio Control Module (ARCM), and other critical software applications are hosted and fully integrated on the new hardware configuration. This is a New Start effort.

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

Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	74.015	92.788	75.368	-	75.368	41.791	49.877	42.915	41.057
ANG	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	33.748	4.944	1.872	-	1.872	0.552	0.552	0.240	-
AR	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	10.851	0.504	0.192	-	0.192	0.048	0.048	0.120	-
Total: Secondary Distribution	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	118.614	98.236	77.432	-	77.432	42.391	50.477	43.275	41.057

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Exhibit P-3a, Individual Modification: PB 2021 Army										Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10					P-1 Line Item Number / Title: 8658AA0712 / Network And Mission Plan					Modification Number / Title: AA0712 / Network And Mission Plan			
ID Code (A=Service Ready, B=Not Service Ready) :							MDAP/MAIS Code:						
Models of Systems Affected: AH-64D/E, CH-47D/F, UH-60A/L/M/Q/V, HH-60L/M, EMARSS, UH-72, UAS					Modification Type: Rationalization, Standardization, Interoperability, Compatibility, Simplification				Related RDT&E PEs:				
Financial Plan	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
Procurement													
Modification Item 1 of 5: Aviation Mission Planning System (AMPS)													
B Kits													
Recurring													
Kit Quantity- (Computer)	7,218 / 28.852	562 / 4.395	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	7,780 / 33.247	
ECPs	- / 133.315	- / 28.442	- / 4.332	- / 6.869	- / -	- / 6.869	- / 6.087	- / 10.591	- / 5.434	- / 4.092	Continuing	Continuing	
Systems Engineering	- / 12.737	- / 3.683	- / 3.757	- / 2.191	- / -	- / 2.191	- / 2.245	- / 2.302	- / 2.359	- / 2.418	Continuing	Continuing	
System Test and Eval	- / 10.904	- / 0.676	- / 1.021	- / 1.189	- / -	- / 1.189	- / 1.368	- / 1.238	- / 1.421	- / 1.289	Continuing	Continuing	
Fielding/Training	- / 15.976	- / 6.192	- / 5.203	- / 4.775	- / -	- / 4.775	- / 4.871	- / 4.968	- / 5.067	- / 5.169	Continuing	Continuing	
Other- PM Admin	- / 14.575	- / 2.845	- / 1.590	- / 1.100	- / -	- / 1.100	- / 1.072	- / 1.662	- / 0.897	- / 1.433	Continuing	Continuing	
Subtotal: Recurring	7,218 / 252.359	562 / 46.233	- / 15.903	- / 16.124	- / -	- / 16.124	- / 15.643	- / 20.761	- / 15.178	- / 14.401	Continuing	Continuing	
Subtotal: Aviation Mission Planning System (AMPS)	7,218 / 252.359	562 / 46.233	- / 15.903	- / 16.124	- / -	- / 16.124	- / 15.643	- / 20.761	- / 15.178	- / 14.401	Continuing	Continuing	
Modification Item 2 of 5: Improved Data Modem (IDM)													
B Kits													
Recurring													
Kit Quantity- IDM OSA	4,495 / 70.923	378 / 26.901	541 / 35.165	257 / 16.538	- / -	257 / 16.538	80 / 8.457	110 / 7.385	- / -	- / -	- / -	5,861 / 165.369	
Aircraft Integration	- / 151.588	- / 5.117	- / 11.435	- / 1.810	- / -	- / 1.810	- / -	- / -	- / -	- / -	- / -	- / 169.950	
ECP (SW)	- / 84.444	- / 10.433	- / 10.516	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 105.393	
Systems Engineering	- / 12.981	- / 4.587	- / 3.379	- / 2.791	- / -	- / 2.791	- / 2.189	- / 1.284	- / -	- / -	- / -	- / 27.211	
System Test & Eval	- / 53.624	- / 9.167	- / 10.655	- / 1.040	- / -	- / 1.040	- / 1.061	- / 0.950	- / -	- / -	- / -	- / 76.497	
Other- PM Admin	- / 122.773	- / 2.096	- / 3.658	- / 2.317	- / -	- / 2.317	- / 1.644	- / 1.600	- / -	- / -	- / -	- / 34.088	
Subtotal: Recurring	4,495 / 396.333	378 / 58.301	541 / 74.808	257 / 24.496	- / -	257 / 24.496	80 / 13.351	110 / 11.219	- / -	- / -	- / -	5,861 / 578.508	
Non-Recurring													
Fielding and Training	- / 1.144	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 1.144	
Kit Quantity - IDM	- / 9.776	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 9.776	
Subtotal: Non-Recurring	- / 10.920	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 10.920	
Subtotal: Improved Data Modem (IDM)	4,495 / 407.253	378 / 58.301	541 / 74.808	257 / 24.496	- / -	257 / 24.496	80 / 13.351	110 / 11.219	- / -	- / -	- / -	5,861 / 589.428	
Modification Item 3 of 5: Aviation Data Exploitation Capability (ADEC)													
B Kits													
Recurring													

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Exhibit P-3a, Individual Modification: PB 2021 Army										Date: February 2020				
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10					P-1 Line Item Number / Title: 8658AA0712 / Network And Mission Plan					Modification Number / Title: AA0712 / Network And Mission Plan				
ID Code (A=Service Ready, B=Not Service Ready) :							MDAP/MAIS Code:							
Models of Systems Affected: AH-64D/E, CH-47D/F, UH-60A/L/M/Q/V, HH-60L/M, EMARSS, UH-72, UAS					Modification Type: Rationalization, Standardization, Interoperability, Compatibility, Simplification					Related RDT&E PEs:				
Financial Plan	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total		
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)		
Kit Quantity- Workstation	452 / 1.035	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	452 / 1.035		
Kit Quantity- Server	50 / 0.763	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	50 / 0.763		
ECP (SW)	- / 1.186	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 1.186		
Data	- / 0.843	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.843		
Systems Engineering	- / 4.362	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 4.362		
System Test & Eval	- / 0.304	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.304		
Fielding/Training	- / 4.972	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 4.972		
Other- PM Admin	- / 17.170	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 17.170		
Subtotal: Recurring	502 / 20.635	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	502 / 20.635		
Subtotal: Aviation Data Exploitation Capability (ADEC)	502 / 20.635	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	502 / 20.635		
Modification Item 4 of 5: Aircraft Notebook (ACN)														
B Kits														
Recurring														
ECP (SW)	- / 6.455	- / 3.557	- / 2.222	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 12.234		
Data	- / 0.599	- / -	- / 0.182	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.781		
Systems Engineering	- / 4.282	- / 3.931	- / 3.369	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 11.582		
System Test	- / 0.736	- / 0.599	- / 0.514	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 1.849		
Fielding/Training	- / 38.605	- / 4.625	- / 0.200	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 43.430		
Other- PM Admin	- / 2.612	- / 1.368	- / 1.038	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 5.018		
Subtotal: Recurring	- / 53.289	- / 14.080	- / 7.525	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 74.894		
Subtotal: Aircraft Notebook (ACN)	- / 53.289	- / 14.080	- / 7.525	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 74.894		
Modification Item 5 of 5: Aviation Mission Common Server (AMCS)														
B Kits														
Recurring														
Kit Quantity - AMCS	- / -	- / -	- / -	- / -	- / -	- / -	10 / 1.301	50 / 6.635	62 / 8.392	22 / 3.037	Continuing	Continuing		
System Engineering	- / -	- / -	- / -	- / 1.460	- / -	- / 1.460	- / 1.757	- / 1.288	- / 2.709	- / 2.179	Continuing	Continuing		
System Test and Evaluation	- / -	- / -	- / -	- / 19.142	- / -	- / 19.142	- / 6.706	- / 4.275	- / 8.630	- / 7.613	Continuing	Continuing		
Other - PM Admin	- / -	- / -	- / -	- / 12.499	- / -	- / 12.499	- / 2.624	- / 1.613	- / 3.071	- / 3.371	Continuing	Continuing		
Fielding/Training	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.533	- / 0.678	- / 0.545	Continuing	Continuing		
Subtotal: Recurring	- / -	- / -	- / -	- / 13.101	- / -	- / 13.101	10 / 12.388	50 / 14.344	62 / 23.480	22 / 16.745	Continuing	Continuing		
Non-Recurring														

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 8658AA0712 / Network And Mission Plan	Modification Number / Title: AA0712 / Network And Mission Plan

ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Models of Systems Affected: AH-64D/E, CH-47D/F, UH-60A/L/M/Q/V, HH-60L/M, EMARSS, UH-72, UAS	Modification Type: Rationalization, Standardization, Interoperability, Compatibility, Simplification	Related RDT&E PEs:
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Financial Plan	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
AMCS Aircraft Integration	- / -	- / -	- / -	- / 13.697	- / -	- / 13.697	- / -	- / -	- / -	- / -	- / -	- / 13.697
AMCS SW App ECP	- / -	- / -	- / -	- / 10.014	- / -	- / 10.014	- / 1.009	- / 4.153	- / 4.617	- / 9.911	Continuing	Continuing
<i>Subtotal: Non-Recurring</i>	- / -	- / -	- / -	- / 23.711	- / -	- / 23.711	- / 1.009	- / 4.153	- / 4.617	- / 9.911	Continuing	Continuing
<i>Subtotal: Aviation Mission Common Server (AMCS)</i>	- / -	- / -	- / -	- / 36.812	- / -	- / 36.812	10 / 13.397	50 / 18.497	62 / 28.097	22 / 26.656	Continuing	Continuing
<i>Subtotal: Procurement, All Modification Items</i>	12,215 / 733.536	940 / 118.614	541 / 98.236	257 / 77.432	- / -	257 / 77.432	90 / 42.391	160 / 50.477	62 / 43.275	22 / 41.057	Continuing	Continuing
Installation												
Modification Item 3 of 5: Aviation Data Exploitation Capability (ADEC)	1 / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / -
Modification Item 4 of 5: Aircraft Notebook (ACN)	1 / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / -
<i>Subtotal: Installation</i>	2 / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	2 / -
Total												
Total Cost (Procurement + Support + Installation)	733.536	118.614	98.236	77.432	-	77.432	42.391	50.477	43.275	41.057	Continuing	Continuing

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 8658AA0712 / Network And Mission Plan	Modification Number / Title: AA0712 / Network And Mission Plan

ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Modification Item 1 of 5: Aviation Mission Planning System (AMPS)

Manufacturer Information

Manufacturer Name: Getac	Manufacturer Location: Irvine, CA
Administrative Leadtime (in Months):	Production Leadtime (in Months):

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

Installation Information

Method of Implementation: Not applicable

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot	
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
In	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Out	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 8658AA0712 / Network And Mission Plan	Modification Number / Title: AA0712 / Network And Mission Plan

ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Modification Item 2 of 5: Improved Data Modem (IDM)

Manufacturer Information

Manufacturer Name: AMRDEC Software Engineering Directorate Manufacturer Location: Redstone Arsenal, AL

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

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

Installation Information

Method of Implementation: Not Applicable

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot				
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4						
In	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Out	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Exhibit P-3a, Individual Modification: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 8658AA0712 / Network And Mission Plan	Modification Number / Title: AA0712 / Network And Mission Plan

ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Modification Item 3 of 5: Aviation Data Exploitation Capability (ADEC)

Manufacturer Information

Manufacturer Name: AMRDEC Software Engineering Directorate	Manufacturer Location: Redstone Arsenal, AL
Administrative Leadtime (in Months):	Production Leadtime (in Months):

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

Installation Information

Method of Implementation: Not Applicable

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	1 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / 0.000
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	1 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / 0.000

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot	
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
In	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Out	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1

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Exhibit P-3a, Individual Modification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 8658AA0712 / Network And Mission Plan	Modification Number / Title: AA0712 / Network And Mission Plan
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ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Modification Item 4 of 5: Aircraft Notebook (ACN)

Manufacturer Information

Manufacturer Name: AMRDEC Software Engineering Directorate	Manufacturer Location: Redstone Arsenal, AL
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Administrative Leadtime (in Months):	Production Leadtime (in Months):
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Dates	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Contract Dates							
Delivery Dates							

Installation Information

Method of Implementation: Not Applicable

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	1 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / 0.000
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	1 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / 0.000

Installation Schedule

PYS	In	Out	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
	1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
	1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 8658AA0712 / Network And Mission Plan	Modification Number / Title: AA0712 / Network And Mission Plan
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ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Modification Item 5 of 5: Aviation Mission Common Server (AMCS)

Manufacturer Information

Manufacturer Name: TBD	Manufacturer Location: TBD
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Administrative Leadtime (in Months):	Production Leadtime (in Months):
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Dates	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Contract Dates				Mar 2022	Mar 2023	Mar 2024	Mar 2025
Delivery Dates				Dec 2022	Dec 2023	Dec 2024	Dec 2025

Installation Information

Method of Implementation: ECP

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot				
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4						
In	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
Out	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1

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Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 02: Modification of Aircraft / BSA 10: Modification of Aircraft	P-1 Line Item Number / Title: 8659AA0723 / Comms, Nav Surveillance
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ID Code (A=Service Ready, B=Not Service Ready):	Program Elements for Code B Items: N/A	Other Related Program Elements: 0604201A
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Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	721.662	156.969	164.315	101.355	-	101.355	63.669	71.084	83.360	62.916	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	721.662	156.969	164.315	101.355	-	101.355	63.669	71.084	83.360	62.916	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	721.662	156.969	164.315	101.355	-	101.355	63.669	71.084	83.360	62.916	Continuing	Continuing

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

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

Description:

Funding for the Army Navigation Systems programs has been realigned to the new Budget Line Item 8662A01006, Aviation Assured-Position, Navigation, and Timing (A-PNT) beginning in FY2021.

The current Army Aviation Navigation Systems provide aircraft with extremely accurate and secure navigation and timing, assists in situational awareness, and aids in prevention of fratricide. The Global Positioning System (GPS) includes the Doppler GPS Navigation Set (DGNS), which is used for the Non-bussed Utility and Cargo helicopters, and the Embedded GPS Inertial Navigation System (EGI), which is integrated into the modernized Cargo, Utility, Attack, and Special Operations fleets of helicopters. The upgraded DGNS Computer Display Unit and GPS Anti-jam Antenna is being installed on the Blackhawk UH-60A/L and HH-60A/L fleets and will reduce pilot workload and fatigue and provide GPS Anti-Jam capabilities which significantly improve levels of A-PNT. The Pre-Planned Product Improvement (P3I) EGI A Kits and B Kits are being installed on UH/HH-60M, CH-47F, AH-64E, and Special Operations Aircraft (SOA) fleets and bring a number of enhancements required for operations in civil airspace as well as improved levels of Assured - Position, Navigation and Timing.

The Aviation Tactical Communication Systems (ATCS) programs are Army Aviation programs to procure, integrate, and field A-Kits (the installation hardware and software), and B-Kits (the actual radio) to meet Army Aviation Communications requirements. The ATCS program is currently split between two separate efforts. The first is Alt Comms, which uses a legacy ARC-201D radio, and the second, Multi-mode Aviation Radio Set (MARS), which uses an ARC-231A radio with greater capability that uses modernized waveforms and cryptography.

The Aviation Maritime Fixed- Aviation (AMF-A) Radio Integration Program installs and qualifies the Army's Future Airborne Networking Radio hardware and software for production line and fielded Army Aviation Aircraft Rotary Wing Aircraft, SOA, and Unmanned Aircraft Systems (UAS) platforms to enable the operation of PEO C3T software defined networking radios with SINCGARS and other future advanced networking waveforms. This program also provides for the procurement and installation of AMF Radio retrofit A-Kits for use on platforms that were fielded without these capabilities. AMF Radios and ancillaries are procured by PM Tactical Radios and are not part of the AMF Radio Integration effort.

The Blue Force Tracking - Aviation (BFT-A) Program integrates, qualifies, and manages the installation of BFT-2 system installation kits (A Kit) for Army Rotary Wing Aircraft. The A-Kit utilizes the BFT-2 transceiver and KGV-72 encryption device provided by PM Mission Command (MC). BFT-2 provides the commander a near real-time Beyond-Line-of-Sight Blue/Red Situational Awareness Picture & Command and Control messaging capability.

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Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 02: Modification of Aircraft / BSA 10: Modification of Aircraft	P-1 Line Item Number / Title: 8659AA0723 / Comms, Nav Surveillance
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ID Code (A=Service Ready, B=Not Service Ready):	Program Elements for Code B Items: N/A	Other Related Program Elements: 0604201A
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Line Item MDAP/MAIS Code: N/A

Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	86.333	107.158	64.923	-	64.923	35.018	39.096	45.849	34.604
ANG	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	62.788	45.725	32.384	-	32.384	25.467	28.434	33.343	25.166
AR	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	7.848	11.432	4.048	-	4.048	3.184	3.554	4.168	3.146
Total:	Quantity	-	-	-	-	-	-	-	-	-
Secondary Distribution	Total Obligation Authority	156.969	164.315	101.355	-	101.355	63.669	71.084	83.360	62.916

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Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity:
2031A: Aircraft Procurement, Army / BA 02: Modification of Aircraft / BSA 10: Modification of Aircraft

P-1 Line Item Number / Title:
8659AA0723 / Comms, Nav Surveillance

ID Code (A=Service Ready, B=Not Service Ready): **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0604201A

Line Item MDAP/MAIS Code: N/A

Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-3a	AA0723 / Comms, Nav Surveillance (New or Improved Operational Capability)				- / 721.662	- / 156.969	- / 164.315	- / 101.355	- / -	- / 101.355
P-40	Total Gross/Weapon System Cost				- / 721.662	- / 156.969	- / 164.315	- / 101.355	- / -	- / 101.355

Exhibits Schedule					FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-3a	AA0723 / Comms, Nav Surveillance (New or Improved Operational Capability)				- / 63.669	- / 71.084	- / 83.360	- / 62.916	Continuing	Continuing
P-40	Total Gross/Weapon System Cost				- / 63.669	- / 71.084	- / 83.360	- / 62.916	Continuing	Continuing

*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 2021 Base Procurement dollars in the amount of \$79.154 million supports procurement of ARC-231A radios to support aircraft production line and aircraft modification requirements, fielding of the ARC-231A radios to one CAB, system test and evaluation of ARC-231A radios and MARS B Kits, and aircraft integration to support crypto-modernization.

FY 2021 Base Procurement dollars in the amount of \$22.201 million provides for the procurement and installation BFT-2 A-Kits.

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-3a, Individual Modification: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 8659AA0723 / Comms, Nav Surveillance	Modification Number / Title: AA0723 / Comms, Nav Surveillance

ID Code (A=Service Ready, B=Not Service Ready) :						MDAP/MAIS Code:						
Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	721.662	156.969	164.315	101.355	-	101.355	63.669	71.084	83.360	62.916	Continuing	Continuing
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	721.662	156.969	164.315	101.355	-	101.355	63.669	71.084	83.360	62.916	Continuing	Continuing
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	721.662	156.969	164.315	101.355	-	101.355	63.669	71.084	83.360	62.916	Continuing	Continuing
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

Funding for the Army Navigation Systems programs has been realigned to the new Budget Line Item 8662A01006, Aviation Assured-Position, Navigation, and Timing (A-PNT) beginning in FY2021.

The current Army Aviation Navigation Systems provide aircraft with extremely accurate and secure navigation and timing, assists in situational awareness, and aids in prevention of fratricide. The Global Positioning System (GPS) includes the Doppler GPS Navigation Set (DGNS), which is used for the Non-bussed Utility and Cargo helicopters, and the Embedded GPS Inertial Navigation System (EGI), which is integrated into the modernized Cargo, Utility, Attack, and Special Operations fleets of helicopters. The upgraded DGNS Computer Display Unit and GPS Anti-jam Antenna is being installed on the Blackhawk UH-60A/L and HH-60A/L fleets and will reduce pilot workload and fatigue and provide GPS Anti-Jam capabilities which significantly improve levels of A-PNT. The Pre-Planned Product Improvement (P3I) EGI A Kits and B Kits are being installed on UH/HH-60M, CH-47F, AH-64E, and Special Operations Aircraft (SOA) fleets and bring a number of enhancements required for operations in civil airspace as well as improved levels of Assured - Position, Navigation and Timing.

The Aviation Tactical Communication Systems (ATCS) programs are Army Aviation programs to procure, integrate, and field A-Kits (the installation hardware and software), and B-Kits (the actual radio) to meet Army Aviation Communications requirements. The ATCS program is currently split between two separate efforts. The first is Alt Comms, which uses a legacy ARC-201D radio, and the second, Multi-mode Aviation Radio Set (MARS), which uses an ARC-231A radio with greater capability that uses modernized waveforms and cryptography.

The Aviation Maritime Fixed- Aviation (AMF-A) Radio Integration Program installs and qualifies the Army's Future Airborne Networking Radio hardware and software for production line and fielded Army Aviation Aircraft Rotary Wing Aircraft, SOA, and Unmanned Aircraft Systems (UAS) platforms to enable the operation of PEO C3T software defined networking radios with SINCGARS and other future advanced networking waveforms. This program also provides for the procurement and installation of AMF Radio retrofit A-Kits for use on platforms that were fielded without these capabilities. AMF Radios and ancillaries are procured by PM Tactical Radios and are not part of the AMF Radio Integration effort.

The Blue Force Tracking - Aviation (BFT-A) Program integrates, qualifies, and manages the installation of BFT-2 system installation kits (A Kit) for Army Rotary Wing Aircraft. The A-Kit utilizes the BFT-2 transceiver and KGV-72 encryption device provided by PM Mission Command (MC). BFT-2 provides the commander a near real-time Beyond-Line-of-Sight Blue/Red Situational Awareness Picture & Command and Control messaging capability.

This exhibit is for a budget line that procures multiple items and does not have a single Army Acquisition Objective.

-- Justification --

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Exhibit P-3a, Individual Modification: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 8659AA0723 / Comms, Nav Surveillance	Modification Number / Title: AA0723 / Comms, Nav Surveillance

ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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FY 2021 Base Procurement dollars in the amount of \$79.154 million supports procurement of ARC-231A radios to support aircraft production line and aircraft modification requirements, fielding of the ARC-231A radios to one CAB, system test and evaluation of ARC-231A radios and MARS B Kits, and aircraft integration to support crypto-modernization.

FY 2021 Base Procurement dollars in the amount of \$22.201 million provides for the procurement and installation BFT-2 A-Kits.

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.

Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	86.333	107.158	64.923	-	64.923	35.018	39.096	45.849	34.604
ANG	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	62.788	45.725	32.384	-	32.384	25.467	28.434	33.343	25.166
AR	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	7.848	11.432	4.048	-	4.048	3.184	3.554	4.168	3.146
Total:	Quantity	-	-	-	-	-	-	-	-	-
Secondary Distribution	Total Obligation Authority	156.969	164.315	101.355	-	101.355	63.669	71.084	83.360	62.916

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Exhibit P-3a, Individual Modification: PB 2021 Army											Date: February 2020	
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10				P-1 Line Item Number / Title: 8659AA0723 / Comms, Nav Surveillance					Modification Number / Title: AA0723 / Comms, Nav Surveillance			
ID Code (A=Service Ready, B=Not Service Ready) :							MDAP/MAIS Code:					
Models of Systems Affected: UH/HH-60A/L, UH/HH/MH-60M, CH-47D, CH/MH-47F, AH-64D/E, LUH, UAS				Modification Type: New or Improved Operational Capability				Related RDT&E PEs:				
Financial Plan	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Procurement												
Modification Item 1 of 9: DGNS (AN/ASN-128D) P3I												
A Kits												
Recurring												
Engineering Change Orders	- / 2.800	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 2.800
Data	- / 1.712	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 1.712
Training Equipment	46 / 6.800	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	46 / 6.800
Systems Engineering	- / 8.930	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 8.930
Other - PM Admin	- / 1.500	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 1.500
Subtotal: Recurring	46 / 21.742	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	46 / 21.742
Subtotal: DGNS (AN/ASN-128D) P3I	46 / 21.742	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	46 / 21.742
Modification Item 2 of 9: DGNS (AN/ASN-128D) CDU/ SW Upgrade ECP B-Kit												
B Kits												
Recurring												
Upgraded CDU	250 / 18.124	200 / 11.635	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	450 / 29.759
Fielding	- / 5.303	- / 1.517	- / 1.300	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 8.120
Systems Eng / Program Management	- / 5.880	- / 0.949	- / 1.900	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 8.729
Subtotal: Recurring	250 / 29.307	200 / 14.101	- / 3.200	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	450 / 46.608
Non-Recurring												
Data / Training	- / 3.349	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 3.349
Aircraft Integration	- / 11.485	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 11.485
Systems Test & Evaluation	- / 4.463	- / 0.510	- / 1.390	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 6.363
Subtotal: Non-Recurring	- / 19.297	- / 0.510	- / 1.390	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 21.197
Subtotal: DGNS (AN/ASN-128D) CDU/SW Upgrade ECP B-Kit	250 / 48.604	200 / 14.611	- / 4.590	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	450 / 67.805
Modification Item 3 of 9: DGNS (AN/ASN-128D) CDU/ SW Upgrade ECP A-Kit												
A Kits												
Recurring												
GPS Anti Jam Antenna	- / -	235 / 7.748	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	235 / 7.748
Systems Engineering / Program Management	- / 1.606	- / 0.824	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 2.430

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Exhibit P-3a, Individual Modification: PB 2021 Army										Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10				P-1 Line Item Number / Title: 8659AA0723 / Comms, Nav Surveillance						Modification Number / Title: AA0723 / Comms, Nav Surveillance		
ID Code (A=Service Ready, B=Not Service Ready) :							MDAP/MAIS Code:					
Models of Systems Affected: UH/HH-60A/L, UH/HH/MH-60M, CH-47D, CH/MH-47F, AH-64D/E, LUH, UAS				Modification Type: New or Improved Operational Capability				Related RDT&E PEs:				
Financial Plan	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Systems Test & Evaluation	- / 1.530	- / 2.400	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 3.930
Subtotal: Recurring	- / 3.136	235 / 10.972	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	235 / 14.108
Non-Recurring												
Integration & NRE	- / 0.501	- / 0.501	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 1.002
Subtotal: Non-Recurring	- / 0.501	- / 0.501	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 1.002
Subtotal: DGNS (AN/ASN-128D) CDU/SW Upgrade ECP A-Kit	- / 3.637	235 / 11.473	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	235 / 15.110
Modification Item 4 of 9: Embedded GPS Inertial Nav System (EGI) P3I B-Kit												
B Kits												
Recurring												
EGI EAGLE-M Shipsets	- / -	88 / 14.655	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	88 / 14.655
EGI EAGLE SOA Shipsets	51 / 8.493	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	51 / 8.493
Fielding	- / 1.365	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 1.365
Systems Engineering / Program Management	- / 16.283	- / 3.192	- / 3.164	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 22.639
Subtotal: Recurring	51 / 26.141	88 / 17.847	- / 3.164	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	139 / 47.152
Non-Recurring												
Aircraft Integration	- / 4.886	- / 2.825	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 7.711
Systems Test & Evaluation	- / 5.600	- / 2.031	- / 0.168	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 7.799
Training / Data / Support Equipment	- / 3.553	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 3.553
Subtotal: Non-Recurring	- / 14.039	- / 4.856	- / 0.168	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 19.063
Subtotal: Embedded GPS Inertial Nav System (EGI) P3I B-Kit	51 / 40.180	88 / 22.703	- / 3.332	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	139 / 66.215
Modification Item 5 of 9: Embedded GPS Inertial Nav System (EGI) P3I A-Kit												
A Kits												
Recurring												
GPS Anti Jam Antenna	100 / 4.248	53 / 1.821	550 / 24.900	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	703 / 30.969
Systems Engineering / Program Management	- / 0.865	- / 0.887	- / 1.800	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 3.552
Subtotal: Recurring	100 / 5.113	53 / 2.708	550 / 26.700	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	703 / 34.521
Non-Recurring												
Aircraft Integration	- / 3.658	- / 19.808	- / 19.134	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 42.600

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army										Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10					P-1 Line Item Number / Title: 8659AA0723 / Comms, Nav Surveillance					Modification Number / Title: AA0723 / Comms, Nav Surveillance			
ID Code (A=Service Ready, B=Not Service Ready) :							MDAP/MAIS Code:						
Models of Systems Affected: UH/HH-60A/L, UH/HH/MH-60M, CH-47D, CH/MH-47F, AH-64D/E, LUH, UAS					Modification Type: New or Improved Operational Capability				Related RDT&E PEs:				
Financial Plan	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
Systems Test & Evaluation	- / 0.244	- / 2.764	- / 2.829	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 5.837	
Subtotal: Non-Recurring	- / 3.902	- / 22.572	- / 21.963	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 48.437	
Subtotal: Embedded GPS Inertial Nav System (EGI) P3I A-Kit	100 / 9.015	53 / 25.280	550 / 48.663	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	703 / 82.958	
Modification Item 6 of 9: Aviation Tactical Comm Systems (ATCS) - Alt Comms													
A Kits													
Recurring													
Kit Quantity-A-Kit	403 / 12.590	12 / 0.366	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	415 / 12.956	
Systems Engineering / Program Management	- / 42.973	- / 3.444	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 46.417	
System Test & Evaluation	- / 10.107	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 10.107	
Training / Data / Support Equipment	- / 1.366	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 1.366	
Fielding	- / 16.360	- / 0.562	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 16.922	
Subtotal: Recurring	403 / 83.396	12 / 4.372	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	415 / 87.768	
Non-Recurring													
Aircraft Integration	- / 97.371	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 97.371	
Subtotal: Non-Recurring	- / 97.371	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 97.371	
B Kits													
Recurring													
Kit Quantity-B-Kit (ARC-231) Shipsets	1,035 / 143.683	195 / 41.819	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1,230 / 185.502	
Kit Quantity-B-Kit (ARC201D) Shipsets	777 / 46.465	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	777 / 46.465	
Subtotal: Recurring	1,812 / 190.148	195 / 41.819	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	2,007 / 231.967	
Subtotal: Aviation Tactical Comm Systems (ATCS) - Alt Comms	2,215 / 370.915	207 / 46.191	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	2,422 / 417.106	
Modification Item 7 of 9: Aviation Tactical Comm Systems (ATCS) - MARS													
A Kits													
Recurring													
Systems Engineering / Program Management	- / 5.131	- / 7.849	- / 11.142	- / 12.298	- / -	- / 12.298	- / 13.005	- / 12.227	- / 12.551	- / 13.078	Continuing	Continuing	
System Test & Evaluation	- / 2.041	- / 0.764	- / 2.687	- / 1.362	- / -	- / 1.362	- / 1.962	- / -	- / -	- / 0.517	Continuing	Continuing	
Subtotal: Recurring	- / 7.172	- / 8.613	- / 13.829	- / 13.660	- / -	- / 13.660	- / 14.967	- / 12.227	- / 12.551	- / 13.595	Continuing	Continuing	
Non-Recurring													

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Exhibit P-3a, Individual Modification: PB 2021 Army										Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10					P-1 Line Item Number / Title: 8659AA0723 / Comms, Nav Surveillance					Modification Number / Title: AA0723 / Comms, Nav Surveillance			
ID Code (A=Service Ready, B=Not Service Ready) :							MDAP/MAIS Code:						
Models of Systems Affected: UH/HH-60A/L, UH/HH/MH-60M, CH-47D, CH/MH-47F, AH-64D/E, LUH, UAS					Modification Type: New or Improved Operational Capability				Related RDT&E PEs:				
Financial Plan	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
SINCGARS NRE	- / -	- / -	- 12.327	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- 12.327	
Aircraft Integration	- 17.308	- 13.401	- 18.729	- / -	- / -	- / -	- / -	- 16.262	- / -	- / -	- / -	- 125.700	
Subtotal: Non-Recurring	- 17.308	- 13.401	- 11.056	- / -	- / -	- / -	- / -	- 16.262	- / -	- / -	- / -	- 128.027	
B Kits													
Recurring													
Kit Shipset B-Kit (ARC-231A) - PIM	26 / 5.408	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	26 / 5.408	
Kit Shipset B-Kit (ARC 231) - Rotable	- / -	- / -	169 / 37.338	121 / 7.586	- / -	121 / 7.586	138 / 8.914	- / -	- / -	- / -	- / -	428 / 53.838	
Kit Shipset B-Kit (ARC-231A) - GFE	- / -	- / -	- / -	- / -	- / -	- / -	- / -	117 / 24.272	130 / 27.972	97 / 22.065	- / -	344 / 74.309	
Kit Shipset B-Kit (ARC-231A) - MWO	- / -	- / -	160 / 18.651	248 / 46.730	- / -	248 / 46.730	98 / 17.479	112 / 21.523	209 / 39.305	241 / 25.766	465 / 52.563	1,533 / 222.017	
Fielding	- / -	- / -	- 10.509	- 13.776	- / -	- 13.776	- 13.852	- / -	- / -	- / -	- / -	- 18.137	
Training/Data	- 10.900	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- 10.900	
Subtotal: Recurring	26 / 6.308	- / -	329 / 56.498	369 / 58.092	- / -	369 / 58.092	236 / 30.245	229 / 45.795	339 / 67.277	338 / 47.831	465 / 52.563	2,331 / 364.609	
Non-Recurring													
ECP - Non-Recurring	- 154.275	- / -	- / -	- 13.000	- / -	- 13.000	- / -	- / -	- / -	- / -	- / -	- 157.275	
Subtotal: Non-Recurring	- 154.275	- / -	- / -	- 13.000	- / -	- 13.000	- / -	- / -	- / -	- / -	- / -	- 157.275	
Subtotal: Aviation Tactical Comm Systems (ATCS) - MARS	26 / 75.063	- 12.014	329 / 81.383	369 / 74.752	- / -	369 / 74.752	236 / 45.212	229 / 64.284	339 / 79.828	338 / 61.426	Continuing	Continuing	
Modification Item 8 of 9: Airborne Maritime Fixed (AMF-A) Radio Integration													
A Kits													
Recurring													
Kit Quantity - A-Kit - Production Line	148 / 13.466	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	148 / 13.466	
Support Equipment	- 12.030	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- 12.030	
System Test and Evaluation	- 11.910	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- 11.910	
System Eng/Prog Mgmt (SEPM)	- 112.074	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- 112.074	
Subtotal: Recurring	148 / 29.480	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	148 / 29.480	
Non-Recurring													
NRE Aircraft Integration	- 118.594	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- 118.594	
Subtotal: Non-Recurring	- 118.594	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- 118.594	
Subtotal: Airborne Maritime Fixed (AMF-A) Radio Integration	148 / 48.074	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	148 / 48.074	

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Exhibit P-3a, Individual Modification: PB 2021 Army										Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10					P-1 Line Item Number / Title: 8659AA0723 / Comms, Nav Surveillance					Modification Number / Title: AA0723 / Comms, Nav Surveillance			
ID Code (A=Service Ready, B=Not Service Ready) :							MDAP/MAIS Code:						
Models of Systems Affected: UH/HH-60A/L, UH/HH/MH-60M, CH-47D, CH/MH-47F, AH-64D/E, LUH, UAS					Modification Type: New or Improved Operational Capability				Related RDT&E PEs:				
Financial Plan	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
Modification Item 9 of 9: Blue Force Tracking-Aviation (BFT-A)													
A Kits													
Recurring													
BFT-A A-Kits (MWO)	1,635 / 18.758	314 / 4.370	260 / 3.671	242 / 2.292	- / -	242 / 2.292	8 / 0.062	- / -	- / -	- / -	- / -	2,459 / 29.153	
BFT-A A Kit Spares	15 / 0.179	5 / 0.015	5 / 0.076	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	25 / 0.270	
Test / Engineering	- / 4.138	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 4.138	
Fielding / Training	- / 2.922	- / 0.005	- / 0.842	- / 0.005	- / -	- / 0.005	- / 0.005	- / -	- / -	- / -	- / -	- / 3.779	
SEPM	- / 19.852	- / 6.376	- / 6.794	- / 6.941	- / -	- / 6.941	- / 7.323	- / 3.687	- / 1.970	- / -	- / -	- / 52.943	
Misc HW Procurement	- / 3.327	- / 0.197	- / 0.131	- / 0.201	- / -	- / 0.201	- / 0.068	- / 0.071	- / -	- / -	- / -	- / 3.995	
Subtotal: Recurring	1,650 / 49.176	319 / 10.963	265 / 11.514	242 / 9.439	- / -	242 / 9.439	8 / 7.458	- / 3.758	- / 1.970	- / -	- / -	2,484 / 94.278	
Non-Recurring													
NRE-Test / Engineering	- / 4.747	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 4.747	
Subtotal: Non-Recurring	- / 4.747	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 4.747	
Subtotal: Blue Force Tracking-Aviation (BFT-A)	1,650 / 53.923	319 / 10.963	265 / 11.514	242 / 9.439	- / -	242 / 9.439	8 / 7.458	- / 3.758	- / 1.970	- / -	- / -	2,484 / 99.025	
Subtotal: Procurement, All Modification Items	4,486 / 671.153	1,102 / 143.235	1,144 / 149.482	611 / 84.191	- / -	611 / 84.191	244 / 52.670	229 / 68.042	339 / 81.798	338 / 61.426	Continuing	Continuing	
Installation													
Modification Item 1 of 9: DGNS (AN/ASN-128D) P3I	46 / 0.296	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	46 / 0.296	
Modification Item 2 of 9: DGNS (AN/ASN-128D) CDU/ SW Upgrade ECP B-Kit	- / -	250 / 2.250	200 / 1.820	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	450 / 4.070	
Modification Item 3 of 9: DGNS (AN/ASN-128D) CDU/ SW Upgrade ECP A-Kit	- / -	- / -	235 / 1.260	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	235 / 1.260	
Modification Item 4 of 9: Embedded GPS Inertial Nav System (EGI) P3I B-Kit	51 / 0.447	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	51 / 0.447	
Modification Item 5 of 9: Embedded GPS Inertial Nav System (EGI) P3I A-Kit	- / -	50 / 0.180	103 / 0.371	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	153 / 0.551	
Modification Item 6 of 9: Aviation Tactical Comm Systems (ATCS) - Alt Comms	379 / 17.516	24 / 1.900	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	403 / 19.416	
Modification Item 7 of 9: Aviation Tactical Comm Systems (ATCS) - MARS	- / -	- / -	- / -	408 / 4.402	- / -	408 / 4.402	98 / 2.074	112 / 1.641	209 / 1.562	241 / 1.490	465 / 7.496	1,533 / 18.665	
Modification Item 9 of 9: Blue Force Tracking-Aviation (BFT-A)	938 / 32.250	244 / 9.404	376 / 11.382	450 / 12.762	- / -	450 / 12.762	390 / 8.925	61 / 1.401	- / -	- / -	- / -	2,459 / 76.124	
Subtotal: Installation	1,414 / 50.509	568 / 13.734	914 / 14.833	858 / 17.164	- / -	858 / 17.164	488 / 10.999	173 / 3.042	209 / 1.562	241 / 1.490	465 / 7.496	5,330 / 120.829	

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Exhibit P-3a, Individual Modification: PB 2021 Army										Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10				P-1 Line Item Number / Title: 8659AA0723 / Comms, Nav Surveillance						Modification Number / Title: AA0723 / Comms, Nav Surveillance		
ID Code (A=Service Ready, B=Not Service Ready) :							MDAP/MAIS Code:					
Models of Systems Affected: UH/HH-60A/L, UH/HH/MH-60M, CH-47D, CH/MH-47F, AH-64D/E, LUH, UAS				Modification Type: New or Improved Operational Capability				Related RDT&E PEs:				
Financial Plan	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>
Total												
Total Cost (Procurement + Support + Installation)	721.662	156.969	164.315	101.355	-	101.355	63.669	71.084	83.360	62.916	Continuing	Continuing

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Exhibit P-3a, Individual Modification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 8659AA0723 / Comms, Nav Surveillance	Modification Number / Title: AA0723 / Comms, Nav Surveillance
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ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Modification Item 1 of 9: DGNS (AN/ASN-128D) P3I

Manufacturer Information

Manufacturer Name: BAE International Incorporated	Manufacturer Location: Wayne, NJ
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Administrative Leadtime (in Months):	Production Leadtime (in Months):
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Dates	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Contract Dates							
Delivery Dates							

Installation Information

Method of Implementation: Prototype Assets

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	46 / 0.296	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	46 / 0.296
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	46 / 0.296	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	46 / 0.296

Installation Schedule

PYS	In	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
	46	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	46
	46	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	46

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 8659AA0723 / Comms, Nav Surveillance	Modification Number / Title: AA0723 / Comms, Nav Surveillance
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ID Code (A=Service Ready, B=Not Service Ready) : **MDAP/MAIS Code:**

Modification Item 2 of 9: DGNS (AN/ASN-128D) CDU/SW Upgrade ECP B-Kit

Manufacturer Information

Manufacturer Name: BAE International Incorporated Manufacturer Location: Wayne, NJ

Administrative Leadtime (in Months): 2 Production Leadtime (in Months): 12

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

Installation Information

Method of Implementation: Modification Work Order (MWO)

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	- / -	250 / 2.250	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	250 / 2.250
FY 2019	- / -	- / -	200 / 1.820	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	200 / 1.820
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	- / -	250 / 2.250	200 / 1.820	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	450 / 4.070

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot	
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
In	-	63	63	62	62	50	50	50	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	450
Out	-	-	63	63	62	62	50	50	50	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	450

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 8659AA0723 / Comms, Nav Surveillance	Modification Number / Title: AA0723 / Comms, Nav Surveillance
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ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Modification Item 3 of 9: DGNS (AN/ASN-128D) CDU/SW Upgrade ECP A-Kit

Manufacturer Information

Manufacturer Name: Mayflower Communications, Inc.	Manufacturer Location: Boston, MA
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Administrative Leadtime (in Months): 2	Production Leadtime (in Months): 12
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Dates	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Contract Dates	Dec 2018						
Delivery Dates	Nov 2019						

Installation Information

Method of Implementation: MWO

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2019	- / -	- / -	235 / 1.260	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	235 / 1.260
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	- / -	- / -	235 / 1.260	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	235 / 1.260

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot	
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
In	-	-	-	-	-	58	59	59	59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	235
Out	-	-	-	-	-	-	58	59	59	59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	235

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 8659AA0723 / Comms, Nav Surveillance	Modification Number / Title: AA0723 / Comms, Nav Surveillance
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ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Modification Item 4 of 9: Embedded GPS Inertial Nav System (EGI) P3I B-Kit

Manufacturer Information

Manufacturer Name: Honeywell, Incorporated	Manufacturer Location: Clearwater, FL
Administrative Leadtime (in Months): 2	Production Leadtime (in Months): 12

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

Installation Information

Method of Implementation: MWO

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	51 / 0.447	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	51 / 0.447
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	51 / 0.447	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	51 / 0.447

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	51	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	51
Out	51	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	51

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 8659AA0723 / Comms, Nav Surveillance	Modification Number / Title: AA0723 / Comms, Nav Surveillance

ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Modification Item 5 of 9: Embedded GPS Inertial Nav System (EGI) P3I A-Kit

Manufacturer Information

Manufacturer Name: Mayflower Communications, Inc.	Manufacturer Location: Boston, MA
Administrative Leadtime (in Months): 2	Production Leadtime (in Months): 12

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

Installation Information

Method of Implementation: MWO Installation

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	- / -	50 / 0.180	50 / 0.180	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	100 / 0.360
FY 2019	- / -	- / -	53 / 0.191	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	53 / 0.191
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	- / -	50 / 0.180	103 / 0.371	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	153 / 0.551

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot	
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
In	-	12	12	13	13	26	26	26	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	153
Out	-	-	12	12	13	13	26	26	26	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	153

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 8659AA0723 / Comms, Nav Surveillance	Modification Number / Title: AA0723 / Comms, Nav Surveillance

ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Modification Item 6 of 9: Aviation Tactical Comm Systems (ATCS) - Alt Comms

Manufacturer Information

Manufacturer Name: Various				Manufacturer Location: Various			
Administrative Leadtime (in Months): 2				Production Leadtime (in Months): 10			
Dates	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Contract Dates	Dec 2018						
Delivery Dates	Sep 2019						

Installation Information

Method of Implementation: Modification Work Order (MWO)

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	379 / 17.516	24 / 1.900	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	403 / 19.416
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	379 / 17.516	24 / 1.900	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	403 / 19.416

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4					
In	379	6	6	6	6	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	415
Out	360	19	6	6	6	6	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	415	

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 8659AA0723 / Comms, Nav Surveillance	Modification Number / Title: AA0723 / Comms, Nav Surveillance
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ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Modification Item 7 of 9: Aviation Tactical Comm Systems (ATCS) - MARS

Manufacturer Information

Manufacturer Name: Raytheon	Manufacturer Location: Largo, FL
Administrative Leadtime (in Months): 1	Production Leadtime (in Months): 12

Dates	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Contract Dates		Nov 2019	Nov 2020	Nov 2021	Nov 2022	Nov 2023	Nov 2024
Delivery Dates		Oct 2020	Oct 2021	Oct 2022	Oct 2023	Oct 2024	Oct 2025

Installation Information

Method of Implementation: MWO

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	160 / 1.050	- / -	160 / 1.050	- / -	- / -	- / -	- / -	- / -	160 / 1.050
FY 2021	- / -	- / -	- / -	248 / 3.352	- / -	248 / 3.352	- / -	- / -	- / -	- / -	- / -	248 / 3.352
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	98 / 2.074	- / -	- / -	- / -	- / -	98 / 2.074
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	112 / 1.641	- / -	- / -	- / -	112 / 1.641
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	209 / 1.562	- / -	- / -	209 / 1.562
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	241 / 1.490	- / -	241 / 1.490
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	465 / 7.496	465 / 7.496
Total	- / -	- / -	- / -	408 / 4.402	- / -	408 / 4.402	98 / 2.074	112 / 1.641	209 / 1.562	241 / 1.490	465 / 7.496	1,533 / 18.665

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	-	-	-	-	-	-	-	-	-	102	102	102	102	24	24	25	25	28	28	28	28	52	52	52	53	60	60	60	61	465	1,533
Out	-	-	-	-	-	-	-	-	-	-	102	102	102	102	24	24	25	25	28	28	28	28	52	52	52	53	60	60	60	526	1,533

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 8659AA0723 / Comms, Nav Surveillance	Modification Number / Title: AA0723 / Comms, Nav Surveillance
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ID Code (A=Service Ready, B=Not Service Ready) : **MDAP/MAIS Code:**

Modification Item 8 of 9: Airborne Maritime Fixed (AMF-A) Radio Integration

Manufacturer Information

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

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

Installation Information

Method of Implementation: Modification Work Order (MWO) - Contractor

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -

Installation Schedule

PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
In	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Out	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 8659AA0723 / Comms, Nav Surveillance	Modification Number / Title: AA0723 / Comms, Nav Surveillance

ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Modification Item 9 of 9: Blue Force Tracking-Aviation (BFT-A)

Manufacturer Information

Manufacturer Name: Various	Manufacturer Location: Various
Administrative Leadtime (in Months): 1	Production Leadtime (in Months): 12

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

Installation Information

Method of Implementation: Modification Work Order (MWO) - Contractor

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	938 / 32.250	244 / 9.404	254 / 6.915	199 / 5.644	- / -	199 / 5.644	- / -	- / -	- / -	- / -	- / -	1,635 / 54.213
FY 2019	- / -	- / -	122 / 4.467	192 / 5.445	- / -	192 / 5.445	- / -	- / -	- / -	- / -	- / -	314 / 9.912
FY 2020	- / -	- / -	- / -	59 / 1.673	- / -	59 / 1.673	201 / 4.568	- / -	- / -	- / -	- / -	260 / 6.241
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	181 / 4.295	61 / 1.401	- / -	- / -	- / -	242 / 5.696
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	8 / 0.062	- / -	- / -	- / -	- / -	8 / 0.062
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	938 / 32.250	244 / 9.404	376 / 11.382	450 / 12.762	- / -	450 / 12.762	390 / 8.925	61 / 1.401	- / -	- / -	- / -	2,459 / 76.124

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot					
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4							
In	938	61	61	61	61	94	94	94	94	112	112	113	113	97	97	98	98	61	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,459
Out	885	53	61	61	61	61	94	94	94	94	112	112	113	113	97	97	98	98	61	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,459

UNCLASSIFIED

Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 02: Modification of Aircraft / BSA 10: Modification of Aircraft	P-1 Line Item Number / Title: 8660A00713 / Degraded Visual Environment
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ID Code (A=Service Ready, B=Not Service Ready):	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	-	30.000	49.450	-	1.916	1.916	-	-	-	-	-	81.366
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	30.000	49.450	-	1.916	1.916	-	-	-	-	-	81.366
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	30.000	49.450	-	1.916	1.916	-	-	-	-	-	81.366

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

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

Description:

The Degraded Visual Environment (DVE) system provides situational awareness to enable hazard avoidance through sensors to support various modes of flight during training and tactical operations. The Army's DVE Directed Requirement is to procure 40 DVE systems and 8 spares for the Army Medical Evacuation and Special Operations helicopters to improve crew situational awareness in brownout environments.

The DVE Army Acquisition Objective has not been established yet. The FY 2021 funding on this budget request is in support of the Directed Requirement.

Secondary Distribution	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Army									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	30.000	49.450	-	1.916	1.916	-	-	-	-
Total:									
Secondary Distribution									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	30.000	49.450	-	1.916	1.916	-	-	-	-

Justification:

FY 2021 OCO procurement dollars in the amount of \$1.916 million supports the completion of modification work order installations for the last nine (9) HH-60M helicopters as part of the DVE Directed Requirement.

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

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Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 02: Modification of Aircraft / BSA 10: Modification of Aircraft	P-1 Line Item Number / Title: 8662A01006 / Aviation ASSURED PNT
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ID Code (A=Service Ready, B=Not Service Ready):	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	-	-	-	54.609	-	54.609	38.148	69.726	59.006	58.492	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	-	-	54.609	-	54.609	38.148	69.726	59.006	58.492	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	-	-	54.609	-	54.609	38.148	69.726	59.006	58.492	Continuing	Continuing

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

Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Thousands</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Thousands</i>)	-	-	-	99.109	-	99.109	89.760	92.844	90.639	89.849	Continuing	Continuing

Description:

Prior to FY2021, funding for Aviation ASSURED PNT (Army Navigation Systems) was executed out of Budget Line Item 8659AA0723, Comms, Nav Surveillance.

Assured-Position Navigation and Timing (A-PNT) provides Army aviation with unhindered access to trusted Position, Navigation, and Timing information under conditions where space based PNT may be limited or denied. A-PNT will enable aircrews, who lack the ability to obtain and use PNT information from Global Positioning System (GPS) signals due to operating in conditions that impede or deny access to GPS signals, to access and trust PNT information required to conduct PNT dependent tasks. Aircraft platform level A-PNT includes layers of assurance such as modernized GPS receivers, improved resiliency functions in GPS receivers and navigation equipment, and anti-jam antenna systems, to provide the most robust PNT solution.

Alternate navigation capabilities will be investigated, evaluated, and implemented into the Embedded GPS Inertial Navigation System (EGI)/Enhanced Aviation GATM Localizer Performance with Vertical Guidance (LPV) EGI (EAGLE)/EAGLE-M as standalone or blended navigation functions to enhance resilience. The implementation will be configurable to accept position, velocity, and time measurements from other PNT solutions. Alternative navigation solutions should support high speed data exchange and allow for the addition of new capabilities.

The Doppler Global Positioning System Navigation Set (DGNS) Upgrade program supports system engineering trade studies to reduce space, weight, and power as well as supports current and future Civil Airspace requirements. The DGNS upgrade includes Non-Recurring Engineering for the Computer Display Unit (CDU) which replaces the current CDU faceplate with a touch screen display, provides a moving navigation map capability, and optimizes pilot interface to promote safer flight operations. The CDU upgrade will support A-PNT operations in conjunction with additional system upgrades and upgrades to existing DGNS hardware. This includes anti-jam antenna capabilities and supports the requirement to maintain A-PNT throughout operations.

The EAGLE A-PNT integration program assesses current capabilities in identified operational PNT environment levels, tests identified upgrades to existing EGI hardware in order to accommodate A-PNT in identified operational environments. It supports the requirement to maintain A-PNT throughout operations and requires assessment and follow-on upgrade to the EGI navigation system.

The Multi-platform Anti-jam GPS Navigation Antenna (MAGNA) is a GPS anti-jam adaptive antenna system that will be capable of receiving legacy and modernized NAVSTAR GPS satellite signals. The MAGNA reduces the effect of GPS jamming by rejecting the interfering signals before they disrupt the GPS receiver enabling the Warfighter continued access to GPS-provided Position, Navigation, and Timing (PNT) in a GPS degraded environment.

UNCLASSIFIED

Exhibit P-40, Budget Line Item Justification: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 02: Modification of Aircraft / BSA 10: Modification of Aircraft		P-1 Line Item Number / Title: 8662A01006 / Aviation ASSURED PNT

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

Resiliency Software Assurance Modification (RSAM) is an interim risk-mitigation measure to provide additional protection to Selective Availability Anti-Spoofing Module (SAASM)-based GPS receivers with the capability to Recognize, Reject, Report and Recover when operating in a GPS degraded or denied environment until M-code products become available.

This exhibit is for a budget line that procures multiple items and does not have a single Army Acquisition Objective.

Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	-	-	30.910	-	30.910	21.854	38.349	32.453	32.171
ANG	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	-	-	21.066	-	21.066	14.484	27.891	23.603	23.396
AR	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	-	-	2.633	-	2.633	1.810	3.486	2.950	2.925
Total: Secondary Distribution	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	-	-	54.609	-	54.609	38.148	69.726	59.006	58.492

UNCLASSIFIED

Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 02: Modification of Aircraft / BSA 10: Modification of Aircraft	P-1 Line Item Number / Title: 8662A01006 / Aviation ASSURED PNT
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ID Code (A=Service Ready, B=Not Service Ready):	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: N/A

Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-3a	A01006 / Aviation ASSURED PNT (New or Improved Operational Capability)				- / -	- / -	- / -	- / 54.609	- / -	- / 54.609
P-40	Total Gross/Weapon System Cost				- / -	- / -	- / -	- / 54.609	- / -	- / 54.609

Exhibits Schedule					FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-3a	A01006 / Aviation ASSURED PNT (New or Improved Operational Capability)				- / 38.148	- / 69.726	- / 59.006	- / 58.492	Continuing	Continuing
P-40	Total Gross/Weapon System Cost				- / 38.148	- / 69.726	- / 59.006	- / 58.492	Continuing	Continuing

*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:
 FY2021 Base Procurement dollars in the amount of \$5.370 million supports the fielding of software upgrade engineering change proposals for DGNS (AN/ASN-128D) B-Kits.

 FY2021 Base Procurement dollars in the amount of \$18.350 million supports the procurement and installation of A Kits, system testing and engineering, aircraft integration, and software upgrade engineering change proposals for MAGNA - GPS Anti Jam Antenna.

 FY2021 Base Procurement dollars in the amount of \$30.889 million supports procurement of Embedded GPS Inertial Navigation System (EGI) P3I B Kits.

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

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Exhibit P-3a, Individual Modification: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 8662A01006 / Aviation ASSURED PNT	Modification Number / Title: A01006 / Aviation ASSURED PNT

ID Code (A=Service Ready, B=Not Service Ready) :				MDAP/MAIS Code:								
Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	-	-	-	54.609	-	54.609	38.148	69.726	59.006	58.492	Continuing	Continuing
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	-	-	-	54.609	-	54.609	38.148	69.726	59.006	58.492	Continuing	Continuing
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	-	-	-	54.609	-	54.609	38.148	69.726	59.006	58.492	Continuing	Continuing
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	-	-	-	99.109	-	99.109	89.760	92.844	90.639	89.849	Continuing	Continuing

Description:

Prior to FY2021, funding for Aviation ASSURED PNT (Army Navigation Systems) was executed out of Budget Line Item 8659AA0723, Comms, Nav Surveillance.

Assured-Position Navigation and Timing (A-PNT) provides Army aviation with unhindered access to trusted Position, Navigation, and Timing information under conditions where space based PNT may be limited or denied. A-PNT will enable aircrews, who lack the ability to obtain and use PNT information from Global Positioning System (GPS) signals due to operating in conditions that impede or deny access to GPS signals, to access and trust PNT information required to conduct PNT dependent tasks. Aircraft platform level A-PNT includes layers of assurance such as modernized GPS receivers, improved resiliency functions in GPS receivers and navigation equipment, and anti-jam antenna systems, to provide the most robust PNT solution.

Alternate navigation capabilities will be investigated, evaluated, and implemented into the Embedded GPS Inertial Navigation System (EGI)/Enhanced Aviation GATM Localizer Performance with Vertical Guidance (LPV) EGI (EAGLE)/EAGLE-M as standalone or blended navigation functions to enhance resilience. The implementation will be configurable to accept position, velocity, and time measurements from other PNT solutions. Alternative navigation solutions should support high speed data exchange and allow for the addition of new capabilities.

The Doppler Global Positioning System Navigation Set (DGNS) Upgrade program supports system engineering trade studies to reduce space, weight, and power as well as supports current and future Civil Airspace requirements. The DGNS upgrade includes Non-Recurring Engineering for the Computer Display Unit (CDU) which replaces the current CDU faceplate with a touch screen display, provides a moving navigation map capability, and optimizes pilot interface to promote safer flight operations. The CDU upgrade will support A-PNT operations in conjunction with additional system upgrades and upgrades to existing DGNS hardware. This includes anti-jam antenna capabilities and supports the requirement to maintain A-PNT throughout operations.

The EAGLE A-PNT integration program assesses current capabilities in identified operational PNT environment levels, tests identified upgrades to existing EGI hardware in order to accommodate A-PNT in identified operational environments. It supports the requirement to maintain A-PNT throughout operations and requires assessment and follow-on upgrade to the EGI navigation system.

The Multi-platform Anti-jam GPS Navigation Antenna (MAGNA) is a GPS anti-jam adaptive antenna system that will be capable of receiving legacy and modernized NAVSTAR GPS satellite signals. The MAGNA reduces the effect of GPS jamming by rejecting the interfering signals before they disrupt the GPS receiver enabling the Warfighter continued access to GPS-provided Position, Navigation, and Timing (PNT) in a GPS degraded environment.

Resiliency Software Assurance Modification (RSAM) is an interim risk-mitigation measure to provide additional protection to Selective Availability Anti-Spoofing Module (SAASM)-based GPS receivers with the capability to Recognize, Reject, Report and Recover when operating in a GPS degraded or denied environment until M-code products become available.

FY2021 Base Procurement dollars in the amount of \$5.370 million supports the fielding of software upgrade engineering change proposals for DGNS (AN/ASN-128D) B-Kits.

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Exhibit P-3a, Individual Modification: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 8662A01006 / Aviation ASSURED PNT	Modification Number / Title: A01006 / Aviation ASSURED PNT
ID Code (A=Service Ready, B=Not Service Ready) :		MDAP/MAIS Code:

FY2021 Base Procurement dollars in the amount of \$18.350 million supports the procurement and installation of A Kits, system testing and engineering, aircraft integration, and software upgrade engineering change proposals for MAGNA - GPS Anti Jam Antenna.

FY2021 Base Procurement dollars in the amount of \$30.889 million supports procurement of Embedded GPS Inertial Navigation System (EGI) P3I B Kits.

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.

Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	-	-	30.910	-	30.910	21.854	38.349	32.453	32.171
ANG	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	-	-	21.066	-	21.066	14.484	27.891	23.603	23.396
AR	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	-	-	2.633	-	2.633	1.810	3.486	2.950	2.925
Total:	Quantity	-	-	-	-	-	-	-	-	-
Secondary Distribution	Total Obligation Authority	-	-	54.609	-	54.609	38.148	69.726	59.006	58.492

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Exhibit P-3a, Individual Modification: PB 2021 Army										Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10					P-1 Line Item Number / Title: 8662A01006 / Aviation ASSURED PNT					Modification Number / Title: A01006 / Aviation ASSURED PNT			
ID Code (A=Service Ready, B=Not Service Ready) :							MDAP/MAIS Code:						
Models of Systems Affected: UH/HH-60A/L, UH/HH/MH-60M, CH-47D, CH/MH-47F, AH-64D/E, LUH, UAS					Modification Type: New or Improved Operational Capability				Related RDT&E PEs:				
Financial Plan	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
Procurement													
Modification Item 1 of 4: DGNS (AN/ASN-128D) CDU/ SW Upgrade ECP B-Kit													
B Kits													
Recurring													
Fielding	- / -	- / -	- / -	- / 12.418	- / -	- / 12.418	- / 1.299	- / 1.300	- / -	- / -	- / -	- / 15.017	
Systems Eng / Program Management	- / -	- / -	- / -	- / 12.126	- / -	- / 12.126	- / 1.102	- / 1.094	- / -	- / -	- / -	- / 14.322	
Subtotal: Recurring	- / -	- / -	- / -	- / 14.544	- / -	- / 14.544	- / 2.401	- / 2.394	- / -	- / -	- / -	- / 19.339	
Non-Recurring													
System Test & Evaluation	- / -	- / -	- / -	- / 10.826	- / -	- / 10.826	- / -	- / -	- / -	- / -	- / -	- / 10.826	
Subtotal: Non-Recurring	- / -	- / -	- / -	- / 10.826	- / -	- / 10.826	- / -	- / -	- / -	- / -	- / -	- / 10.826	
Subtotal: DGNS (AN/ASN-128D) CDU/ SW Upgrade ECP B-Kit	- / -	- / -	- / -	- / 15.370	- / -	- / 15.370	- / 2.401	- / 2.394	- / -	- / -	- / -	- / 10.165	
Modification Item 2 of 4: MAGNA - GPS Anti Jam Antenna													
A Kits													
Recurring													
MAGNA - GPS Anti Jam Antenna	- / -	- / -	- / -	350 / 9.910	- / -	350 / 9.910	325 / 7.211	400 / 9.828	400 / 9.200	400 / 9.722	3,116 / 93.480	4,991 / 139.351	
Systems Engineering/ Program Management	- / -	- / -	- / -	- / 11.998	- / -	- / 11.998	- / 2.042	- / 2.243	- / 2.155	- / 2.119	Continuing	Continuing	
Subtotal: Recurring	- / -	- / -	- / -	350 / 11.908	- / -	350 / 11.908	325 / 9.253	400 / 12.071	400 / 11.355	400 / 11.841	Continuing	Continuing	
Non-Recurring													
Systems Test & Eval	- / -	- / -	- / -	- / 10.816	- / -	- / 10.816	- / -	- / -	- / -	- / -	Continuing	Continuing	
Aircraft Integration	- / -	- / -	- / -	- / 13.591	- / -	- / 13.591	- / 3.523	- / 4.676	- / 3.802	- / 3.911	Continuing	Continuing	
Subtotal: Non-Recurring	- / -	- / -	- / -	- / 14.407	- / -	- / 14.407	- / 3.523	- / 4.676	- / 3.802	- / 3.911	Continuing	Continuing	
Subtotal: MAGNA - GPS Anti Jam Antenna	- / -	- / -	- / -	350 / 16.315	- / -	350 / 16.315	325 / 12.776	400 / 16.747	400 / 15.157	400 / 15.752	Continuing	Continuing	
Modification Item 3 of 4: Embedded GPS Inertial Nav System (EGI) P3I B Kit													
B Kits													
Recurring													
EGI EAGLE-M	- / -	- / -	- / -	226 / 22.826	- / -	226 / 22.826	100 / 8.240	350 / 37.410	250 / 23.865	250 / 24.150	798 / 91.770	1,974 / 208.261	
EAGLE Retrofit	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	150 / 6.300	150 / 6.375	5,828 / 250.604	6,128 / 263.279	
Systems Engineering /Program Management	- / -	- / -	- / -	- / 13.884	- / -	- / 13.884	- / 14.310	- / 14.323	- / 14.335	- / 14.122	Continuing	Continuing	

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army										Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10				P-1 Line Item Number / Title: 8662A01006 / Aviation ASSURED PNT						Modification Number / Title: A01006 / Aviation ASSURED PNT			
ID Code (A=Service Ready, B=Not Service Ready) :							MDAP/MAIS Code:						
Models of Systems Affected: UH/HH-60A/L, UH/HH/MH-60M, CH-47D, CH/MH-47F, AH-64D/E, LUH, UAS					Modification Type: New or Improved Operational Capability				Related RDT&E PEs:				
Financial Plan	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
<i>Subtotal: Recurring</i>	- / -	- / -	- / -	226 / 26.710	- / -	226 / 26.710	100 / 12.550	350 / 41.733	400 / 34.500	400 / 34.647	Continuing	Continuing	
Non-Recurring													
Aircraft Integration	- / -	- / -	- / -	- / 4.179	- / -	- / 4.179	- / 5.104	- / 1.683	- / 1.542	- / 1.100	Continuing	Continuing	
<i>Subtotal: Non-Recurring</i>	- / -	- / -	- / -	- / 4.179	- / -	- / 4.179	- / 5.104	- / 1.683	- / 1.542	- / 1.100	Continuing	Continuing	
<i>Subtotal: Embedded GPS Inertial Nav System (EGI) P3I B Kit</i>	- / -	- / -	- / -	226 / 30.889	- / -	226 / 30.889	100 / 17.654	350 / 43.416	400 / 36.042	400 / 35.747	Continuing	Continuing	
Modification Item 4 of 4: EGI SAASM GEM V RSAM													
A Kits													
Recurring													
System Engineering /Program Management	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.957	- / 1.299	- / 1.122	- / 1.153	Continuing	Continuing	
<i>Subtotal: Recurring</i>	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.957	- / 1.299	- / 1.122	- / 1.153	Continuing	Continuing	
B Kits													
Non-Recurring													
GEM V System Test & Eval	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 2.666	- / -	- / -	- / -	- / 2.666	
<i>Subtotal: Non-Recurring</i>	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 2.666	- / -	- / -	- / -	- / 2.666	
<i>Subtotal: EGI SAASM GEM V RSAM</i>	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.957	- / 3.965	- / 1.122	- / 1.153	Continuing	Continuing	
<i>Subtotal: Procurement, All Modification Items</i>	- / -	- / -	- / -	576 / 52.574	- / -	576 / 52.574	425 / 33.788	750 / 66.522	800 / 52.321	800 / 52.652	Continuing	Continuing	
Installation													
Modification Item 2 of 4: MAGNA - GPS Anti Jam Antenna	- / -	- / -	- / -	550 / 2.035	- / -	550 / 2.035	350 / 2.100	325 / 2.113	400 / 2.800	400 / 2.840	3,516 / 25.012	5,541 / 36.900	
Modification Item 3 of 4: Embedded GPS Inertial Nav System (EGI) P3I B Kit	- / -	- / -	- / -	- / -	- / -	- / -	226 / 2.260	100 / 1.091	350 / 3.885	250 / 3.000	1,048 / 14.980	1,974 / 25.216	
<i>Subtotal: Installation</i>	- / -	- / -	- / -	550 / 2.035	- / -	550 / 2.035	576 / 4.360	425 / 3.204	750 / 6.685	650 / 5.840	4,564 / 39.992	7,515 / 62.116	
Total													
Total Cost (Procurement + Support + Installation)	-	-	-	54.609	-	54.609	38.148	69.726	59.006	58.492	Continuing	Continuing	

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 8662A01006 / Aviation ASSURED PNT	Modification Number / Title: A01006 / Aviation ASSURED PNT

ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Modification Item 1 of 4: DGNS (AN/ASN-128D) CDU/ SW Upgrade ECP B-Kit

Manufacturer Information

Manufacturer Name: BAE International Incorporated	Manufacturer Location: Wayne, NJ
Administrative Leadtime (in Months):	Production Leadtime (in Months):

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

Installation Information

Method of Implementation: Modification Work Order (MWO)

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot	
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
In	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Out	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 8662A01006 / Aviation ASSURED PNT	Modification Number / Title: A01006 / Aviation ASSURED PNT

ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Modification Item 2 of 4: MAGNA - GPS Anti Jam Antenna

Manufacturer Information

Manufacturer Name: Mayflower Communications, Inc	Manufacturer Location: Boston, MA
Administrative Leadtime (in Months): 2	Production Leadtime (in Months): 12

Dates	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Contract Dates			Dec 2020	Dec 2021	Dec 2022	Dec 2023	Dec 2024
Delivery Dates			Nov 2021	Nov 2022	Nov 2023	Nov 2024	Nov 2025

Installation Information

Method of Implementation: MWO

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	550 / 2.035	- / -	550 / 2.035	- / -	- / -	- / -	- / -	- / -	550 / 2.035
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	350 / 2.100	- / -	- / -	- / -	- / -	350 / 2.100
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	325 / 2.113	- / -	- / -	- / -	325 / 2.113
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	400 / 2.800	- / -	- / -	400 / 2.800
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	400 / 2.840	- / -	400 / 2.840
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	400 / 3.200	400 / 3.200
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	3,116 / 21.812	3,116 / 21.812
Total	- / -	- / -	- / -	550 / 2.035	- / -	550 / 2.035	350 / 2.100	325 / 2.113	400 / 2.800	400 / 2.840	3,516 / 25.012	5,541 / 36.900

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	-	-	-	-	-	-	-	-	-	138	138	137	137	87	87	88	88	81	81	82	81	100	100	100	100	100	100	100	100	3,516	5,541
Out	-	-	-	-	-	-	-	-	-	-	138	138	137	137	87	87	88	88	81	81	82	81	100	100	100	100	100	100	100	3,616	5,541

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 8662A01006 / Aviation ASSURED PNT	Modification Number / Title: A01006 / Aviation ASSURED PNT
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ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Modification Item 3 of 4: Embedded GPS Inertial Nav System (EGI) P3I B Kit

Manufacturer Information

Manufacturer Name: Honeywell, Incorporated	Manufacturer Location: Clearwater, FL
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Administrative Leadtime (in Months): 2	Production Leadtime (in Months): 12
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Dates	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Contract Dates			Dec 2020	Dec 2021	Dec 2022	Dec 2023	Dec 2024
Delivery Dates			Nov 2021	Nov 2022	Nov 2023	Nov 2024	Nov 2025

Installation Information

Method of Implementation: MWO

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	226 / 2.260	- / -	- / -	- / -	- / -	226 / 2.260
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	100 / 1.091	- / -	- / -	- / -	100 / 1.091
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	350 / 3.885	- / -	- / -	350 / 3.885
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	250 / 3.000	- / -	250 / 3.000
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	250 / 3.010	250 / 3.010
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	798 / 11.970	798 / 11.970
Total	- / -	- / -	- / -	- / -	- / -	- / -	226 / 2.260	100 / 1.091	350 / 3.885	250 / 3.000	1,048 / 14.980	1,974 / 25.216

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	-	-	-	-	-	-	-	-	-	-	-	-	-	56	56	57	57	25	25	25	25	87	87	88	88	62	62	63	63	1,048	1,974
Out	-	-	-	-	-	-	-	-	-	-	-	-	-	-	56	56	57	57	25	25	25	25	87	87	88	88	62	62	63	1,111	1,974

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 8662A01006 / Aviation ASSURED PNT	Modification Number / Title: A01006 / Aviation ASSURED PNT

ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Modification Item 4 of 4: EGI SAASM GEM V RSAM

Manufacturer Information

Manufacturer Name: AED	Manufacturer Location: AMCOM
Administrative Leadtime (in Months):	Production Leadtime (in Months):

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

Installation Information

Method of Implementation: MWO

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot	
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
In	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Out	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1

UNCLASSIFIED

Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 02: Modification of Aircraft / BSA 10: Modification of Aircraft	P-1 Line Item Number / Title: 8859AA0711 / GATM Rollup
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ID Code (A=Service Ready, B=Not Service Ready):	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	707.504	26.848	30.966	12.180	-	12.180	9.034	7.668	6.141	4.933	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	707.504	26.848	30.966	12.180	-	12.180	9.034	7.668	6.141	4.933	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	707.504	26.848	30.966	12.180	-	12.180	9.034	7.668	6.141	4.933	Continuing	Continuing

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

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

Description:

This budget line supports procurement of Global Air Traffic Management equipment for both Fixed Wing and Rotary Wing aircraft.

Global Air Traffic Management (GATM) is the military equivalent of the International Civil Aviation architecture known as Communications, Navigation and Surveillance and air traffic management programs. GATM is a Department of Defense term that describes the equipment, training, and procedures mandated by Civilian Air Traffic Control authorities in order to operate within 21st century airspace. Most ground based navigation aids will be phased out of service as the world transitions to a modernized air traffic management system. The modernization is designed to meet the current and future service demands posed by aviation growth. The advanced architecture will provide improved safety, accessibility, flexibility, predictability, reliability, capacity, efficiency, and security. Military aircraft will face significant flight restrictions if not GATM equipped.

GATM fixed wing requirements cannot be met with a single piece of avionics equipment. Meeting worldwide GATM fixed wing requirements will entail complete modifications that may include portions of military modifications and the upgrading of some existing avionics and displays and the procurement of new systems for the fixed wing fleet to include Engineer, Furnish and Install as a complete contractual effort. It also leverages Federal Aviation Administration (FAA) Supplemental Type Certificates (STC) that are already in existence and applies STCs to aircraft modifications. These modifications ensure continued worldwide deployment capability and safe operations.

Meeting worldwide GATM requirements for rotary wing and Unmanned Aircraft System (UAS) fleets will entail the upgrading of some existing avionics and the procurement of new systems. The GATM program includes the Alt Comms and Multi-Mode Aviation Radio Set programs, the Common Transponder (CXP) Programs, the Embedded GPS Inertial (EGI) Navigation Systems, and aircraft Flight Management Systems. These systems will provide Army aircraft with improved capabilities to allow them to continue to operate in civil controlled airspace as well as to operate in European controlled airspace.

This exhibit is for a budget line that procures multiple items and does not have a single Army Acquisition Objective.

Secondary Distribution	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Army									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	14.739	28.845	10.402	-	10.402	8.174	6.865	5.855	4.933

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Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 02: Modification of Aircraft / BSA 10: Modification of Aircraft	P-1 Line Item Number / Title: 8859AA0711 / GATM Rollup
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ID Code (A=Service Ready, B=Not Service Ready):	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: N/A

Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
ANG	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	10.755	1.892	1.606	-	1.606	0.745	0.688	0.229	-
AR	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	1.354	0.229	0.172	-	0.172	0.115	0.115	0.057	-
Total: Secondary Distribution	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	26.848	30.966	12.180	-	12.180	9.034	7.668	6.141	4.933

UNCLASSIFIED

Exhibit P-40, Budget Line Item Justification: PB 2021 Army				Date: February 2020	
Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 02: Modification of Aircraft / BSA 10: Modification of Aircraft				P-1 Line Item Number / Title: 8859AA0711 / GATM Rollup	
ID Code (A=Service Ready, B=Not Service Ready):		Program Elements for Code B Items: N/A		Other Related Program Elements: N/A	
Line Item MDAP/MAIS Code: N/A					

Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-3a	AA0704 / GATM - Rotary Wing Aircraft (New or Improved Operational Capability)				- / 707.504	- / 26.848	- / 30.966	- / 12.180	- / -	- / 12.180
P-40	Total Gross/Weapon System Cost				- / 707.504	- / 26.848	- / 30.966	- / 12.180	- / -	- / 12.180
Exhibits Schedule					FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-3a	AA0704 / GATM - Rotary Wing Aircraft (New or Improved Operational Capability)				- / 9.034	- / 7.668	- / 6.141	- / 4.933	Continuing	Continuing
P-40	Total Gross/Weapon System Cost				- / 9.034	- / 7.668	- / 6.141	- / 4.933	Continuing	Continuing

*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 2021 Base Procurement dollars in the amount of \$1.239 million supports the installation of APX-123/123A B Kits.
 FY 2021 Base Procurement dollars in the amount of \$10.941 million supports Common Transponder APX-123A B-Kit procurement and installation.
 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-3a, Individual Modification: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 8859AA0711 / GATM Rollup	Modification Number / Title: AA0704 / GATM - Rotary Wing Aircraft

ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	707.504	26.848	30.966	12.180	-	12.180	9.034	7.668	6.141	4.933	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	707.504	26.848	30.966	12.180	-	12.180	9.034	7.668	6.141	4.933	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	707.504	26.848	30.966	12.180	-	12.180	9.034	7.668	6.141	4.933	Continuing	Continuing

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

Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Thousands</i>)	623.352	79.668	377.634	176.522	-	176.522	273.758	255.600	511.750	-	Continuing	Continuing

Description:

Global Air Traffic Management (GATM) provides the equipment, training, and procedures mandated by Civilian Air Traffic Control (ATC) authorities in order to operate within 21st century airspace. GATM requirements are driven by civil aviation authorities and are not under DoD control. Most ground based navigation aids will be phased out of service as the Aviation community transitions to a modernized air traffic management system. The modernization is designed to meet the current and future service demands imposed by aviation growth. The advanced architecture will provide improved safety, accessibility, flexibility, predictability, reliability, capacity, efficiency, and security. Military aircraft will need modernized GATM equipment in order to avoid significant flight restrictions. Meeting the worldwide GATM requirement will entail the upgrading of some existing avionics and the procurement of new systems for rotary wing, fixed wing, and Unmanned Aircraft System fleets. The GATM program includes the Alt Comms and Multi-Mode Aviation Radio Set programs, the Common Transponder (CXP) Programs, the Embedded GPS Inertial (EGI) Navigation Systems, and aircraft Flight Management Systems.

GATM provides Army aircraft with improved capabilities to allow them to continue to operate in civil controlled airspace. Identification Friend or Foe (IFF) Mode 5 provides enhanced security and greatly improved performance and also improves compatibility with civil Air Traffic Control by providing less interference. GATM is also necessary since Europe currently mandates Mode S, a Secondary Surveillance Radar process, and plans expansion of the ability for Air Traffic Controllers to communicate with more aircraft in controlled airspace in high volume traffic areas. Army aircraft will not be allowed to transit through or operate in European airspace affected by these mandates unless the necessary GATM upgrades are made. Benefits of GATM include direct routing through civil airspace resulting in significant savings in both time and training costs. It allows for operations in worldwide civil controlled airspace and improves safety and operational efficiency while meeting the new worldwide frequency spectrum requirements.

Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	14.739	28.845	10.402	-	10.402	8.174	6.865	5.855	4.933
ANG	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	10.755	1.892	1.606	-	1.606	0.745	0.688	0.229	-
AR	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	1.354	0.229	0.172	-	0.172	0.115	0.115	0.057	-
Total:	Quantity	-	-	-	-	-	-	-	-	-
Secondary Distribution	Total Obligation Authority	26.848	30.966	12.180	-	12.180	9.034	7.668	6.141	4.933

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Exhibit P-3a, Individual Modification: PB 2021 Army										Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10					P-1 Line Item Number / Title: 8859AA0711 / GATM Rollup					Modification Number / Title: AA0704 / GATM - Rotary Wing Aircraft			
ID Code (A=Service Ready, B=Not Service Ready) :							MDAP/MAIS Code:						
Models of Systems Affected: UH&HH60A/L, CH47D/F, UH60M, MH47G, MH60M, A/MH6, AH64A/D/E, UAS					Modification Type: New or Improved Operational Capability				Related RDT&E PEs:				
Financial Plan	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
Procurement													
Modification Item 1 of 6: Global Air Traffic Mgmt RW APX-123													
A Kits													
Recurring													
Kit Quantity - APX-123 A-Kits	680 / 2.531	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	680 / 2.531	
Aircraft Integ/RCUs/KIV77	- / 16.933	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 16.933	
ECP	- / 6.785	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 6.785	
Systems Eng/Prog Mgt (SEPM)	- / 21.245	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 21.245	
Other PM Admin	- / 8.437	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 8.437	
Subtotal: Recurring	680 / 55.931	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	680 / 55.931	
B Kits													
Recurring													
APX-123 B Kit Conversion Kit (MWO)	1,507 / 10.455	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1,507 / 10.455	
APX-123A B-Kit Production Line	822 / 30.533	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	822 / 30.533	
APX-123 B-Kit Conversion Kit Prod Line	113 / 1.144	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	113 / 1.144	
APX-123 B-Kits Production Line	185 / 6.878	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	185 / 6.878	
APX-123 B-Kit (MWO)	60 / 2.231	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	60 / 2.231	
Fielding/Training	- / 21.002	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 21.002	
Subtotal: Recurring	2,687 / 72.243	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	2,687 / 72.243	
Non-Recurring													
B Kit	- / 23.696	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 23.696	
Subtotal: Non-Recurring	- / 23.696	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 23.696	
Subtotal: Global Air Traffic Mgmt RW APX-123	3,367 / 151.870	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	3,367 / 151.870	
Modification Item 2 of 6: Global Air Traffic Mgmt RW APX-118 Upgrade Kits													
A Kits													
Recurring													
Kit Qty- Upgrade A-Kits	972 / 4.076	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	972 / 4.076	
Engineering Change Orders	- / 1.123	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 1.123	
System Eng/Prog Mgt (SEPM)	- / 9.205	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 9.205	
Subtotal: Recurring	972 / 14.404	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	972 / 14.404	

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Exhibit P-3a, Individual Modification: PB 2021 Army										Date: February 2020			
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10					P-1 Line Item Number / Title: 8859AA0711 / GATM Rollup					Modification Number / Title: AA0704 / GATM - Rotary Wing Aircraft			
ID Code (A=Service Ready, B=Not Service Ready) :							MDAP/MAIS Code:						
Models of Systems Affected: UH&HH60A/L, CH47D/F, UH60M, MH47G, MH60M, A/MH6, AH64A/D/E, UAS					Modification Type: New or Improved Operational Capability				Related RDT&E PEs:				
Financial Plan	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
B Kits													
Recurring													
APX-123 Upgrade Kit (MWO)	2,375 / 26.666	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	2,375 / 26.666	
<i>Subtotal: Recurring</i>	2,375 / 26.666	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	2,375 / 26.666	
Non-Recurring													
B-Kits Nonrecurring	- / 3.520	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 3.520	
<i>Subtotal: Non-Recurring</i>	- / 3.520	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 3.520	
<i>Subtotal: Global Air Traffic Mgmt RW APX-118 Upgrade Kits</i>	3,347 / 44.590	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	3,347 / 44.590	
Modification Item 3 of 6: Global Air Traffic Mgmt RW ADS-B													
A Kits													
Recurring													
Kit Qty: ADS-B A-Kits (Installed w/box)	828 / 3.513	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	828 / 3.513	
Engineering Change Orders	- / 4.079	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 4.079	
Data	- / 3.462	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 3.462	
Training Equipment	- / 3.885	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 3.885	
Fielding	- / 0.845	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.845	
System Eng/Prog Mgt (SEPM)	- / 7.887	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 7.887	
System Test & Eval (ST&E)	- / 1.167	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 1.167	
Other- PM Admin	- / 6.245	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 6.245	
<i>Subtotal: Recurring</i>	828 / 31.083	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	828 / 31.083	
Non-Recurring													
Non-Recurring Engineering	- / 35.236	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 35.236	
<i>Subtotal: Non-Recurring</i>	- / 35.236	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 35.236	
<i>Subtotal: Global Air Traffic Mgmt RW ADS-B</i>	828 / 66.319	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	828 / 66.319	
Modification Item 4 of 6: Embedded GPS Inertial (EGI) Navigation System ECP													
A Kits													
Recurring													
Training/Data/Support Equipment	- / 2.070	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 2.070	
Systems Engineering/Program Management	- / 5.715	- / 3.491	- / 3.581	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 12.787	

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Exhibit P-3a, Individual Modification: PB 2021 Army											Date: February 2020	
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10				P-1 Line Item Number / Title: 8859AA0711 / GATM Rollup				Modification Number / Title: AA0704 / GATM - Rotary Wing Aircraft				
ID Code (A=Service Ready, B=Not Service Ready) :							MDAP/MAIS Code:					
Models of Systems Affected: UH&HH60A/L, CH47D/F, UH60M, MH47G, MH60M, A/MH6, AH64A/D/E, UAS				Modification Type: New or Improved Operational Capability			Related RDT&E PEs:					
Financial Plan	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Fielding	- / 1.120	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 1.120
Subtotal: Recurring	- / 8.905	- / 3.491	- / 3.581	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 15.977
B Kits												
Recurring												
EGI+ Shipsets	86 / 13.129	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	86 / 13.129
EGI EAGLE-M Shipsets MWO	- / -	35 / 5.099	24 / 4.702	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	59 / 9.801
EGI EAGLE SOA Retrofit Kit Shipsets GFE	95 / 5.751	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	95 / 5.751
EGI EAGLE SOA/429 Shipsets GFE	173 / 29.492	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	173 / 29.492
Subtotal: Recurring	354 / 48.372	35 / 5.099	24 / 4.702	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	413 / 58.173
Non-Recurring												
Systems Testing and Evaluation	- / 4.782	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 4.782
Aircraft Integration	- / 25.344	- / 2.616	- / 7.447	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 35.407
Subtotal: Non-Recurring	- / 30.126	- / 2.616	- / 7.447	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 40.189
Subtotal: Embedded GPS Inertial (EGI) Navigation System ECP	354 / 87.403	35 / 11.206	24 / 15.730	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	413 / 114.339
Modification Item 5 of 6: Common Transponder (CXP)												
A Kits												
Recurring												
ADS-B A-Kit (Wire Harness)	- / 1.938	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 1.938
System Test and Evaluation	- / 1.085	- / 1.106	- / 0.069	- / 0.070	- / -	- / 0.070	- / 0.041	- / 0.041	- / 0.100	- / 0.161	- / -	- / 2.673
Systems Engineering/Program Management	- / 3.272	- / 3.897	- / 3.711	- / 3.632	- / -	- / 3.632	- / 3.697	- / 3.714	- / 3.951	- / 3.864	Continuing	Continuing
Fielding/Training	- / 1.043	- / 1.364	- / 1.209	- / 1.886	- / -	- / 1.886	- / 1.804	- / 0.788	- / 1.244	- / 0.724	Continuing	Continuing
Ancillary Procurements	- / 0.014	- / 0.013	- / 0.418	- / 0.012	- / -	- / 0.012	- / 0.017	- / 0.007	- / 0.013	- / 0.028	- / -	- / 0.522
Subtotal: Recurring	- / 7.352	- / 6.380	- / 5.407	- / 5.600	- / -	- / 5.600	- / 5.559	- / 4.550	- / 5.308	- / 4.777	Continuing	Continuing
B Kits												
Recurring												
APX-123A B-Kit Spares	31 / 1.244	20 / 0.840	13 / 0.876	6 / 0.412	- / -	6 / 0.412	4 / 0.280	7 / 0.500	2 / 0.146	- / -	59 / 3.884	142 / 8.182
APX-123 B-Kit Conversion Kit - MWO	101 / 0.705	201 / 1.960	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	668 / 4.762	970 / 7.427
APX-123A B-Kit Production Line/GFE	119 / 4.774	81 / 2.352	98 / 4.516	52 / 2.365	- / -	52 / 2.365	31 / 1.888	50 / 2.618	12 / 0.687	5 / 0.156	89 / 6.012	537 / 25.368
Subtotal: Recurring	251 / 6.723	302 / 5.152	111 / 5.392	58 / 2.777	- / -	58 / 2.777	35 / 2.168	57 / 3.118	14 / 0.833	5 / 0.156	816 / 14.658	1,649 / 40.977
Non-Recurring												
ADS-B Out Non-Recurring Integration	- / 2.387	- / 0.585	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 2.972

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army										Date: February 2020		
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10				P-1 Line Item Number / Title: 8859AA0711 / GATM Rollup				Modification Number / Title: AA0704 / GATM - Rotary Wing Aircraft				
ID Code (A=Service Ready, B=Not Service Ready) :							MDAP/MAIS Code:					
Models of Systems Affected: UH&HH60A/L, CH47D/F, UH60M, MH47G, MH60M, A/MH6, AH64A/D/E, UAS				Modification Type: New or Improved Operational Capability				Related RDT&E PEs:				
Financial Plan	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
<i>Subtotal: Non-Recurring</i>	- / 2.387	- / 0.585	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 2.972
<i>Subtotal: Common Transponder (CXP)</i>	251 / 16.462	302 / 12.117	111 / 10.799	58 / 8.377	- / -	58 / 8.377	35 / 7.727	57 / 7.668	14 / 6.141	5 / 4.933	Continuing	Continuing
Modification Item 6 of 6: Legacy GATM-RW Mods												
A Kits												
Non-Recurring												
Legacy GATM-RW Mods	- / 331.565	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 331.565
<i>Subtotal: Non-Recurring</i>	- / 331.565	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 331.565
<i>Subtotal: Legacy GATM-RW Mods</i>	- / 331.565	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 331.565
<i>Subtotal: Procurement, All Modification Items</i>	8,147 / 698.209	337 / 23.323	135 / 26.529	58 / 8.377	- / -	58 / 8.377	35 / 7.727	57 / 7.668	14 / 6.141	5 / 4.933	Continuing	Continuing
Installation												
Modification Item 1 of 6: Global Air Traffic Mgmt RW APX-123	870 / 0.299	175 / 2.940	335 / 2.944	99 / 1.239	- / -	99 / 1.239	88 / 1.307	- / -	- / -	- / -	- / -	1,567 / 8.729
Modification Item 2 of 6: Global Air Traffic Mgmt RW APX-118 Upgrade Kits	2,027 / 8.996	155 / 0.585	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	2,182 / 9.581
Modification Item 4 of 6: Embedded GPS Inertial (EGI) Navigation System ECP	- / -	- / -	35 / 0.070	24 / 0.048	- / -	24 / 0.048	- / -	- / -	- / -	- / -	- / -	59 / 0.118
Modification Item 5 of 6: Common Transponder (CXP)	- / -	- / -	101 / 1.423	201 / 2.516	- / -	201 / 2.516	- / -	- / -	- / -	- / -	668 / 4.762	970 / 8.701
<i>Subtotal: Installation</i>	2,897 / 9.295	330 / 3.525	471 / 4.437	324 / 3.803	- / -	324 / 3.803	88 / 1.307	- / -	- / -	- / -	668 / 4.762	4,778 / 27.129
Total												
Total Cost (Procurement + Support + Installation)	707.504	26.848	30.966	12.180	-	12.180	9.034	7.668	6.141	4.933	Continuing	Continuing

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 8859AA0711 / GATM Rollup	Modification Number / Title: AA0704 / GATM - Rotary Wing Aircraft

ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Modification Item 1 of 6: Global Air Traffic Mgmt RW APX-123

Manufacturer Information

Manufacturer Name: BAE Systems, Incorporated	Manufacturer Location: Greenlawn, NY
Administrative Leadtime (in Months):	Production Leadtime (in Months):

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

Installation Information

Method of Implementation: Modification Work Order (MWO) - Contractor

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	870 / 0.299	175 / 2.940	335 / 2.944	99 / 1.239	- / -	99 / 1.239	88 / 1.307	- / -	- / -	- / -	- / -	1,567 / 8.729
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	870 / 0.299	175 / 2.940	335 / 2.944	99 / 1.239	- / -	99 / 1.239	88 / 1.307	- / -	- / -	- / -	- / -	1,567 / 8.729

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4					
In	870	43	44	44	44	83	84	84	84	24	25	25	25	22	22	22	22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,567
Out	854	16	43	44	44	44	83	84	84	84	24	25	25	25	22	22	22	22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,567

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 8859AA0711 / GATM Rollup	Modification Number / Title: AA0704 / GATM - Rotary Wing Aircraft
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ID Code (A=Service Ready, B=Not Service Ready) : **MDAP/MAIS Code:**

Modification Item 2 of 6: Global Air Traffic Mgmt RW APX-118 Upgrade Kits

Manufacturer Information

Manufacturer Name: BAE Systems, Incorporated	Manufacturer Location: Greenlawn, NY
Administrative Leadtime (in Months):	Production Leadtime (in Months):

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

Installation Information

Method of Implementation: Modification Work Order (MWO) - Contractor

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	2,027 / 8.996	155 / 0.585	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	2,182 / 9.581
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	2,027 / 8.996	155 / 0.585	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	2,182 / 9.581

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot				
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4						
In	2,027	38	39	39	39	49	48	48	48	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,375
Out	2,018	9	38	39	39	39	49	48	48	48	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,375

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army											Date: February 2020																					
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10											P-1 Line Item Number / Title: 8859AA0711 / GATM Rollup											Modification Number / Title: AA0704 / GATM - Rotary Wing Aircraft										
ID Code (A=Service Ready, B=Not Service Ready) :											MDAP/MAIS Code:																					
Modification Item 3 of 6: Global Air Traffic Mgmt RW ADS-B																																
Manufacturer Information																																
Manufacturer Name: SSAI													Manufacturer Location: Huntsville, AL																			
Administrative Leadtime (in Months):													Production Leadtime (in Months):																			
Dates		FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025						
Contract Dates																																
Delivery Dates																																
Installation Information																																
Method of Implementation: Modification Work Order (MWO) - Contractor																																
Installation Cost		Prior Years		FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 Total		FY 2022		FY 2023		FY 2024		FY 2025		To Complete		Total								
		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)								
Prior Years		0 / 0.000		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -								
FY 2019		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -								
FY 2020		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -								
FY 2021		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -								
FY 2022		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -								
FY 2023		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -								
FY 2024		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -								
FY 2025		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -								
To Complete		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -								
Total		0 / 0.000		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -								
Installation Schedule																																
	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot	
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
In	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Out	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 8859AA0711 / GATM Rollup	Modification Number / Title: AA0704 / GATM - Rotary Wing Aircraft
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ID Code (A=Service Ready, B=Not Service Ready) : **MDAP/MAIS Code:**

Modification Item 4 of 6: Embedded GPS Inertial (EGI) Navigation System ECP

Manufacturer Information

Manufacturer Name: Honeywell, Incorporated	Manufacturer Location: Clearwater, FL
Administrative Leadtime (in Months): 2	Production Leadtime (in Months): 12

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

Installation Information

Method of Implementation: Modification Work Order (MWO)

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2019	- / -	- / -	35 / 0.070	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	35 / 0.070
FY 2020	- / -	- / -	- / -	24 / 0.048	- / -	24 / 0.048	- / -	- / -	- / -	- / -	- / -	24 / 0.048
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	- / -	- / -	35 / 0.070	24 / 0.048	- / -	24 / 0.048	- / -	- / -	- / -	- / -	- / -	59 / 0.118

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot	
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
In	-	-	-	-	-	9	9	9	8	6	6	6	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	59
Out	-	-	-	-	-	-	9	9	9	8	6	6	6	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	59

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10	P-1 Line Item Number / Title: 8859AA0711 / GATM Rollup	Modification Number / Title: AA0704 / GATM - Rotary Wing Aircraft
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ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Modification Item 5 of 6: Common Transponder (CXP)

Manufacturer Information

Manufacturer Name: BAE Systems, Incorporated	Manufacturer Location: Greenlawn, NY
Administrative Leadtime (in Months): 5	Production Leadtime (in Months): 16

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

Installation Information

Method of Implementation: MWO

Installation Cost	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	- / -	- / -	101 / 1.423	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	101 / 1.423
FY 2019	- / -	- / -	- / -	201 / 2.516	- / -	201 / 2.516	- / -	- / -	- / -	- / -	- / -	201 / 2.516
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2025	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	668 / 4.762	668 / 4.762
Total	- / -	- / -	101 / 1.423	201 / 2.516	- / -	201 / 2.516	- / -	- / -	- / -	- / -	668 / 4.762	970 / 8.701

Installation Schedule

	PYS	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				TC	Tot
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	-	-	-	-	-	25	25	25	26	50	50	50	51	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	668	970
Out	-	-	-	-	-	-	25	25	25	26	50	50	50	51	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	668	970

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Exhibit P-3a, Individual Modification: PB 2021 Army						Date: February 2020	
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 02 / 10			P-1 Line Item Number / Title: 8859AA0711 / GATM Rollup			Modification Number / Title: AA0704 / GATM - Rotary Wing Aircraft	
ID Code (A=Service Ready, B=Not Service Ready) :					MDAP/MAIS Code:		
Modification Item 6 of 6: Legacy GATM-RW Mods							
Manufacturer Information							
Manufacturer Name: N/A				Manufacturer Location: N/A			
Administrative Leadtime (in Months):				Production Leadtime (in Months):			
Dates	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Contract Dates							
Delivery Dates							
Installation Information							
Method of Implementation (Organic): N/A					Installation Quantity: 0		

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Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 02: Modification of Aircraft / BSA 10: Modification of Aircraft	P-1 Line Item Number / Title: 9555A00018 / RQ-7 UAV MODS
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ID Code (A=Service Ready, B=Not Service Ready):	Program Elements for Code B Items: N/A	Other Related Program Elements: 0305204A, 0305233A
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Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	2,065.395	154.114	68.983	-	-	-	-	-	-	-	-	2,288.492
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	2,065.395	154.114	68.983	-	-	-	-	-	-	-	-	2,288.492
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	2,065.395	154.114	68.983	-	-	-	-	-	-	-	-	2,288.492

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

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

Description:

The Tactical Unmanned Aircraft System (TUAS) provides Army Brigade Combat Teams, Aviation Brigades, and Special Operation Groups situational awareness, improved wide-area target acquisition, Laser Designation, and high value target (HVT) tracking to conduct both shaping and decisive operations with greatly increased lethality. The TUAS meets the need for a day/night, multi sensor collection system with improved connectivity to joint forces that provides real time battle information that cannot be observed from standoff airborne sensor systems, ground collection systems, and scouts. The key performance parameters are blocked into RQ-7B (production) thresholds and subsequent upgrade objectives. The RQ-7B system is a Reconnaissance Surveillance Target Acquisition (RSTA), Command, Control, Communications, and Intelligence (C3I) system that supports Brigade, Battalion, and lower level elements. The RQ-7B Shadow has logged approximately 1,225,000 flight hours, most of which were flown in support of Overseas Contingency Operations (OCO).

The TUAS RQ-7B completed production of 104 Army systems in 2011 (FY 2009 Funding) and entered a modifications phase. These modifications primarily include RQ-7B v2, System Modifications, the RQ-7B v2 Block III System Modification and the improved Electro Optical / Infrared / Laser Designator (EO/IR/LD) payload.

The RQ-7B v2 or Shadow v2 effort incorporates Type 1 Encryption, STANAG 4586 Compliant Software, a Universal Ground Control Station (UGCS), a Universal Ground Data Terminal (UGDT), a STANAG 4586 compliant Portable Ground Control Station, and standardizes modifications introduced during the wars in Iraq and Afghanistan. The last Shadow v2 delivery is currently scheduled in 4th Quarter FY2020.

The RQ-7B v2 Block III System Modification includes Weatherization, Small Mission (SMC) Computer A-kit, Electro Optical / Infrared / Laser Designator (EO/IR/LD) Universal Interface Assembly, Block III Engine, Communications Relay Installation Kit, and Voice over Internet Protocol (VoIP). Weatherization modifications allow the AV to fly in low visibility conditions and in up to two inches of rain per hour. The SMC is an onboard computer that provides airborne processing power. The SMC addresses obsolescence concerns, features a dual processor, and also contains 50x more processing power than the current computer. The EO/ IR/LD Universal Interface Assembly eliminates reliance on a proprietary payload interface, introducing the capability to support payloads from multiple vendors. The Block III engine improves reliability over the current engine, increases thrust and reduces the noise signature of the Shadow system. The Communication Relay upgrade will enable voice communications to additional users who utilize other waveforms in the VHF and UHF bands. The VoIP upgrade will extend voice communications range from 85 km to 125 km, and will also provide a more reliable means of voice communications. The overall performance enhancements increase the Shadow's mission capability and survivability. The Improved EO/IR/LD payload features a modular design that includes enhanced high-resolution HD imagery, improved geo-location precision and an extended long-range target designation capability.

On 16 Nov 17, the Army Acquisition Executive (AAE) approved an increase to the Shadow Army Acquisition Objective (AAO) from 104 to 115 Shadow systems which provides additional capability in the Combat Aviation Brigades (CABs).

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Exhibit P-40, Budget Line Item Justification: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 02: Modification of Aircraft / BSA 10: Modification of Aircraft		P-1 Line Item Number / Title: 9555A00018 / RQ-7 UAV MODS
ID Code (A=Service Ready, B=Not Service Ready):	Program Elements for Code B Items: N/A	Other Related Program Elements: 0305204A, 0305233A
Line Item MDAP/MAIS Code: N/A		

Changed the P-Form Modification structure to comply with MIL-STD-881C, align with the R-Forms, and align with ACAT-I reporting requirements. The OSRVT Modification moved to Modification Line A00121 in 2017.

Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	150.114	66.983	-	-	-	-	-	-	-
ANG	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	4.000	2.000	-	-	-	-	-	-	-
Total: Secondary Distribution	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	154.114	68.983	-	-	-	-	-	-	-

Justification:
President's Budget 2021 submission for RQ-7 UAV MODS is zero (\$0).

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.

FY2020 Shadow OCO Procurement Funding of \$60.0 M will be utilized for the following:

Block III Air Vehicles (minus payload)	26 ea.	40,800
MX-10 G4 Payloads	26 ea.	13,000
Boresight Tools	13 ea.	1,200
Expeditionary Kits	2 ea.	2,400
PM		2,600

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Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 02: Modification of Aircraft / BSA 10: Modification of Aircraft	P-1 Line Item Number / Title: 9556A01002 / UAS MODS
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ID Code (A=Service Ready, B=Not Service Ready): B	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	53.854	21.046	10.205	4.204	-	4.204	4.206	-	-	-	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	53.854	21.046	10.205	4.204	-	4.204	4.206	-	-	-	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	53.854	21.046	10.205	4.204	-	4.204	4.206	-	-	-	Continuing	Continuing

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

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

Description:

The One System Remote Video Terminal (OSRVT) systems require an update to an Increment II OSRVT. The OSRVT Increment II Upgrade Program of Record (POR) began in FY 2012. The OSRVT Increment II consists of a base system with Remote Operations Video Enhanced Receiver (ROVER) 6 transceiver, tablet computer, Antennas, Type I encryption, Ku-Directional Antennas (KuDA) with an On-The-Move (OTM) capable variant, and an extended range Mobile Directional Antennas System (MDAS). Beginning in FY21, the ROVER 6 will be upgraded to a 6S variant to meet new spectrum requirements and the system will also include a Soldier Portable OsrvT (SPOT) for dismounted users consisting of a wearable tablet computer and a Tactical Net ROVER 2 Encrypted (TNR 2E) transceiver. Software supports decoding Telemetry Data from multiple Manned/Unmanned Aircraft Systems, provides Electro-Optical (EO)/Infrared (IR) payload control, and supports off-target calculations. OSRVT supports current operations as well as FUAS requirements. The OSRVT MODS APE A000121000, began in FY 2017. Prior to FY2017, OSRVT Procurement funds were provided via the SHADOW MODS APE A00018000.

Secondary Distribution	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Army	Quantity	-	-	-	-	-	-	-	-
	Total Obligation Authority	17.446	10.205	4.204	-	4.204	4.206	-	-
ANG	Quantity	-	-	-	-	-	-	-	-
	Total Obligation Authority	3.600	-	-	-	-	-	-	-
Total: Secondary Distribution	Quantity	-	-	-	-	-	-	-	-
	Total Obligation Authority	21.046	10.205	4.204	-	4.204	4.206	-	-

Justification:

FY2021 Base funding of \$4.204M provides for fielding of On-the-Move (OTM) variant and ROVER 6S / SPOT variant. The OTM variant enables full OSRVT functionality while on moving vehicle mounted systems (Future Vertical Lift (FVL) priority to support expeditionary operations). The ROVER 6S upgrade meets new spectrum requirements in order to maintain interoperability with Small UAS and the SPOT is a wearable variant for dismounted users consisting of a wearable tablet computer and a TNR 2E transceiver.

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Exhibit P-40, Budget Line Item Justification: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 02: Modification of Aircraft / BSA 10: Modification of Aircraft		P-1 Line Item Number / Title: 9556A01002 / UAS MODS
ID Code (A=Service Ready, B=Not Service Ready): B	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A		
In accordance with 1815 of the FY 2008 National Defense Authorization Act (P.L. 110-181), this item is necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses and providing military support to civil authorities.		

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Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity:
 2031A: Aircraft Procurement, Army / BA 04: Support Equipment and Facilities / BSA 10: Ground Support Avionics

P-1 Line Item Number / Title:
 3632AZ3504 / Aircraft Survivability Equipment

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

Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	750.529	46.338	52.297	49.455	-	49.455	65.411	168.978	149.637	83.636	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	11.565	-	-	-	-	-	-	-	-	-	-	11.565
Net Procurement (P-1) (<i>\$ in Millions</i>)	738.964	46.338	52.297	49.455	-	49.455	65.411	168.978	149.637	83.636	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	11.565	-	-	-	-	-	-	-	-	-	-	11.565
Total Obligation Authority (<i>\$ in Millions</i>)	750.529	46.338	52.297	49.455	-	49.455	65.411	168.978	149.637	83.636	Continuing	Continuing

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

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

Description:

The Aircraft Survivability Equipment (ASE) budget line includes ASE Laser Countermeasures (AZ3508) and ASE Radio Frequency Countermeasures (AZ3511).

AZ3508 ASE Laser CM

Army Procurement Objective (APO) = 1,332 (APO based on B-Kits)

The AN/AVR-2B Laser Detecting Set (LDS) installed on Army rotary-wing aircraft passively detects laser-aided weapons targeting the aircraft and alerts aircrews, allowing them to engage the threat or maneuver to break the targeting. The system detects aircraft illumination by laser rangefinders, laser target designators, and laser beam rider surface-to-air missiles. The system provides the aircrew visual and aural warnings prioritized by threat lethality using 360 degree azimuth and 90 degree elevation field of view coverage.

AZ3511 Radio Frequency CM

APO D(V)2 = 120 (APO based on B-Kits)

APO E(V)2 = 1,200 (APO based on B-Kits)

The objective of the Aircraft Survivability Equipment (ASE) Development project is to improve Radio Frequency (RF) ASE for Army aviation. The APR-39 Radar Warning Receiver (RWR) detects, categorizes, and prioritizes RF emitters and provides a visual / aural alert to aircrew members warning them of targeting by RF-guided weapons. The Milestone Decision Authority (MDA) approved Phases 1 and 2 of a 3-phased path forward.

Phase 1, APR-39C(V)1/4, serves as an obsolescence / sustainment upgrade to the Processor Line Replaceable Unit (LRU) of the AN/APR-39A(V) (RWR) implemented to ensure that the currently fielded system remains viable until affordable improved RF ASE capability can be pursued in Phases 2 and 3.

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Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 04: Support Equipment and Facilities / BSA 10: Ground Support Avionics	P-1 Line Item Number / Title: 3632AZ3504 / Aircraft Survivability Equipment
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ID Code (A=Service Ready, B=Not Service Ready):	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: N/A

Phase 2A is RWR Modernization begins by adopting the United States Navy APR-39D(V)2 system. APR-39D(V)2 will significantly improve the RF threat coverage, automatic detection and identification of threat types, bearing, and lethality. Phase 2B, the APR-39E(V)2, Modernized Radar Warning Receiver (MRWR), is an Army Engineering Change Proposal (ECP) to the APR-39D(V)2 that will implement enhanced hardware and software upgrades to keep the APR-39 technically relevant against new and emerging agile threats. The Acquisition Decision Memorandum (ADM) was signed June 24, 2019.

Phase 3 adds active Electronic Countermeasures (ECM) capability for selected aircraft; Material Development Decision (MDD) for this ECM capability phase is planned for 4QFY20.

Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	46.338	52.297	49.455	-	49.455	65.411	168.978	149.637	83.636
Total: Secondary Distribution	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	46.338	52.297	49.455	-	49.455	65.411	168.978	149.637	83.636

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Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 04: Support Equipment and Facilities / BSA 10: Ground Support Avionics
P-1 Line Item Number / Title: 3632AZ3504 / Aircraft Survivability Equipment

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

Line Item MDAP/MAIS Code: N/A

Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	AZ3508 / ASE Laser CM				- / 439.772	- / 1.235	- / 5.944	- / 7.565	- / -	- / 7.565
P-40a	AZ3511 / Radio Frequency CM				67 / 310.757	6 / 45.103	14 / 46.353	- / 41.890	- / -	- / 41.890
P-40	Total Gross/Weapon System Cost				- / 750.529	- / 46.338	- / 52.297	- / 49.455	- / -	- / 49.455

*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:

AZ3508 ASE Laser CM: FY 2021 Base Procurement dollars in the amount of \$7.565 million funds installation of (40) CH-47F A-Kits on Rotary Wing aircraft in support of required operational capabilities and integration of AN/AVR-2B LDS with other ASE systems.

AZ3511 Radio Frequency CM: FY 2021 Base Procurement dollars in the amount of \$41.890 million funds procurement of APR-39E(V)2 integration assets, installation of (24) APR-39D(V)2 A-Kits and B-Kits on aircraft, systems test and evaluation, mission data set (MDS), other software, training, fielding and Systems Engineering Program Management (SEPM).

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.

In FY 2021, Reimbursable Manpower for this line has been realigned from Reimbursable Civilian Funding to Direct Operations and Maintenance. Program support costs have been accurately updated to reflect the realignments.

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Exhibit P-5, Cost Analysis: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 04 / 10		P-1 Line Item Number / Title: 3632AZ3504 / Aircraft Survivability Equipment
		Item Number / Title [DODIC]: AZ3508 / ASE Laser CM

ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	439.772	1.235	5.944	7.565	-	7.565
Less PY Advance Procurement (\$ in Millions)	11.565	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	428.207	1.235	5.944	7.565	-	7.565
Plus CY Advance Procurement (\$ in Millions)	11.565	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	439.772	1.235	5.944	7.565	-	7.565

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

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

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

Cost Elements	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Flyaway Cost																		
Recurring Cost																		
Non Recurring Engineering (A-Kit)	-	-	13.688	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A-Kit Procurement	42.382	1,113	47.171	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A-Kit Installation UH-60L	74.056	747	55.320	76.750	4	0.307	-	-	-	-	-	-	-	-	-	-	-	-
A-Kit filters	-	-	18.529	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B-Kit Procurement	146.928	1,332	195.708	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Systems Engineering	-	-	18.414	-	-	0.068	-	-	0.267	-	-	0.303	-	-	-	-	-	0.303
Program Management	-	-	16.815	-	-	0.049	-	-	0.326	-	-	0.284	-	-	-	-	-	0.284
Prime Contractor Prgm Mgt / Engr Spt	-	-	6.270	-	-	0.078	-	-	0.100	-	-	0.300	-	-	-	-	-	0.300
Software	-	-	9.326	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Engineering Changes	-	-	0.638	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Systems Test and Evaluation	-	-	27.546	-	-	0.395	-	-	1.464	-	-	-	-	-	-	-	-	-
Training / Logistics	-	-	20.760	-	-	0.281	-	-	1.542	-	-	1.315	-	-	-	-	-	1.315
Depot / Field Support	-	-	6.499	-	-	0.057	-	-	0.085	-	-	0.300	-	-	-	-	-	0.300
Fielding	-	-	2.900	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Procurement	-	-	0.188	-	-	-	-	-	-	-	-	0.030	-	-	-	-	-	0.030
A-Kit Installation CH-47F	-	-	-	-	-	-	90.000	24	2.160	92.500	40	3.700	-	-	-	92.500	40	3.700
Tech Support	-	-	-	-	-	-	-	-	-	-	-	1.333	-	-	-	-	-	1.333

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Exhibit P-5, Cost Analysis: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 04 / 10	P-1 Line Item Number / Title: 3632AZ3504 / Aircraft Survivability Equipment	Item Number / Title [DODIC]: AZ3508 / ASE Laser CM
ID Code (A=Service Ready, B=Not Service Ready) :		MDAP/MAIS Code:

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

Cost Elements	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
<i>Subtotal: Recurring Cost</i>	-	-	439.772	-	-	1.235	-	-	5.944	-	-	7.565	-	-	-	-	-	7.565
<i>Subtotal: Flyaway Cost</i>	-	-	439.772	-	-	1.235	-	-	5.944	-	-	7.565	-	-	-	-	-	7.565
Gross/Weapon System Cost	-	-	439.772	-	-	1.235	-	-	5.944	-	-	7.565	-	-	-	-	-	7.565

Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Army	Quantity	-	-	-	-	-
	Total Obligation Authority	1.235	5.944	7.565	-	7.565
Total: Secondary Distribution	Quantity	-	-	-	-	-
	Total Obligation Authority	1.235	5.944	7.565	-	7.565

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2021 Army															Date: February 2020					
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 04 / 10					P-1 Line Item Number / Title: 3632AZ3504 / Aircraft Survivability Equipment					Aggregated Items Title: AZ3511 / Radio Frequency CM										
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
			Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Radio Frequency CM																				
AZ3511 / Radio Frequency CM			4,638.164	67	310.757	7,517.167	6	45.103	3,310.929	14	46.353	-	-	41.890	-	-	-	-	-	41.890
<i>Secondary Distribution</i>																				
Army			-	-	-	-	6	45.103	-	14	46.353	-	-	41.890	-	-	-	-	-	41.890
Subtotal: Radio Frequency CM			-	-	310.757	-	-	45.103	-	-	46.353	-	-	41.890	-	-	-	-	-	41.890
Total			-	-	310.757	-	-	45.103	-	-	46.353	-	-	41.890	-	-	-	-	-	41.890

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

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Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 04: Support Equipment and Facilities / BSA 10: Ground Support Avionics	P-1 Line Item Number / Title: 5044AZ3507 / Survivability CM
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ID Code (A=Service Ready, B=Not Service Ready):	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	3,487.484	5.853	8.388	8.035	-	8.035	8.881	8.701	8.838	-	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	3,487.484	5.853	8.388	8.035	-	8.035	8.881	8.701	8.838	-	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	3,487.484	5.853	8.388	8.035	-	8.035	8.881	8.701	8.838	-	Continuing	Continuing

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

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

Description:

The Advanced Threat Infrared Countermeasure (ATIRCM) is an infrared (IR) countermeasure system that interfaces with the Common Missile Warning System (CMWS) to provide near spherical protection of the host aircraft platform in order to defeat IR threat missiles. The operational concept of ATIRCM is as part of the Suite of Integrated Infrared Countermeasures (SIIRCM). The core components of the SIIRCM concept are: a Missile Warning System (MWS), expendable countermeasures (flares) and a laser based IR countermeasure (IRCM). The CMWS detects, declares, and initiates IRCM against IR-guided Surface-to-Air Missiles (SAM) or Air-to-Air Missiles (AAM). ATIRCM takes a hand-off cue from CMWS and then takes immediate action as a laser based countermeasure against the incoming threat missile.

The A-Kit for ATIRCM includes mounting hardware, wiring harnesses, and other components necessary to install and interface the mission kit on host aircraft. The ATIRCM B-Kit is the mission kit (laser, optical coupler, infrared jam head, and jam head control unit) required to achieve near spherical coverage for an aircraft.

The ATIRCM program is a post-Milestone C, Acquisition Category (ACAT) 1C program of record fielded on CH-47F aircraft.

The approved Army Acquisition Objective (AAO) for ATIRCM is 340 A-Kits and 120 B-Kits.

Secondary Distribution	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Army	Quantity	-	-	-	-	-	-	-	-
	Total Obligation Authority	5.853	8.388	8.035	-	8.035	8.881	8.701	8.838
Total: Secondary Distribution	Quantity	-	-	-	-	-	-	-	-
	Total Obligation Authority	5.853	8.388	8.035	-	8.035	8.881	8.701	8.838

UNCLASSIFIED

Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 04: Support Equipment and Facilities / BSA 10: Ground Support Avionics
P-1 Line Item Number / Title: 5044AZ3507 / Survivability CM

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

Line Item MDAP/MAIS Code: N/A

Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	AZ3507 / Survivability CM	P-5a			- / 3,487.484	- / 5.853	- / 8.388	- / 8.035	- / -	- / 8.035
P-40	Total Gross/Weapon System Cost				- / 3,487.484	- / 5.853	- / 8.388	- / 8.035	- / -	- / 8.035

*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 2021 Base Procurement dollars in the amount of \$8.035 million supports software concurrency/maintenance, system testing, System Engineering Program Management, and support across the CH-47F aircraft 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 responses, and providing military support to civil authorities.

All COMPO 1 Active

In FY 2021, Reimbursable Manpower for this line has been realigned from Reimbursable Civilian Funding to Direct Operations and Maintenance. Program support costs have been accurately updated to reflect the realignments.

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Exhibit P-5, Cost Analysis: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 04 / 10	P-1 Line Item Number / Title: 5044AZ3507 / Survivability CM	Item Number / Title [DODIC]: AZ3507 / Survivability CM
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ID Code (A=Service Ready, B=Not Service Ready) : **MDAP/MAIS Code:**

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	3,487.484	5.853	8.388	8.035	-	8.035
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	3,487.484	5.853	8.388	8.035	-	8.035
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	3,487.484	5.853	8.388	8.035	-	8.035

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

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

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

Cost Elements	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Flyaway Cost																		
Recurring Cost																		
Non-Recurring Production	-	-	140.382	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A-Kit Procurement	541.000	167	90.347	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A-Kit/Pod Bay Door Installation ⁽¹⁾	153.420	255	39.122	-	-	2.743	33.155	58	1.923	-	-	-	-	-	-	-	-	-
B-Kit Procurement	3,416.000	120	409.920	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pod Bay Door Procurement	15.030	167	2.510	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Engineering Changes	-	-	10.772	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Program Management	-	-	54.933	-	-	1.183	-	-	0.740	-	-	0.871	-	-	-	-	-	0.871
System Test & Evaluation	-	-	94.548	-	-	1.927	-	-	3.718	-	-	3.052	-	-	-	-	-	3.052
Training	-	-	14.518	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Data	-	-	0.776	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Support Equipment	-	-	3.501	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fielding	-	-	129.918	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Legacy ATIRCM/CMWS Procurement	-	-	2,496.237	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ATIRCM Divestiture Optimization	-	-	-	-	-	-	-	-	-	-	-	1.000	-	-	-	-	-	1.000
<i>Subtotal: Recurring Cost</i>	-	-	3,487.484	-	-	5.853	-	-	6.381	-	-	4.923	-	-	-	-	-	4.923
<i>Subtotal: Flyaway Cost</i>	-	-	3,487.484	-	-	5.853	-	-	6.381	-	-	4.923	-	-	-	-	-	4.923

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Exhibit P-5, Cost Analysis: PB 2021 Army													Date: February 2020					
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 04 / 10							P-1 Line Item Number / Title: 5044AZ3507 / Survivability CM						Item Number / Title [DODIC]: AZ3507 / Survivability CM					
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								

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

Cost Elements	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Software Cost																		
Recurring Cost																		
Software Support	-	-	-	-	-	-	-	-	2.007	-	-	3.112	-	-	-	-	-	3.112
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	2.007	-	-	3.112	-	-	-	-	-	3.112
<i>Subtotal: Software Cost</i>	-	-	-	-	-	-	-	-	2.007	-	-	3.112	-	-	-	-	-	3.112
Gross/Weapon System Cost	-	-	3,487.484	-	-	5.853	-	-	8.388	-	-	8.035	-	-	-	-	-	8.035

Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Army	Quantity	-	-	-	-	-
	Total Obligation Authority	5.853	8.388	8.035	-	8.035
Total:	Quantity	-	-	-	-	-
Secondary Distribution	Total Obligation Authority	5.853	8.388	8.035	-	8.035

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

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Exhibit P-5a, Procurement History and Planning: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 04 / 10	P-1 Line Item Number / Title: 5044AZ3507 / Survivability CM	Item Number / Title [DODIC]: AZ3507 / Survivability CM
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Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty <i>(Each)</i>	Unit Cost <i>(\$ K)</i>	Specs Avail Now?	Date Revision Available	RFP Issue Date
A-Kit/Pod Bay Door Installation		2017	Aviation Field Maint Division / Redstone Arsenal, AL	MIPR	Redstone Arsenal, AL	Oct 2016	Oct 2016	43	36.000	N		
A-Kit/Pod Bay Door Installation		2018	Aviation Field Maint Division / Redstone Arsenal, AL	MIPR	Redstone Arsenal, AL	Oct 2017	Oct 2017	45	37.089	N		
A-Kit/Pod Bay Door Installation		2019	Aviation Field Maint Division / Redstone Arsenal, AL	MIPR	Redstone Arsenal, AL	Oct 2018	Oct 2018	0	0.000	N		
A-Kit/Pod Bay Door Installation		2020	Aviation Field Maint Division / Redstone Arsenal, AL	MIPR	Redstone Arsenal, AL	Oct 2019	Oct 2019	58	33.155	N		

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Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 04: Support Equipment and Facilities / BSA 10: Ground Support Avionics
P-1 Line Item Number / Title: 5397AZ3517 / CMWS

ID Code (A=Service Ready, B=Not Service Ready): **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0605051A

Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	144	35	-	-	-	-	-	-	-	-	-	179
Gross/Weapon System Cost (<i>\$ in Millions</i>)	933.446	97.883	144.218	10.567	149.162	159.729	10.030	8.268	8.506	8.412	-	1,370.492
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	933.446	97.883	144.218	10.567	149.162	159.729	10.030	8.268	8.506	8.412	-	1,370.492
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	933.446	97.883	144.218	10.567	149.162	159.729	10.030	8.268	8.506	8.412	-	1,370.492

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

Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Thousands</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Thousands</i>)	6,482.264	2,796.657	-	-	-	-	-	-	-	-	-	7,656.380

Description:

CMWS:

Army Procurement Objective (APO) = 1,351 (B-Kits)

The CMWS program is a missile warning system that cues both flare and laser-based countermeasures to defeat incoming Infrared (IR)-seeking missiles and will alert aircrews to the presence of certain incoming unguided munitions. The B-Kit consists of the components which perform the missile detection and aircrew notification, unguided munitions detection and aircrew notification, false alarm rejection, and countermeasure employment/cueing functions of the system. The CMWS Electronic Control Unit (ECU) receives ultraviolet (UV) missile detection data from Electro-Optic Missile Sensors (EOMS), which detects UV signals, and sends a missile alert signal to warn aircrews via on-board avionics. Tier 1 threat missiles detected and tracked by the CMWS are subsequently defeated by a combination of missile seeker countermeasures, including decoy flares and IR Laser Jamming (currently Advanced Threat Infrared Countermeasures (ATIRCM)-equipped CH-47 platform only). In addition, the CMWS ECU receives from the EOMS unguided munitions detection data which is also passed to the aircrew through aural and visual cues. The aircrew then applies the appropriate Tactics, Techniques and Procedures (TTPs) to break contact or engage the enemy with on-ship ordnance. The CMWS Generation 3 (Gen 3) ECU in conjunction with ongoing software development efforts will address outstanding materiel release conditions and ensure protection against emerging IR-guided missile threats.

The CMWS A-Kit includes mounting hardware, wiring harnesses, cables, and other components necessary to install and interface the mission kit on host aircraft. The A-Kit ensures the mission kit is functionally and physically operational with a specific host aircraft type.

Joint Urgent Operational Needs Statement (JUONS)/Common Infrared Countermeasure Quick Reaction Capability (CIRCM QRC):

APO = 42 (B-Kits)

As a part of Phase 2a of the JUONS (SO-0010) program, the Army integrated the Department of the Navy Large Aircraft Infrared Countermeasure (DoN LAIRCM) system onto the Army and Special Operations Aircraft (SOA) platforms. Due to a number of challenges, circumstances, and variables, the Army updated the Advanced Threat Warning (ATW)/CIRCM QRC and Limited Interim Missile Warning System (LIMWS) Directed Requirements (dated November 16, 2018). The updated requirements extend the utilization of ATW DoN LAIRCM on conventional Army aircraft and cancel the need for the ATW/CIRCM QRC system for the conventional Army. (It should be noted that the updated requirement maintains the need for ATW/CIRCM on the Special Operations aircraft.) As a result, the Army did not acquire the ATW sensors for use in Phase 3 of the JUONS effort. Instead, the Army accelerated the procurement of the CIRCM QRC systems for use with the currently fielded CMWS in preparation for transition to the LIMWS system when available.

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Exhibit P-40, Budget Line Item Justification: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 04: Support Equipment and Facilities / BSA 10: Ground Support Avionics		P-1 Line Item Number / Title: 5397AZ3517 / CMWS
ID Code (A=Service Ready, B=Not Service Ready):	Program Elements for Code B Items: N/A	Other Related Program Elements: 0605051A
Line Item MDAP/MAIS Code: N/A		

Limited Interim Missile Warning System (LIMWS) QRC:

APO = 399 (B-Kits)

Phase 4 LIMWS QRC addresses the HQDA Directed Requirement to provide a greater capability than the current program of record (POR), CMWS, to bridge the gap between CMWS and the future POR. LIMWS is required in order to maintain overmatch of quickly emerging threat technology and tactics by providing increased detection range, improved detection in clutter, more agile algorithms to rapidly respond to emerging threats, and eliminates the need for sensor alignment.

References:

- Joint Staff, J-8 Deputy Director for Requirements (DOR) memorandum, April 24, 2015
- Phase 2a SOCOM JUONs SO-0010, Joint Rapid Acquisition Cell (JRAC) memorandum, May 29, 2015
- Directed Requirement for the Phase 3 Advanced Threat Warner and Common Infrared Countermeasure Quick Reaction Capability (ATW/CIRCM QRC) to Support Joint Urgent Operational Need (JUON) SO-0010, CIRCM Critical Intelligence Parameters Breach, December 18, 2015
- Directed Requirement for Limited Interim Missile Warning System to Detect Enemy Man Portable Air Defense Systems, March 26, 2017
- Update to the Directed Requirement for the United States Special Operations Command Joint Urgent Operational Needs SO-0010 Threat Detection and Countermeasures to Enemy Man Portable Air Defense System Capability, November 16, 2018
- Directed Requirement for Limited Interim Missile Warning System to Detect Enemy Man Portable Air Defense Systems, November 16, 2018
- Aircraft Survivability Equipment (ASE) Modernization Fielding Guidance, Change 1, November 19, 2018

Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Army	Quantity	35	-	-	-	-	-	-	-	-
	Total Obligation Authority	97.883	144.218	10.567	149.162	159.729	10.030	8.268	8.506	8.412
Total: Secondary Distribution	Quantity	35	-	-	-	-	-	-	-	-
	Total Obligation Authority	97.883	144.218	10.567	149.162	159.729	10.030	8.268	8.506	8.412

UNCLASSIFIED

Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 04: Support Equipment and Facilities / BSA 10: Ground Support Avionics **P-1 Line Item Number / Title:** 5397AZ3517 / CMWS

ID Code (A=Service Ready, B=Not Service Ready): **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0605051A

Line Item MDAP/MAIS Code: N/A

Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	AZ3517 / CMWS	P-5a, P-21			144 / 933.446	35 / 97.883	- / 144.218	- / 10.567	- / 149.162	- / 159.729
P-40	Total Gross/Weapon System Cost				144 / 933.446	35 / 97.883	- / 144.218	- / 10.567	- / 149.162	- / 159.729

*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:
 CMWS: FY 2021 Base Procurement dollars in the amount of \$10.567 million supports CMWS software modifications, software concurrency, contractor support, system of system analysis, aircraft integration, algorithm solutions, and system test and evaluation (ST&E) efforts.

JUONS Phase 2a DoN LAIRCM: FY 2021 OCO Procurement dollars in the amount \$21.850 million provides field support, software maintenance and Systems Engineering Program Management (SEPM). Increase also includes support for SOAR.

Phase 3 CIRCM QRC: FY 2021 OCO Procurement dollars in the amount of \$2.000 million provides field support.

Phase 4 LIMWS QRC: FY 2021 OCO Procurement dollars in the amount of \$125.262 million funds LIMWS QRC B-Kits (100), A-Kits (141) for multiple platforms variants, installation and fielding, Contractor Logistics Support, and SEPM.

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.

All COMPO 1 Active

In FY 2021, Reimbursable Manpower for this line has been realigned from Reimbursable Civilian Funding to Direct Operations and Maintenance. Program support costs have been accurately updated to reflect the realignments.

UNCLASSIFIED

Exhibit P-5, Cost Analysis: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 04 / 10	P-1 Line Item Number / Title: 5397AZ3517 / CMWS	Item Number / Title [DODIC]: AZ3517 / CMWS

ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Procurement Quantity (<i>Units in Each</i>)	144	35	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	933.446	97.883	144.218	10.567	149.162	159.729
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	933.446	97.883	144.218	10.567	149.162	159.729
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	933.446	97.883	144.218	10.567	149.162	159.729

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

Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Thousands</i>)	6,482.264	2,796.657	-	-	-	-

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

Cost Elements	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Hardware Cost																		
Recurring Cost																		
CMWS A-Kit Fixed Wing Installation	2,974.222	18	53.536	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CMWS A-Kit Rotary Wing Installation	657.000	10	6.570	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CMWS Gen 3 ECU Hardware	261.671	432	113.042	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CMWS Gen 3 User Data Module (UDM)	-	-	9.607	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CMWS Other Recurring Prod (Software/Engineer)	-	-	187.708	-	-	6.459	-	-	7.502	-	-	1.266	-	-	-	-	-	1.266
CMWS Systems Engineering	-	-	27.024	-	-	0.749	-	-	0.781	-	-	1.181	-	-	-	-	-	1.181
CMWS Program Management	-	-	23.507	-	-	0.612	-	-	0.639	-	-	3.516	-	-	-	-	-	3.516
CMWS Systems Test and Evaluation	-	-	70.652	-	-	3.697	-	-	4.072	-	-	4.589	-	-	-	-	-	4.589
JUONS SO-0010 A-Kit Procurement	432.174	69	29.820	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
JUONS SO-0010 A-Kit Installation	376.406	69	25.972	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
JUONS SO-0010 B-Kit Procurement	2,824.200	45	127.089	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Exhibit P-5, Cost Analysis: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 04 / 10	P-1 Line Item Number / Title: 5397AZ3517 / CMWS	Item Number / Title [DODIC]: AZ3517 / CMWS

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

Cost Elements	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
JUONS SO-0010 Systems Engineering	-	-	5.917	-	-	2.733	-	-	0.921	-	-	-	-	-	1.200	-	-	1.200
JUONS SO-0010 Program Management	-	-	5.011	-	-	2.237	-	-	0.754	-	-	-	-	-	0.983	-	-	0.983
JUONS SO-0010 Systems Test & Evaluation	-	-	12.538	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
JUONS SO-0010 Fielding/FSR Support/ Depot	-	-	28.750	-	-	10.337	-	-	5.608	-	-	-	-	-	17.697	-	-	17.697
JUONS SO-0010 Software/Engineering Support	-	-	5.000	-	-	1.163	-	-	6.359	-	-	-	-	-	1.970	-	-	1.970
Phase 3 CIRCM QRC B-Kit Procurement ^(†)	1,015.344	64	64.982	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CIRCM QRC Systems Engineering	-	-	6.350	-	-	-	-	-	0.354	-	-	-	-	-	-	-	-	-
CIRCM QRC Program Management	-	-	5.195	-	-	1.120	-	-	0.299	-	-	-	-	-	-	-	-	-
CIRCM QRC A-Kit Installation	-	-	14.138	66.370	135	8.960	68.350	20	1.367	-	-	-	-	-	-	-	-	-
CIRCM QRC ST&E	-	-	0.323	-	-	1.087	-	-	4.510	-	-	-	-	-	-	-	-	-
Phase 4 LIMWS A-Kit Procurement and Install ^(†)	-	-	-	78.047	86	6.712	72.787	183	13.320	-	-	-	164.929	141	23.255	164.929	141	23.255
LIMWS Systems Engineering Program Management	-	-	0.154	-	-	8.230	-	-	1.859	-	-	-	-	-	12.590	-	-	12.590
Phase 4 LIMWS QRC B-Kit Procurement ^(†)	830.944	36	29.914	630.518	56	35.309	897.000	100	89.700	-	-	-	626.090	100	62.609	626.090	100	62.609
LIMWS QRC Additional B-Kit Hardware	-	-	0.832	-	-	-	-	-	2.060	-	-	-	-	-	6.618	-	-	6.618
CIRCM QRC A-Kit Procurement	378.650	60	22.719	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CIRCM Additional Hardware-I Generators	50.550	20	1.011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LIMWS Engineering Services	-	-	-	-	-	5.531	-	-	-	-	-	-	-	-	4.417	-	-	4.417
<i>Subtotal: Recurring Cost</i>	-	-	877.361	-	-	94.936	-	-	140.105	-	-	10.552	-	-	131.339	-	-	141.891
<i>Non Recurring Cost</i>																		

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Exhibit P-5, Cost Analysis: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 04 / 10	P-1 Line Item Number / Title: 5397AZ3517 / CMWS	Item Number / Title [DODIC]: AZ3517 / CMWS

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

Cost Elements	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
CMWS Other Modifications (5th Sensor and P3I)	-	-	4.845	-	-	-	-	-	0.960	-	-	-	-	-	-	-	-	-
CMWS Other Procurement	-	-	3.176	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FY 2019 Rapid Prototyping Fund	-	-	-	-	-	0.613	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Non Recurring Cost</i>	-	-	8.021	-	-	0.613	-	-	0.960	-	-	-	-	-	-	-	-	-
Subtotal: Hardware Cost	-	-	885.382	-	-	95.549	-	-	141.065	-	-	10.552	-	-	131.339	-	-	141.891
Logistics Cost																		
Recurring Cost																		
CIRCM ICS-CLS	-	-	8.060	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
JUONS Fielding and ICS-CLS	-	-	-	-	-	-	-	-	3.108	-	-	-	-	-	-	-	-	-
LIMWS ICS-CLS	-	-	-	-	-	0.935	-	-	-	-	-	-	-	-	15.823	-	-	15.823
<i>Subtotal: Recurring Cost</i>	-	-	8.060	-	-	0.935	-	-	3.108	-	-	-	-	-	15.823	-	-	15.823
Subtotal: Logistics Cost	-	-	8.060	-	-	0.935	-	-	3.108	-	-	-	-	-	15.823	-	-	15.823
Support - Fielding Cost																		
Fielding	-	-	31.797	-	-	1.203	-	-	0.045	-	-	0.015	-	-	2.000	-	-	2.015
Subtotal: Support - Fielding Cost	-	-	31.797	-	-	1.203	-	-	0.045	-	-	0.015	-	-	2.000	-	-	2.015
Support - Training Cost																		
Equipment	-	-	8.207	-	-	0.196	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Support - Training Cost	-	-	8.207	-	-	0.196	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost	6,482.264	144	933.446	2,796.657	35	97.883	-	-	144.218	-	-	10.567	-	-	149.162	-	-	159.729

Remarks:

LIMWS A-Kits: Initial Production quantity of 86 A-Kits was procured in FY 2019. Production of 135 A-Kits scheduled for procurement in first quarter FY 2020. FY 2021 LIMWS OCO APA funds procurement of 141 A-Kits for multiple platform variants.

LIMWS B-Kits: Initial Production quantity of 36 B-Kits was procured in second quarter FY 2018 (May). Contract option for Full Production requires a minimum order quantity of 100 B-Kits. FY 2020 B-Kit unit cost is shown higher in the P-Forms due to the capturing of other costs (including training, data, support equipment, engineering services, software updates, fielding, etc.) in the B-Kit line due to the limited LIMWS elements. The true unit cost for the LIMWS B-Kits in FY 2020 is \$626,091 for a total of \$62.609 million for the 100 units. The resulting downward adjustment to the B-Kit cost element will now be captured in the LIMWS System Engineering and Program Management (SEPM) and Fielding cost elements.

A LIMWS Contractor Logistics Support (CLS) contract is planned for award in December of 2020.

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Exhibit P-5, Cost Analysis: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 04 / 10	P-1 Line Item Number / Title: 5397AZ3517 / CMWS	Item Number / Title [DODIC]: AZ3517 / CMWS
ID Code (A=Service Ready, B=Not Service Ready) :		MDAP/MAIS Code:

Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Army	Quantity	35	-	-	-	-
	Total Obligation Authority	97.883	144.218	10.567	149.162	159.729
Total:	Quantity	35	-	-	-	-
Secondary Distribution	Total Obligation Authority	97.883	144.218	10.567	149.162	159.729

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

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Exhibit P-5a, Procurement History and Planning: PB 2021 Army							Date: February 2020				
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 04 / 10			P-1 Line Item Number / Title: 5397AZ3517 / CMWS				Item Number / Title [DODIC]: AZ3517 / CMWS				

Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$ K)	Specs Avail Now?	Date Revision Available	RFP Issue Date
Phase 3 CIRCM QRC B-Kit Procurement	✓	2018	Northrop Grumman / Rolling Meadows, IL	SS / FFP	AMCOM Contracting Command, RSA	Dec 2017	Dec 2018	64	1,015.344	N		
Phase 4 LIMWS A-Kit Procurement and Install ^(†)	✓	2019	BAE Systems / Nashua, NH	C / FFP	AMCOM Contracting Command, RSA	Nov 2018	Aug 2019	86	78.047	N		
Phase 4 LIMWS A-Kit Procurement and Install ^(†)	✓	2020	TBD / TBD	C / FFP	AMCOM Contracting Command, RSA	Oct 2019	Apr 2020	133	72.780	N		
Phase 4 LIMWS A-Kit Procurement and Install ^(†)	✓	2020	BAE Systems / Nashua, NH	C / FFP	AMCOM Contracting Command, RSA	Oct 2019	Apr 2020	50	72.780	N		
Phase 4 LIMWS A-Kit Procurement and Install ^(†)	✓	2021	TBD / TBD	C / FFP	AMCOM Contracting Command, RSA	Jan 2021	Jul 2021	141	164.929	N		
Phase 4 LIMWS QRC B-Kit Procurement ^(†)	✓	2018	BAE Systems / Nashua, NH	C / FFP	AMCOM Contracting Command, RSA	May 2018	Aug 2019	36	810.833	N		
Phase 4 LIMWS QRC B-Kit Procurement ^(†)	✓	2019	BAE Systems / Nashua, NH	C / FFP	AMCOM Contracting Command, RSA	Apr 2019	Apr 2020	56	630.518	N		
Phase 4 LIMWS QRC B-Kit Procurement ^(†)	✓	2020	BAE Systems / Nashua, NH	C / FFP	AMCOM Contracting Command, RSA	Jan 2020	Mar 2021	100	897.000	N		
Phase 4 LIMWS QRC B-Kit Procurement ^(†)	✓	2021	BAE Systems / Nashua, NH	C / FFP	AMCOM Contracting Command, RSA	Jan 2021	Mar 2022	100	626.090	N		

^(†) indicates the presence of a P-21

Remarks:

Update to the Directed Requirement for the United States Special Operations Command Joint Urgent Operational Needs SO-0010 Threat Detection and Countermeasures to Enemy Man Portable Air Defense System Capability, November 16, 2018 directed fielding of LIMWS to specified theater when available.

Aircraft Survivability Equipment (ASE) Modernization Fielding Guidance, Change 1, November 19, 2018 directed LIMWS concurrent A-Kit installation with CIRCM to a designated unit beginning in fourth quarter FY 2019.

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Exhibit P-21, Production Schedule: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 04 / 10 **P-1 Line Item Number / Title:** 5397AZ3517 / CMWS **Item Number / Title [DODIC]:** AZ3517 / CMWS

Cost Elements <i>(Units in Each)</i>					Fiscal Year 2020												Fiscal Year 2021												BALANCE		
O C O #	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2019	BAL DUE AS OF 1 OCT	Calendar Year 2020												Calendar Year 2021												
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L		A U G	S E P
Phase 4 LIMWS A-Kit Procurement and Install																															
✓	2	2019	ARMY	86	18	68	6	6	6	-	10	10	10	10	10														0		
✓	1	2020	ARMY	133	0	133	A -	-	-	-	-	-	8	8	8	8	8	16	16	16	15	15	7	8				0			
✓	2	2020	ARMY	50	0	50	A -	-	-	-	-	-	10	10	10	10	10											0			
✓	1	2021	ARMY	141	0	141															A -	-	-	-	-	-	13	13	14	101	
Phase 4 LIMWS QRC B-Kit Procurement																															
✓	3	2018	ARMY	36	6	30	3	3	3	3	3	3	3	3	3													0			
✓	3	2019	ARMY	56	0	56	-	-	-	-	-	-	7	7	8	8	10	10	6										0		
✓	3	2020	ARMY	100	0	100				A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30			
✓	3	2021	ARMY	100	0	100															A -	-	-	-	-	-	-	-	100		
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	

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Exhibit P-21, Production Schedule: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 04 / 10 **P-1 Line Item Number / Title:** 5397AZ3517 / CMWS **Item Number / Title [DODIC]:** AZ3517 / CMWS

Cost Elements <i>(Units in Each)</i>						Fiscal Year 2022												Fiscal Year 2023												BALANCE	
O C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2021	BAL DUE AS OF 1 OCT	Calendar Year 2022												Calendar Year 2023												
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G		S E P
Phase 4 LIMWS A-Kit Procurement and Install																															
✓	2	2019	ARMY	86	86	0																						0			
✓	1	2020	ARMY	133	133	0																						0			
✓	2	2020	ARMY	50	50	0																						0			
✓	1	2021	ARMY	141	40	101	13	13	13	13	13	12	12	12														0			
Phase 4 LIMWS QRC B-Kit Procurement																															
✓	3	2018	ARMY	36	36	0																						0			
✓	3	2019	ARMY	56	56	0																						0			
✓	3	2020	ARMY	100	70	30	10	10	10																			0			
✓	3	2021	ARMY	100	0	100	-	-	-	-	-	10	10	10	10	10	10	10	10	10	10							0			
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	

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Exhibit P-21, Production Schedule: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 04 / 10	P-1 Line Item Number / Title: 5397AZ3517 / CMWS	Item Number / Title [DODIC]: AZ3517 / CMWS
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MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Month)			Procurement Leadtime (Months)							
		MSR For 2021	1-8-5 For 2021	MAX For 2021	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	TBD - TBD	1	10	16	0	0	6	6	0	0	6	6
2	BAE Systems - Nashua, NH	1	10	10	0	0	12	12	0	0	12	12
3	BAE Systems - Nashua, NH	1	10	10	0	0	12	12	0	0	12	12

Remarks:
LIMWS QRC: Competitive Contract was awarded December 2017.

Contract option for Full Production requires a minimum order quantity of 100 B-Kits. Army requested an additional \$30.054 million via Above Threshold Reprogramming (ATR) to fully fund the FY 2019 LIMWS QRC APA requirements for procurement of 100 B-Kits. FY 2019 lot of 56 reflect partial funding of the FY 2019 option for the minimum quantity production buy of 100 units. FY 2020 LIMWS OCO APA funds procurement of 100 B-Kits. Procurement of the FY 2020 may be delayed due to the Continuing Resolution (CR) that is in effect for the year and the contract minimum order quantity of 100 B-Kits.

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

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

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Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity:
2031A: Aircraft Procurement, Army / BA 04: Support Equipment and Facilities / BSA 10: Ground Support Avionics

P-1 Line Item Number / Title:
5399AZ3537 / Common Infrared Countermeasures (CIRCM)

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

Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	144	33	81	120	-	120	101	125	125	125	-	854
Gross/Weapon System Cost (<i>\$ in Millions</i>)	189.104	60.899	178.094	237.467	32.400	269.867	215.527	252.517	332.386	276.456	-	1,774.850
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	189.104	60.899	178.094	237.467	32.400	269.867	215.527	252.517	332.386	276.456	-	1,774.850
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	189.104	60.899	178.094	237.467	32.400	269.867	215.527	252.517	332.386	276.456	-	1,774.850

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

Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Thousands</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Thousands</i>)	1,313.222	1,845.424	2,198.691	1,978.892	-	2,248.892	2,133.931	2,020.136	2,659.088	2,211.648	-	2,078.279

Description:

Army Procurement Objective (APO) = 1,781 (B-Kits only)
The CIRCM budget line includes 1) CIRCM (AZ3537), 2) funding to counter emerging technology as identified in Joint Urgent Operational Needs Statement (JUONS) SO-0010 Phase 2a and the Headquarters Department of the Army (HQDA) Directed Requirement for the Common Infrared Countermeasures Quick Reaction Capability (CIRCM QRC), and 3) funding to support HQDA Directed Requirement for the Limited Interim Missile Warning System (LIMWS) Quick Reaction Capability (QRC).

CIRCM (AZ3537)

CIRCM is the next generation lightweight, laser-based Infrared Countermeasure (IRCM) component that will interface with both the Army's Common Missile Warning System (CMWS) and future missile warning systems (MWS) to defeat current and emerging missile threats that use multispectral technology for rotary-wing, tilt-rotor and small fixed-wing aircraft across the DoD. CIRCM receives an angular bearing hand-off from the MWS, employs a pointing and tracking system which acquires the handed-over threat and tracks the incoming missile during and after motor burnout. CIRCM jams the missile by using modulated laser energy in the missile seeker band, thus degrading the tracking capability of the missile and causing it to miss the aircraft. CIRCM is utilizing Open Systems Architecture which allows flexibility with software and hardware refreshes to keep pace with future threats.

The CIRCM A-Kit includes mounting hardware, wiring harnesses, and other components necessary to install and interface the mission kit on host aircraft. The A-Kit ensures the mission kit is functionally and physically operational with a specific host aircraft type. The CIRCM B-Kit is the mission kit (laser, pointer tracker, and controller) required to achieve near spherical coverage for an aircraft.

JUONS SO-0010 and CIRCM QRC

As a part of Phase 2a of the JUONS (SO-0010) program, the Army integrated the Department of the Navy Large Aircraft Infrared Countermeasure (DoN LAIRCM) system onto the Army and Special Operations Aircraft (SOA) platforms. Due to a number of challenges, circumstances, and variables, the Army updated the Advanced Threat Warning (ATW)/CIRCM QRC and Limited Interim Missile Warning System (LIMWS) Directed Requirements (dated November 16, 2018). The updated requirements extend the utilization of ATW DoN LAIRCM on conventional Army aircraft and cancel the need for the ATW/CIRCM QRC system for the conventional Army. (It should be noted that the updated requirement maintains the need for ATW/CIRCM on the Special Operations aircraft.) As a result, the Army did not acquire the ATW sensors for use in Phase 3 of the JUONS effort. Instead, the Army accelerated the procurement of the CIRCM QRC systems for use with the currently fielded CMWS in preparation for transition to the LIMWS system when available.

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Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity:
 2031A: Aircraft Procurement, Army / BA 04: Support Equipment and Facilities / BSA 10: Ground Support Avionics

P-1 Line Item Number / Title:
 5399AZ3537 / Common Infrared Countermeasures (CIRCM)

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

CIRCM MS C was approved September 14, 2018, the Low Rate Initial Production (LRIP) and Engineering Support options were exercised and the program entered the Production & Deployment phase with First Unit Equipped (FUE) planned for third quarter of FY 2020, and a Full Rate Production Decision Review (FRPDR) planned for the third quarter of FY 2020. During the MS C approval process, the CSA directed funding be increased beginning in FY 2020 to accelerate CIRCM production, Initial Operational Test (IOT) and to field one Combat Aviation Brigade (CAB) per year.

Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Army	Quantity	33	81	120	-	120	101	125	125	125
	Total Obligation Authority	60.899	178.094	237.467	32.400	269.867	215.527	252.517	332.386	276.456
Total: Secondary Distribution	Quantity	33	81	120	-	120	101	125	125	125
	Total Obligation Authority	60.899	178.094	237.467	32.400	269.867	215.527	252.517	332.386	276.456

UNCLASSIFIED

Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 04: Support Equipment and Facilities / BSA 10: Ground Support Avionics
P-1 Line Item Number / Title: 5399AZ3537 / Common Infrared Countermeasures (CIRCM)

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

Line Item MDAP/MAIS Code: N/A

Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	AZ3537 / Common Infrared Countermeasures (CIRCM)	P-5a, P-21			144 / 189.104	33 / 60.899	81 / 178.094	120 / 237.467	- / 32.400	120 / 269.867
P-40	Total Gross/Weapon System Cost				144 / 189.104	33 / 60.899	81 / 178.094	120 / 237.467	- / 32.400	120 / 269.867

*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 2021 Base Procurement dollars in the amount of \$237.467 million will fund procurement of CIRCM hardware, integration, testing, Systems Engineering Program Management (SEPM), and fielding.

FY 2021 OCO Procurement dollars in the amount of \$32.400 million will fund A-Kit installs, SEPM, System Test & Evaluation (ST&E), fielding, Contractor Logistics Support (CLS), and software updates.

As a result of the Milestone C decision on September 14, 2018, the PB2021 submission supports an approved ACP and APB update.

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.

All COMPO 1 Active

In FY 2021, Reimbursable Manpower for this line has been realigned from Reimbursable Civilian Funding to Direct Operations and Maintenance. Program support costs have been accurately updated to reflect the realignments.

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Exhibit P-5, Cost Analysis: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 04 / 10	P-1 Line Item Number / Title: 5399AZ3537 / Common Infrared Countermeasures (CIRCM)	Item Number / Title [DODIC]: AZ3537 / Common Infrared Countermeasures (CIRCM)

ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Procurement Quantity (Units in Each)	144	33	81	120	-	120
Gross/Weapon System Cost (\$ in Millions)	189.104	60.899	178.094	237.467	32.400	269.867
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	189.104	60.899	178.094	237.467	32.400	269.867
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	189.104	60.899	178.094	237.467	32.400	269.867

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

Initial Spares (\$ in Millions)	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	1,313.222	1,845.424	2,198.691	1,978.892	-	2,248.892

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

Cost Elements	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Flyaway Cost																		
Recurring Cost																		
CIRCM A-Kit Manufacturing/ Installation ^(f)	101.458	24	2.435	61.914	81	5.015	90.487	113	10.225	123.636	107	13.229	-	-	-	123.636	107	13.229
CIRCM B-Kit Manufacturing ^(f)	1,287.500	24	30.900	481.083	24	11.546	1,226.321	81	99.332	1,203.442	120	144.413	-	-	-	1,203.442	120	144.413
Other Recurring Production	-	-	-	-	-	12.368	-	-	0.008	-	-	6.000	-	-	-	-	-	6.000
Phase 3 CIRCM QRC B-Kit Manufacturing ^(f)	1,251.159	107	133.874	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CIRCM QRC A-Kit Manufacturing/Installs	-	-	1.428	-	-	8.037	-	-	-	-	-	-	-	-	14.665	-	-	14.665
B-Kit Manufacturing to Support Phase 4 LIMWS QRC ^(f)	-	-	-	1,271.000	9	11.439	-	-	-	-	-	-	-	-	-	-	-	-
CIRCM QRC SEPM	-	-	8.411	-	-	2.249	-	-	0.931	-	-	-	-	-	3.457	-	-	3.457
CIRCM QRC Testing	-	-	-	-	-	2.049	-	-	-	-	-	-	-	-	-	-	-	-
CIRCM QRC Training	-	-	2.718	-	-	0.125	-	-	2.850	-	-	-	-	-	-	-	-	-
CIRCM QRC Fielding	-	-	5.436	-	-	0.161	-	-	4.529	-	-	-	-	-	6.778	-	-	6.778
CIRCM QRC Software	-	-	-	-	-	-	-	-	1.000	-	-	-	-	-	2.000	-	-	2.000
CIRCM QRC Rapid Prototyping Fund	-	-	-	-	-	0.033	-	-	-	-	-	-	-	-	-	-	-	-

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Exhibit P-5, Cost Analysis: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 04 / 10	P-1 Line Item Number / Title: 5399AZ3537 / Common Infrared Countermeasures (CIRCM)	Item Number / Title [DODIC]: AZ3537 / Common Infrared Countermeasures (CIRCM)

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

Cost Elements	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
CIRCM QRC Engineering Changes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.500	-	-	5.500
<i>Subtotal: Recurring Cost</i>	-	-	185.202	-	-	53.022	-	-	118.875	-	-	163.642	-	-	32.400	-	-	196.042
Non Recurring Cost																		
Depot Stand-up	-	-	-	-	-	-	-	-	-	-	-	2.866	-	-	-	-	-	2.866
<i>Subtotal: Non Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	2.866	-	-	-	-	-	2.866
<i>Subtotal: Flyaway Cost</i>	-	-	185.202	-	-	53.022	-	-	118.875	-	-	166.508	-	-	32.400	-	-	198.908
Software Cost																		
Recurring Cost																		
Jam Code Updates/ Software Support	-	-	3.902	-	-	-	-	-	6.008	-	-	2.056	-	-	-	-	-	2.056
Cyber Security	-	-	-	-	-	-	-	-	-	-	-	2.699	-	-	-	-	-	2.699
<i>Subtotal: Recurring Cost</i>	-	-	3.902	-	-	-	-	-	6.008	-	-	4.755	-	-	-	-	-	4.755
<i>Subtotal: Software Cost</i>	-	-	3.902	-	-	-	-	-	6.008	-	-	4.755	-	-	-	-	-	4.755
Support - Data Cost																		
Technical Publications	-	-	-	-	-	0.463	-	-	0.162	-	-	0.250	-	-	-	-	-	0.250
<i>Subtotal: Support - Data Cost</i>	-	-	-	-	-	0.463	-	-	0.162	-	-	0.250	-	-	-	-	-	0.250
Support - Engineering Change Proposals Cost																		
Engineering Change Proposals	-	-	-	-	-	-	-	-	1.972	-	-	0.750	-	-	-	-	-	0.750
<i>Subtotal: Support - Engineering Change Proposals Cost</i>	-	-	-	-	-	-	-	-	1.972	-	-	0.750	-	-	-	-	-	0.750
Support - Fielding Cost																		
Fielding	-	-	-	-	-	3.942	-	-	19.627	-	-	32.432	-	-	-	-	-	32.432
<i>Subtotal: Support - Fielding Cost</i>	-	-	-	-	-	3.942	-	-	19.627	-	-	32.432	-	-	-	-	-	32.432
Support - Peculiar Support Equipment Cost																		
Test and Measurement Equipment	-	-	-	-	-	-	-	-	0.210	-	-	0.293	-	-	-	-	-	0.293
<i>Subtotal: Support - Peculiar Support Equipment Cost</i>	-	-	-	-	-	-	-	-	0.210	-	-	0.293	-	-	-	-	-	0.293
Support - System Engineering Cost																		
System Engineering	-	-	-	-	-	3.472	-	-	11.769	-	-	15.882	-	-	-	-	-	15.882

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Exhibit P-5, Cost Analysis: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 04 / 10	P-1 Line Item Number / Title: 5399AZ3537 / Common Infrared Countermeasures (CIRCM)	Item Number / Title [DODIC]: AZ3537 / Common Infrared Countermeasures (CIRCM)

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

Cost Elements	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
<i>Subtotal: Support - System Engineering Cost</i>	-	-	-	-	-	3.472	-	-	11.769	-	-	15.882	-	-	-	-	-	15.882
<i>Support - System Test and Evaluation Cost</i>																		
Test and Evaluation Support	-	-	-	-	-	-	-	-	2.779	-	-	6.054	-	-	-	-	-	6.054
<i>Subtotal: Support - System Test and Evaluation Cost</i>	-	-	-	-	-	-	-	-	2.779	-	-	6.054	-	-	-	-	-	6.054
<i>Support - Training Cost</i>																		
Services	-	-	-	-	-	-	-	-	16.692	-	-	10.543	-	-	-	-	-	10.543
<i>Subtotal: Support - Training Cost</i>	-	-	-	-	-	-	-	-	16.692	-	-	10.543	-	-	-	-	-	10.543
Gross/Weapon System Cost	1,313.222	144	189.104	1,845.424	33	60.899	2,198.691	81	178.094	1,978.892	120	237.467	-	-	32.400	2,248.892	120	269.867

Remarks:
Other Recurring Production includes CIRCM Obsolescence

Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Army	Quantity	33	81	120	-	120
	Total Obligation Authority	60.899	178.094	237.467	32.400	269.867
Total:	Quantity	33	81	120	-	120
Secondary Distribution	Total Obligation Authority	60.899	178.094	237.467	32.400	269.867

(†) indicates the presence of a P-5a

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Exhibit P-5a, Procurement History and Planning: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 04 / 10	P-1 Line Item Number / Title: 5399AZ3537 / Common Infrared Countermeasures (CIRCM)	Item Number / Title [DODIC]: AZ3537 / Common Infrared Countermeasures (CIRCM)
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Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$ K)	Specs Avail Now?	Date Revision Available	RFP Issue Date
CIRCM A-Kit Manufacturing/ Installation ^(†)		2018	Logistics Support Facility (LSF) / Army Aviation Field Maintenance Facility (AFMD) / Redtone Arsenal	MIPR	HQ ACC, Redstone Arsenal, AL	Sep 2018	Jul 2019	24	0.000	Y		
CIRCM A-Kit Manufacturing/ Installation ^(†)		2019	Logistics Support Facility (LSF) / Army Aviation Field Maintenance Facility (AFMD) / Redtone Arsenal	MIPR	HQ ACC, Redstone Arsenal, AL	Apr 2019	Aug 2019	81	61.914	N		
CIRCM A-Kit Manufacturing/ Installation ^(†)		2020	Logistics Support Facility (LSF) / Army Aviation Field Maintenance Facility (AFMD) / Redtone Arsenal	MIPR	HQ ACC, Redstone Arsenal, AL	Jan 2020	May 2020	113	90.487	N		
CIRCM A-Kit Manufacturing/ Installation ^(†)		2021	Logistics Support Facility (LSF) / Army Aviation Field Maintenance Facility (AFMD) / Redtone Arsenal	MIPR	HQ ACC, Redstone Arsenal, AL	Jan 2021	May 2021	107	123.636	N		
CIRCM B-Kit Manufacturing ^(†)		2018	Northrop Grumman Systems Corp / Rolling Meadows	C / FFP	HQ ACC, Redstone Arsenal, AL	Jul 2019	Sep 2020	24	1,287.500	N		
CIRCM B-Kit Manufacturing ^(†)		2019	Northrop Grumman Systems Corp / Rolling Meadows	Option / FFP	HQ ACC, Redstone Arsenal, AL	Dec 2018	Oct 2019	24	481.083	N		
CIRCM B-Kit Manufacturing ^(†)		2020	Northrop Grumman Systems Corp / Rolling Meadows	C / FFP	HQ ACC, Redstone Arsenal, AL	Jan 2020	Mar 2021	81	1,226.321	N		
CIRCM B-Kit Manufacturing ^(†)		2021	Northrop Grumman Systems Corp / Rolling Meadows	C / FFP	HQ ACC, Redstone Arsenal, AL	Nov 2020	Jan 2022	120	1,203.442	N		
Phase 3 CIRCM QRC B-Kit Manufacturing	✓	2017	Northrop Grumman Systems Corp / Rolling Meadows	C / FFP	HQ ACC, Redstone Arsenal, AL	Sep 2018	Nov 2019	77	1,200.170	N		
Phase 3 CIRCM QRC B-Kit Manufacturing	✓	2018	Northrop Grumman Systems Corp / Rolling Meadows	C / FFP	HQ ACC, Redstone Arsenal, AL	Jul 2019	Jan 2021	30	1,382.033	N		
B-Kit Manufacturing to Support Phase 4 LIMWS QRC	✓	2019	Northrop Grumman Systems Corp / Rolling Meadows	C / FFP	HQ ACC, Redstone Arsenal, AL	Jul 2019	Dec 2020	9	1,271.000	N		

^(†) indicates the presence of a P-21

Remarks:

FY18 - LRIP 3 (DO 01) Qty = 24
 FY19 - LRIP 2 Qty = 24
 FY20 - LRIP 3 (DO 02) Qty = 81
 FY21 - FRP Qty = 120

FY17 - QRC 2 Qty = 77
 FY18 - QRC 3 Qty = 30
 FY19 - LIMWS QRC Qty = 9

Variances in the delivery schedules reflect multiple contract vehicle requirements being met by a single production line, which is operating on a first in first out basis.

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Exhibit P-21, Production Schedule: PB 2021 Army															Date: February 2020														
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 04 / 10										P-1 Line Item Number / Title: 5399AZ3537 / Common Infrared Countermeasures (CIRCM)										Item Number / Title [DODIC]: AZ3537 / Common Infrared Countermeasures (CIRCM)									

Cost Elements <i>(Units in Each)</i>						Fiscal Year 2020														Fiscal Year 2021														BALANCE	
O C O #	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2019	BAL DUE AS OF 1 OCT	Calendar Year 2020														Calendar Year 2021														
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					
CIRCM A-Kit Manufacturing/Installation																																			
	1	2018	ARMY	24	24	0																								0					
	1	2019	ARMY	81	30	51	15	15	21																					0					
	1	2020	ARMY	113	0	113				A	-	-	-	-	15	15	15	15	15	15	23									0					
	1	2021	ARMY	107	0	107																								32					
CIRCM B-Kit Manufacturing																																			
	2	2018	ARMY	24	0	24	-	-	-	-	-	-	-	-	-	-	-	-	5	9	9	1								0					
	2	2019	ARMY	24	0	24	12	-	-	-	-	-	12																	0					
	2	2020	ARMY	81	0	81				A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	10	10	10	15					
	2	2021	ARMY	120	0	120																								120					
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					

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Exhibit P-21, Production Schedule: PB 2021 Army															Date: February 2020														
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 04 / 10										P-1 Line Item Number / Title: 5399AZ3537 / Common Infrared Countermeasures (CIRCM)										Item Number / Title [DODIC]: AZ3537 / Common Infrared Countermeasures (CIRCM)									

Cost Elements <i>(Units in Each)</i>						Fiscal Year 2022														Fiscal Year 2023														BALANCE	
O C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2021	BAL DUE AS OF 1 OCT	Calendar Year 2022														Calendar Year 2023														
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					
CIRCM A-Kit Manufacturing/Installation																																			
	1	2018	ARMY	24	24	0																												0	
	1	2019	ARMY	81	81	0																												0	
	1	2020	ARMY	113	113	0																												0	
	1	2021	ARMY	107	75	32		15	17																									0	
CIRCM B-Kit Manufacturing																																			
	2	2018	ARMY	24	24	0																												0	
	2	2019	ARMY	24	24	0																													0
	2	2020	ARMY	81	66	15		10	5																										0
	2	2021	ARMY	120	0	120		-	-		9	10	11	10	10	10	10	10	10	10	10	10													0
								O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P				

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Exhibit P-21, Production Schedule: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 04 / 10		P-1 Line Item Number / Title: 5399AZ3537 / Common Infrared Countermeasures (CIRCM)
		Item Number / Title [DODIC]: AZ3537 / Common Infrared Countermeasures (CIRCM)

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Month)			Procurement Leadtime (Months)								
		MSR For 2021	1-8-5 For 2021	MAX For 2021	Initial				Reorder				
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	
1	Logistics Support Facility (LSF) / Army Aviation Field Maintenance Facility (AFMD) - Redtone Arsenal	3	30	45	0	0	0	0	0	0	0	0	0
2	Northrop Grumman Systems Corp - Rolling Meadows	5	15	25	0	0	14	14	0	0	0	0	0

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

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

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Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 04: Support Equipment and Facilities / BSA 30: Other Support **P-1 Line Item Number / Title:** 0832AZ3000 / Avionics Support Equipment

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

Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	539.206	1.778	1.777	1.789	-	1.789	1.838	-	-	-	-	546.388
Less PY Advance Procurement (<i>\$ in Millions</i>)	5.036	-	-	-	-	-	-	-	-	-	-	5.036
Net Procurement (P-1) (<i>\$ in Millions</i>)	534.170	1.778	1.777	1.789	-	1.789	1.838	-	-	-	-	541.352
Plus CY Advance Procurement (<i>\$ in Millions</i>)	5.036	-	-	-	-	-	-	-	-	-	-	5.036
Total Obligation Authority (<i>\$ in Millions</i>)	539.206	1.778	1.777	1.789	-	1.789	1.838	-	-	-	-	546.388

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

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

Description:

The Aviator's Night Vision Imaging System (ANVIS), supports the Army's objectives by permitting superior tactical mobility of rotary wing aircraft during darkness and low light conditions. ANVIS also supports Fixed Wing Lift permitting loading/unloading and flight during darkness and low light conditions. ANVIS is a binocular, helmet-mounted system for Aviation crew members. ANVIS is a night vision goggle that significantly expands the input dynamic range to support operations in conditions that vary from below starlight illumination levels through strong urban lighting situations. The increased capability of ANVIS yields enhanced mission performance and improved safety of flight, compared to what is now possible using previous ANVIS systems. ANVIS enhances the survivability, lethality, and tactical mobility for aviators.

The Army Acquisition Objective (AAO) for this program is 16,902.

Secondary Distribution	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Army									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	1.778	1.777	1.789	-	1.789	1.838	-	-	-
Total:									
Secondary Distribution									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	1.778	1.777	1.789	-	1.789	1.838	-	-	-

Justification:

FY 2021 Base procurement dollars in the amount of \$1.789 million supports program management, fielding activities, and procurement of initial spare systems, and parts (to include modernization parts).

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 mission, domestic emergency responses, and providing military support of civil authorities.

UNCLASSIFIED

Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 04: Support Equipment and Facilities / BSA 30: Other Support **P-1 Line Item Number / Title:** 5212AZ3100 / Common Ground Equipment

ID Code (A=Service Ready, B=Not Service Ready): **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0603801A, 0605830A

Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	1,275.477	34.818	18.624	17.584	-	17.584	14.856	15.164	16.109	13.012	-	1,405.644
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	1,275.477	34.818	18.624	17.584	-	17.584	14.856	15.164	16.109	13.012	-	1,405.644
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	1,275.477	34.818	18.624	17.584	-	17.584	14.856	15.164	16.109	13.012	-	1,405.644
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Thousands</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Thousands</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

Aviation Ground Support Equipment (AGSE) acquires, fields, and modernizes aviation support equipment within cost, schedule, and performance parameters, allowing Army Aviation Soldiers to carry out peacetime and wartime missions. AGSE provides life cycle systems management for Aviation Ground Power Unit (AGPU), Aviation Light Utility Mobile Maintenance Cart (ALUMMC), Tool Set, Aviation Unit Maintenance (TS, AUM), Modernized Maintenance Stands (MMS), Common Aviation Tool System (CATS), Flexible Engine Diagnostic System (FEDS), Self-propelled Crane Aircraft Maintenance and Positioning Increment II (SCAMP II) Type 2 (Expeditionary Variant), Unit Maintenance Aerial Recovery Kit (UMARK), Pitot Static Test Set (PSTS), Non-Destructive Test Equipment (NDTE) and Aircraft Cleaning and De-icing System (ACDS).

Secondary Distribution	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Army	-	-	-	-	-	-	-	-	-
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	15.645	16.473	8.222	-	8.222	8.208	15.164	10.109	13.012
ANG	-	-	-	-	-	-	-	-	-
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	17.946	1.985	6.252	-	6.252	4.751	-	6.000	-
AR	-	-	-	-	-	-	-	-	-
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	1.227	0.166	3.110	-	3.110	1.897	-	-	-
Total: Secondary Distribution	-	-	-	-	-	-	-	-	-
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	34.818	18.624	17.584	-	17.584	14.856	15.164	16.109	13.012

UNCLASSIFIED

Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 04: Support Equipment and Facilities / BSA 30: Other Support **P-1 Line Item Number / Title:** 5212AZ3100 / Common Ground Equipment

ID Code (A=Service Ready, B=Not Service Ready): **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0603801A, 0605830A

Line Item MDAP/MAIS Code: N/A

Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	AZ3520 / AVIATION GROUND SUPPORT EQUIPMENT				- / 1,275.477	- / 34.818	- / 18.624	- / 17.584	- / -	- / 17.584
P-40	Total Gross/Weapon System Cost				- / 1,275.477	- / 34.818	- / 18.624	- / 17.584	- / -	- / 17.584

*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 2021 Base procurement dollars in the amount of \$1.176 million funds the fielding of the final 14 Self-propelled Crane Aircraft Maintenance and Positioning Increment II, Type 2 (Expeditionary Variant).
 FY 2021 Base procurement dollars in the amount of \$16.408 million procures and fields 20 Pitot Static Test Sets (PSTS) and 229 PSTS MWOs.
 In accordance with Section 1815 of the FY 2008 National Defense Authorization Act (P.L. 110-181), this item is necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses and providing military support to civil authorities.

UNCLASSIFIED

Exhibit P-5, Cost Analysis: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 04 / 30		P-1 Line Item Number / Title: 5212AZ3100 / Common Ground Equipment
		Item Number / Title [DODIC]: AZ3520 / AVIATION GROUND SUPPORT EQUIPMENT

ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	1,275.477	34.818	18.624	17.584	-	17.584
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	1,275.477	34.818	18.624	17.584	-	17.584
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	1,275.477	34.818	18.624	17.584	-	17.584

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

Initial Spares (\$ in Millions)	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	440.732	130.404	123.338	77.805	-	77.805

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

Cost Elements	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Flyaway Cost																		
Recurring Cost																		
Aviation Ground Power Unit	124.483	8,246	1,026.487	-	-	0.128	-	-	-	-	-	-	-	-	-	-	-	-
Avn Light Utility Mobile Maint	43.568	1,100	47.925	-	-	0.113	-	-	-	-	-	-	-	-	-	-	-	-
Modernized Maintenance Stands	-	-	5.827	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Common Aviation Tool System	2.836	19,889	56.405	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Flexible Engine Diagnostics Sys	16,765.400	5	83.827	-	-	4.000	-	-	4.015	-	-	-	-	-	-	-	-	-
SCAMP II Expeditionary Type 2	-	-	2.110	176.980	96	16.990	165.500	14	2.317	-	-	1.176	-	-	-	-	-	1.176
Unit Maint Aerial Recovery Kit	-	-	14.584	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Non-Destructive Test Equipment	478.968	62	29.696	-	-	0.466	-	-	-	-	-	-	-	-	-	-	-	-
Tool Set, Aviation Unit Maintenance	-	-	1.879	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pitot Static Test Set	-	-	4.430	121.460	108	13.118	163.890	75	12.292	820.400	20	16.408	-	-	-	820.400	20	16.408
Aviation Intermediate Shop Set	-	-	-	-	-	0.003	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Recurring Cost	-	-	1,273.170	-	-	34.818	-	-	18.624	-	-	17.584	-	-	-	-	-	17.584

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Exhibit P-5, Cost Analysis: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 04 / 30	P-1 Line Item Number / Title: 5212AZ3100 / Common Ground Equipment	Item Number / Title [DODIC]: AZ3520 / AVIATION GROUND SUPPORT EQUIPMENT

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

Cost Elements	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
<i>Subtotal: Flyaway Cost</i>	-	-	1,273.170	-	-	34.818	-	-	18.624	-	-	17.584	-	-	-	-	-	17.584
Support - Program Management Cost																		
Government Management	-	-	2.307	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - Program Management Cost</i>	-	-	2.307	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost	440.732	-	1,275.477	130.404	-	34.818	123.338	-	18.624	77.805	-	17.584	-	-	-	77.805	-	17.584

Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Army	Quantity	-	-	-	-	-
	Total Obligation Authority	15.645	16.473	8.222	-	8.222
ANG	Quantity	-	-	-	-	-
	Total Obligation Authority	17.946	1.985	6.252	-	6.252
AR	Quantity	-	-	-	-	-
	Total Obligation Authority	1.227	0.166	3.110	-	3.110
Total: Secondary Distribution	Quantity	-	-	-	-	-
	Total Obligation Authority	34.818	18.624	17.584	-	17.584

UNCLASSIFIED

Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 04: Support Equipment and Facilities / BSA 30: Other Support **P-1 Line Item Number / Title:** 6380AZ3110 / Aircrew Integrated Systems

ID Code (A=Service Ready, B=Not Service Ready): **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0603827A, 0604601A

Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	864.114	27.243	48.255	48.265	3.028	51.293	43.124	28.666	24.814	14.042	-	1,101.551
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	864.114	27.243	48.255	48.265	3.028	51.293	43.124	28.666	24.814	14.042	-	1,101.551
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	864.114	27.243	48.255	48.265	3.028	51.293	43.124	28.666	24.814	14.042	-	1,101.551

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

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

Description:

Aircrew Integrated Systems funds Air Warrior and Air Soldier System Aviation Life Support Equipment efforts. The Air Warrior (AW) is the legacy Aviation Life Support Equipment system that provides Army rotary wing aircrews with protective mission and survival equipment. The AW consists of Clothing and Individual Equipment and mission electronics integrated with the aircraft that enable the crew member to successfully perform the mission as well as protect, sustain, and assist in the safe return to friendly forces in the event of a downed aircraft scenario. The Air Soldier System (Air SS) is the phased replacement of the AW that addresses AW capability gaps, including crew station compatibility challenges due to the bulk of aircrew-worn protective equipment; lack of modern Situational Awareness tools available to the aviator; and soldier load. Air SS integrates with the aircraft platform and consists of modernized mission electronics, flight helmets, helmet-mounted displays and symbology, and provides improved protective clothing and individual survival equipment. The Air SS reduces soldier load by reducing the bulk and weight of the protective equipment worn by the crewmember, and enhances aircrew Situational Awareness and safety with improved helmet mounted displays and Electronic Flight Bag (EFB) that reduce cockpit workload and provide enhanced flight symbology for UH-60 and CH-47 crewmembers.

Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	25.003	37.223	48.265	3.028	51.293	43.124	28.666	24.814	14.042
ANG	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	2.240	10.360	-	-	-	-	-	-	-
AR	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	-	0.672	-	-	-	-	-	-	-
Total:	Quantity	-	-	-	-	-	-	-	-	-
Secondary Distribution	Total Obligation Authority	27.243	48.255	48.265	3.028	51.293	43.124	28.666	24.814	14.042

UNCLASSIFIED

Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 04: Support Equipment and Facilities / BSA 30: Other Support **P-1 Line Item Number / Title:** 6380AZ3110 / Aircrew Integrated Systems

ID Code (A=Service Ready, B=Not Service Ready): **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0603827A, 0604601A

Line Item MDAP/MAIS Code: N/A

Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	AZ3110 / Aircrew Integrated Systems	P-5a, P-21			- / 864.114	- / 27.243	- / 48.255	- / 48.265	- / 3.028	- / 51.293
P-40	Total Gross/Weapon System Cost				- / 864.114	- / 27.243	- / 48.255	- / 48.265	- / 3.028	- / 51.293

*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 2021 Base procurement dollars in the amount of \$48.265 million supports Air Soldier System requirements, and production and fielding of Air Soldier System capability. Air Soldier System provides: improved flight helmets; an Aviation Information System (AIS) for UH-60L aviators that displaying digital moving map/situational awareness, Blue Force Tracking capability, and enhanced air/ground operations; improved lightweight body armor; improved environmental protective clothing and personal survival equipment; a wider field of view Common Helmet Mounted Display (CHMD) including enhanced flight symbology for day/night operations on UH-60/CH-47 aircraft; next generation flight survival vest, Aircrew Equipment (ACE), including integrated Soldier Power and Data Electronics System (SPADES) providing further reductions in body-worn bulk and weight; and the Electronic Flight Bag (EFB), a digital replacement for paper DoD Flight Information Publications and aircraft publications. These capabilities reduce Soldier load and enhance Situational Awareness, Safety, and Survivability. Funds also procure Air Soldier platform-mounted components necessary for airframe interface with the Air Soldier; and installation of airframe integration kits.

FY 2021 OCO procurement dollars in the amount of \$3.028 million procures Air SS Soldier Kits for one deploying Combat Aviation Brigade in support of combat operations, providing aircrew members with equipment that addresses safety, survivability, and endurance gaps of the legacy Air Warrior System.

Funding procures equipment and materiel to support a balanced investment strategy in support of the Army Acquisition Objective.

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

UNCLASSIFIED

Exhibit P-5, Cost Analysis: PB 2021 Army											Date: February 2020				
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 04 / 30						P-1 Line Item Number / Title: 6380AZ3110 / Aircrew Integrated Systems					Item Number / Title [DODIC]: AZ3110 / Aircrew Integrated Systems				
ID Code (A=Service Ready, B=Not Service Ready) :						MDAP/MAIS Code:									
Resource Summary			Prior Years		FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 Total		
Procurement Quantity (Units in Each)			-		-		-		-		-		-		
Gross/Weapon System Cost (\$ in Millions)			864.114		27.243		48.255		48.265		3.028		51.293		
Less PY Advance Procurement (\$ in Millions)			-		-		-		-		-		-		
Net Procurement (P-1) (\$ in Millions)			864.114		27.243		48.255		48.265		3.028		51.293		
Plus CY Advance Procurement (\$ in Millions)			-		-		-		-		-		-		
Total Obligation Authority (\$ in Millions)			864.114		27.243		48.255		48.265		3.028		51.293		
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>															
Initial Spares (\$ in Millions)			-		-		-		-		-		-		
Gross/Weapon System Unit Cost (\$ in Thousands)			-		-		-		-		-		-		

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

Cost Elements	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Flyaway Cost																		
Recurring Cost																		
Air Warrior ECPs Supporting Air SS Rqmts	-	-	18.158	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Air SS Soldier Kits	4.576	7,820	35.784	4.300	700	3.010	4.300	1,750	7.525	4.999	1,614	8.068	5.000	528	2.640	4.999	2,142	10.708
Air SS Airframe Kits ^(†)	95.416	766	73.089	218.000	78	17.004	218.000	149	32.482	218.573	110	24.043	-	-	-	218.573	110	24.043
Airframe Kit Install	-	-	12.806	-	-	0.989	-	-	1.364	-	-	8.178	-	-	-	-	-	8.178
Manual	-	-	14.700	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
New Equipment Training	-	-	5.406	-	-	0.357	-	-	0.401	-	-	0.170	-	-	-	-	-	0.170
Initial Spares	-	-	12.245	-	-	0.804	-	-	1.624	-	-	0.915	-	-	0.286	-	-	1.201
Support Equipment	-	-	9.645	-	-	0.149	-	-	0.200	-	-	0.256	-	-	-	-	-	0.256
Systems Test and Evaluation	-	-	16.392	-	-	0.298	-	-	0.299	-	-	-	-	-	-	-	-	-
Nonrecurring Engineering (NRE)	-	-	34.191	-	-	0.362	-	-	0.362	-	-	0.404	-	-	0.057	-	-	0.461
Engineering Changes	-	-	12.060	-	-	1.177	-	-	0.800	-	-	0.252	-	-	0.037	-	-	0.289
Systems Integration Engineering	-	-	7.532	-	-	0.383	-	-	0.335	-	-	0.380	-	-	0.003	-	-	0.383
Program Management & Matrix Support	-	-	38.400	-	-	2.246	-	-	2.268	-	-	3.002	-	-	-	-	-	3.002
Total Package Fielding	-	-	3.049	-	-	0.109	-	-	0.240	-	-	0.751	-	-	0.005	-	-	0.756

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Exhibit P-5, Cost Analysis: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 04 / 30	P-1 Line Item Number / Title: 6380AZ3110 / Aircrew Integrated Systems	Item Number / Title [DODIC]: AZ3110 / Aircrew Integrated Systems
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ID Code (A=Service Ready, B=Not Service Ready) : **MDAP/MAIS Code:**

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

Cost Elements	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Contract Logistics Support	-	-	5.956	-	-	0.355	-	-	0.355	-	-	1.846	-	-	-	-	-	1.846
<i>Subtotal: Recurring Cost</i>	-	-	299.413	-	-	27.243	-	-	48.255	-	-	48.265	-	-	3.028	-	-	51.293
Non Recurring Cost																		
Legacy Air Warrior Costs	-	-	564.701	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Non Recurring Cost</i>	-	-	564.701	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Flyaway Cost</i>	-	-	864.114	-	-	27.243	-	-	48.255	-	-	48.265	-	-	3.028	-	-	51.293
Gross/Weapon System Cost	-	-	864.114	-	-	27.243	-	-	48.255	-	-	48.265	-	-	3.028	-	-	51.293

Remarks:

Unit Cost changes across the years reflect the different mix of subsystem components procured each year. The Air SS Airframe Kit subsystem component is a primary cost driver of the program and fluctuations in quantities in any given fiscal year can substantially change the overall program Unit Cost. The Air SS Soldier Kit subsystem component makes up the other bulk of hardware procured under this program that can also shift the overall program Unit Cost based on quantities bought. The subsystem component quantities for each fiscal year are shown on the P-5 cost elements.

Unit cost for Airframe Kit subsystem component cost elements are stable between FY20 and FY21 because the capabilities are the same.

Unit cost for Soldier Kit subsystem component increases between FY20 and FY21 because of the addition of next generation survival vest and integrated power solution.

Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Army	Quantity	-	-	-	-	-
	Total Obligation Authority	25.003	37.223	48.265	3.028	51.293
ANG	Quantity	-	-	-	-	-
	Total Obligation Authority	2.240	10.360	-	-	-
AR	Quantity	-	-	-	-	-
	Total Obligation Authority	-	0.672	-	-	-
Total: Secondary Distribution	Quantity	-	-	-	-	-
	Total Obligation Authority	27.243	48.255	48.265	3.028	51.293

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

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Exhibit P-5a, Procurement History and Planning: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 04 / 30	P-1 Line Item Number / Title: 6380AZ3110 / Aircrew Integrated Systems	Item Number / Title [DODIC]: AZ3110 / Aircrew Integrated Systems
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Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty <i>(Each)</i>	Unit Cost <i>(\$ K)</i>	Specs Avail Now?	Date Revision Available	RFP Issue Date
Air SS Airframe Kits ^(†)		2016	Various 1 / Various 1	C / FFP	Redstone Arsenal, AL	Mar 2016	Sep 2016	217	62.728	Y		
Air SS Airframe Kits ^(†)		2017	Various 1 / Various 1	C / FFP	Redstone Arsenal, AL	Jan 2017	Jul 2017	137	117.277	Y		
Air SS Airframe Kits ^(†)		2018	Various / Various	C / FFP	Redstone Arsenal, AL	Jan 2018	Jun 2018	108	218.000	Y		
Air SS Airframe Kits ^(†)		2019	Various / Various	C / FFP	Redstone Arsenal, AL	Jan 2019	Jun 2019	78	218.000	Y		
Air SS Airframe Kits ^(†)		2020	Various / Various	C / FFP	Redstone Arsenal, AL	Jan 2020	Jun 2020	149	218.000	Y		
Air SS Airframe Kits ^(†)		2021	Various / Various	C / FFP	Redstone Arsenal, AL	Jan 2021	Jun 2021	110	218.573	Y		

^(†) indicates the presence of a P-21

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Exhibit P-21, Production Schedule: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 04 / 30 **P-1 Line Item Number / Title:** 6380AZ3110 / Aircrew Integrated Systems **Item Number / Title [DODIC]:** AZ3110 / Aircrew Integrated Systems

Cost Elements <i>(Units in Each)</i>						Fiscal Year 2018												Fiscal Year 2019												BALANCE	
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2017	BAL DUE AS OF 1 OCT	Calendar Year 2018												Calendar Year 2019												
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G		S E P
Air SS Airframe Kits																															
Prior Years Deliveries: 304																															
2		2016	ARMY	217	217	0																							0		
2		2017	ARMY	137	36	101	12	12	12	12	12	12	12	12	5														0		
1		2018	ARMY	108	0	108				A	-	-	-	-	-	8	8	8	8	8	8	10	10	10	10	10	10	0			
1		2019	ARMY	78	0	78																							54		
1		2020	ARMY	149	0	149																		A	-	-	-	-	149		
1		2021	ARMY	110	0	110																							110		
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	

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Exhibit P-21, Production Schedule: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 04 / 30 **P-1 Line Item Number / Title:** 6380AZ3110 / Aircrew Integrated Systems **Item Number / Title [DODIC]:** AZ3110 / Aircrew Integrated Systems

Cost Elements <i>(Units in Each)</i>						Fiscal Year 2020													Fiscal Year 2021													BALANCE		
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2019	BAL DUE AS OF 1 OCT	Calendar Year 2020													Calendar Year 2021														
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P				
Air SS Airframe Kits																																		
Prior Years Deliveries: 304																																		
	2	2016	ARMY	217	217	0																							0					
	2	2017	ARMY	137	137	0																							0					
	1	2018	ARMY	108	108	0																							0					
	1	2019	ARMY	78	24	54	6	6	7	7	7	7	7																0					
	1	2020	ARMY	149	0	149				A	-	-	-	-	-	12	12	12	12	12	12	12	12	13	13	13	13	13	0					
	1	2021	ARMY	110	0	110																		A	-	-	-	-	-	12	12	12	12	62

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Exhibit P-21, Production Schedule: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A / 04 / 30 **P-1 Line Item Number / Title:** 6380AZ3110 / Aircrew Integrated Systems **Item Number / Title [DODIC]:** AZ3110 / Aircrew Integrated Systems

Cost Elements <i>(Units in Each)</i>						Fiscal Year 2022												Fiscal Year 2023												BALANCE	
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2021	BAL DUE AS OF 1 OCT	Calendar Year 2022												Calendar Year 2023												
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G		S E P
Air SS Airframe Kits																															
Prior Years Deliveries: 304																															
	2	2016	ARMY	217	217	0																							0		
	2	2017	ARMY	137	137	0																							0		
	1	2018	ARMY	108	108	0																							0		
	1	2019	ARMY	78	78	0																							0		
	1	2020	ARMY	149	149	0																							0		
	1	2021	ARMY	110	48	62		12	12	8																			30		
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	

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Exhibit P-21, Production Schedule: PB 2021 Army	Date: February 2020
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Appropriation / Budget Activity / Budget Sub Activity: 2031A / 04 / 30	P-1 Line Item Number / Title: 6380AZ3110 / Aircrew Integrated Systems	Item Number / Title [DODIC]: AZ3110 / Aircrew Integrated Systems
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MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Month)			Procurement Leadtime (Months)							
		MSR For 2021	1-8-5 For 2021	MAX For 2021	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	Various - Various	8	100	500	6	19	6	25	5	3	6	9
2	Various 1 - Various 1	8	100	500	6	19	6	25	5	3	6	9

Remarks:
Air SS procurement utilizes Indefinite Delivery Indefinite Quantity Contract vehicles and therefore does not have Minimum Sustaining Rates; therefore, Monthly Production Rates are shown.

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

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Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity:
 2031A: Aircraft Procurement, Army / BA 04: Support Equipment and Facilities / BSA 30: Other Support

P-1 Line Item Number / Title:
 6818AA0050 / Air Traffic Control

ID Code (A=Service Ready, B=Not Service Ready): **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0604633A

Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	1,603.900	63.872	32.738	26.408	-	26.408	20.471	23.627	17.665	11.554	-	1,800.235
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	1,603.900	63.872	32.738	26.408	-	26.408	20.471	23.627	17.665	11.554	-	1,800.235
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	1,603.900	63.872	32.738	26.408	-	26.408	20.471	23.627	17.665	11.554	-	1,800.235
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Thousands</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Thousands</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

Funds in the Air Traffic Control (ATC) line support the acquisition of modernized tactical and fixed base ATC systems that will enable safety of aircraft operations. ATC systems are required to maintain compliance with civil, military, domestic, and international air traffic control and combat identification requirements in accordance with Federal Aviation Administration (FAA) mandates for systems operating in the National Airspace System.

Efforts include the Tactical Airspace Integration System (TAIS), Air Traffic Navigation Integration and Coordination System (ATNAVICs), the Mobile Tower System (MOTS), the Tactical Terminal Control System (TTCS), and Fixed Base systems, which include the DoD Advanced Automation System (DAAS), the Digital Airport Surveillance Radar (DASR), and other navigational control aids that include the Army Airfield Automation System (AAAS), National Airspace System (NAS) Voice Switch, Doppler VHF Omnidirectional Range (DVOR) system, NAS Voice Recorder (NVR) and Precision Approach Radar, and Instrument Landing System Replacement Program (ILS).

TAIS provides automated Airspace Control and enroute Air Traffic Services to warfighting commands and Air Traffic Services companies. TAIS software and hardware enable Air Traffic Services and Airspace Control missions to operate effectively in a dynamic, interconnected common operating environment to enhance airspace integration and synchronization.

ATNAVICs is a Surveillance and Precision Approach Radar system that provides Air Traffic Services at Army airfields and landing sites at Division, Corps, and Echelons Above Corps to include services for Joint and Allied aircraft. ATNAVICs integrates interrogator capabilities required to control aircraft both Outside of the Continental United States and within the Continental United States. ATNAVICs will network its radar picture and interrogator data to aviation and joint network nodes through TAIS.

TTCS is a mobile Air Traffic Control communications system that provides initial Air Traffic Services at remote landing sites and drop zones. It enables secure ground-to-air and ground-to-ground communications between Army aircraft, other services, Allied aircraft, and ground stations.

MOTS provides Air Traffic Control and aircraft separation for both air and ground operations at tactical or remote landing sites. MOTS capabilities include weather information, secure and anti-jam communications across all required frequency bands and ranges and precision location.

Fixed Base Air Traffic Control requirements will be met through a vast array of new technology solutions and pre-planned product improvement (P3I) of these systems resulting in highly reliable and safe Air Traffic Control systems in accordance with the Joint DoD/FAA program to modernize the National Airspace and the FAA Next Gen program.

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Exhibit P-40, Budget Line Item Justification: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 04: Support Equipment and Facilities / BSA 30: Other Support		P-1 Line Item Number / Title: 6818AA0050 / Air Traffic Control
ID Code (A=Service Ready, B=Not Service Ready):	Program Elements for Code B Items: N/A	Other Related Program Elements: 0604633A
Line Item MDAP/MAIS Code: N/A		

Precision Approach Radar 2020 provides precision approach capabilities at Army airfields and landing sites at Division, Corps, and Echelons Above Corps to include services for Joint and Allied aircraft.

This exhibit is for a budget line that procures multiple items and does not have a single Army Acquisition Objective.

Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	31.297	26.098	18.598	-	18.598	20.471	23.627	17.665	11.554
ANG	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	28.104	5.892	7.205	-	7.205	-	-	-	-
AR	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	4.471	0.748	0.605	-	0.605	-	-	-	-
Total: Secondary Distribution	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	63.872	32.738	26.408	-	26.408	20.471	23.627	17.665	11.554

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Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity:
 2031A: Aircraft Procurement, Army / BA 04: Support Equipment and Facilities / BSA 30: Other Support **P-1 Line Item Number / Title:**
 6818AA0050 / Air Traffic Control

ID Code (A=Service Ready, B=Not Service Ready): **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0604633A

Line Item MDAP/MAIS Code: N/A

Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	AA0050 / Air Traffic Control				- / 1,603.900	- / 63.872	- / 32.738	- / 26.408	- / -	- / 26.408
P-40	Total Gross/Weapon System Cost				- / 1,603.900	- / 63.872	- / 32.738	- / 26.408	- / -	- / 26.408

*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 2021 Base procurement dollars in the amount of \$4.978 million procures DoD Advanced Automation System (DAAS) Generation 5 upgraded systems, system site preparation and installation.

FY 2021 Base procurement dollars in the amount of \$1.155 million procures long lead items for the Digital Airport Surveillance Radar, Wind Turbine Mitigation Program.

FY 2021 Base procurement dollars in the amount of \$6.457 million procures Interim Voice Switch Replacement systems and site surveys for future systems; provides for Army Airfield Automation System software upgrades and Information Assurance and Vulnerability Assessment; and procures National Airspace System Voice Recorder systems and site preparation and installation.

FY 2021 Base procurement dollars in the amount of \$9.795 million provides for the continuation of ongoing TAIS Common Operating Environment efforts, support of Joint Interoperability Testing, support of network integration event testing, incorporation of emerging FAA requirements, real time retrieval of Aviation Mission Planning System mission data to mitigate risk by improving airspace situational awareness, and providing an improved soldier interface that is common with other ATC systems.

FY 2021 Base procurement dollars in the amount of \$0.415 million provides Systems Engineering and Program Management support for the Precision Approach Radar (PAR).

FY 2021 Base procurement dollars in the amount of \$3.608 million procures systems for the Instrument Landing System Replacement Program (ILS) systems and associated site surveys, installation, and training.

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: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 04 / 30	P-1 Line Item Number / Title: 6818AA0050 / Air Traffic Control	Item Number / Title [DODIC]: AA0050 / Air Traffic Control

ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	1,603.900	63.872	32.738	26.408	-	26.408
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	1,603.900	63.872	32.738	26.408	-	26.408
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	1,603.900	63.872	32.738	26.408	-	26.408

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

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

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

Cost Elements	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Flyaway Cost																		
Recurring Cost																		
Fixed Base Precision Approach Radar (FBPAR)	-	-	89.918	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DoD Advanced Automation System (DAAS)	-	-	112.743	-	-	2.250	-	-	4.188	-	-	4.978	-	-	-	-	-	4.978
Digital Airport Surveillance Radar(DASR)	-	-	85.327	-	-	0.516	-	-	0.918	-	-	1.155	-	-	-	-	-	1.155
Tactical Airspace Integration Sys (TAIS)	-	-	429.050	-	-	18.545	-	-	12.564	-	-	9.795	-	-	-	-	-	9.795
Air Traffic Navigation and Integration	-	-	441.407	-	-	6.098	-	-	1.982	-	-	-	-	-	-	-	-	-
Navigational Control (AAAS, DVOR, NVS, NVR)	-	-	86.961	-	-	22.904	-	-	13.086	-	-	6.457	-	-	-	-	-	6.457
Tactical Terminal Control System (TTCS)	-	-	86.344	-	-	4.694	-	-	-	-	-	-	-	-	-	-	-	-
Mobile Tower System (MOTS)	-	-	215.544	-	-	3.702	-	-	-	-	-	-	-	-	-	-	-	-
ATC Common Simulator (ACS)	-	-	51.523	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Precision Approach Radar (PAR) 2020	-	-	5.083	-	-	5.163	-	-	-	-	-	0.415	-	-	-	-	-	0.415

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Exhibit P-5, Cost Analysis: PB 2021 Army												Date: February 2020					
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 04 / 30						P-1 Line Item Number / Title: 6818AA0050 / Air Traffic Control						Item Number / Title [DODIC]: AA0050 / Air Traffic Control					
ID Code (A=Service Ready, B=Not Service Ready) :												MDAP/MAIS Code:					

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

Cost Elements	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Instrument Landing System (ILS)	-	-	-	-	-	-	-	-	-	-	-	3.608	-	-	-	-	-	3.608
<i>Subtotal: Recurring Cost</i>	-	-	1,603.900	-	-	63.872	-	-	32.738	-	-	26.408	-	-	-	-	-	26.408
<i>Subtotal: Flyaway Cost</i>	-	-	1,603.900	-	-	63.872	-	-	32.738	-	-	26.408	-	-	-	-	-	26.408
Gross/Weapon System Cost	-	-	1,603.900	-	-	63.872	-	-	32.738	-	-	26.408	-	-	-	-	-	26.408

Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Army	Quantity	-	-	-	-	-
	Total Obligation Authority	31.297	26.098	18.598	-	18.598
ANG	Quantity	-	-	-	-	-
	Total Obligation Authority	28.104	5.892	7.205	-	7.205
AR	Quantity	-	-	-	-	-
	Total Obligation Authority	4.471	0.748	0.605	-	0.605
Total: Secondary Distribution	Quantity	-	-	-	-	-
	Total Obligation Authority	63.872	32.738	26.408	-	26.408

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Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 04: Support Equipment and Facilities / BSA 30: Other Support	P-1 Line Item Number / Title: 8132AZ3300 / Industrial Facilities
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ID Code (A=Service Ready, B=Not Service Ready):	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	188.723	1.417	-	-	-	-	-	-	-	-	-	190.140
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	188.723	1.417	-	-	-	-	-	-	-	-	-	190.140
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	188.723	1.417	-	-	-	-	-	-	-	-	-	190.140

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

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

Description:

This program provided funding to the Army Test and Evaluation Command (ATEC) to establish, modernize, expand or replace test facilities used in production testing of Aircraft and Aircraft components. It sustained Army production test capabilities through upgrade and replacement of instrumentation and equipment that is technologically and/or economically obsolete. Modernization of test instrumentation and equipment provides increased automation and efficiencies, improved data quality and quantity and cost avoidances to Army Program Managers. Programmed funding was used to upgrade or replace production test instrumentation and equipment at the Redstone Test Center (RTC), Huntsville, AL and Yuma Test Center (YTC), Yuma Proving Ground, AZ.

Secondary Distribution	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Army									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	1.417	-	-	-	-	-	-	-	-
Total:									
Secondary Distribution									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	1.417	-	-	-	-	-	-	-	-

Justification:

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

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Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity:
 2031A: Aircraft Procurement, Army / BA 04: Support Equipment and Facilities / BSA 30: Other Support

P-1 Line Item Number / Title:
 9154A50100 / Launcher, 2.75 Rocket

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

Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	96.230	1.901	2.201	2.256	-	2.256	2.489	2.538	3.109	-	-	110.724
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	96.230	1.901	2.201	2.256	-	2.256	2.489	2.538	3.109	-	-	110.724
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	96.230	1.901	2.201	2.256	-	2.256	2.489	2.538	3.109	-	-	110.724

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

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

Description:

The Launchers and Test Sets Product Office is the executive procurement agent for all services and Foreign Military customers for all variants of 2.75 Inch Hydra-70 Rocket Launchers. The M261 19-tube analog launcher and the M260 7-tube analog launcher are used to fire 2.75 Inch Hydra-70 Guided / Unguided Rockets from the following platforms: AH-64 Apache, H-60 Blackhawk, and Special Operations aircraft. The analog launchers are non-repairable, yet durable enough to withstand at least 16 rocket firings per tube before being discarded. The empty weight of the M260 analog launcher is approximately 35 pounds and the empty weight of the M261 analog launcher is approximately 82 pounds. The analog launcher permits fuze-timing selections from the cockpit and will launch guided / unguided rockets using either the MK40 or the MK66 motors. 2.75 Inch Rocket Launcher procurement funding supports the launcher system to include resolution of obsolescence, safety, reliability, weapon integration activities, test sets, engineering changes, and production issues.

Secondary Distribution	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Army									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	1.901	2.201	2.256	-	2.256	2.489	2.538	3.109	-
Total:									
Secondary Distribution									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	1.901	2.201	2.256	-	2.256	2.489	2.538	3.109	-

Justification:

FY2021 base procurement dollars in the amount of \$2.256 million supports the procurement of 149 M261 19-tube analog launchers for the AH-64 Apache, H-60 Blackhawk, and Special Operation aircraft. Procurement replaces disposable launchers as a result of annual rocket firings for pre-deployment training, and replenishes the limited issuable stockage depleted below levels acceptable to support training of Active Army, Special Operations Forces and Reserve Components usage.

The demand for the M260 analog launchers has decreased due to the Aviation Restructure Initiative.

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Exhibit P-40, Budget Line Item Justification: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 04: Support Equipment and Facilities / BSA 30: Other Support		P-1 Line Item Number / Title: 9154A50100 / Launcher, 2.75 Rocket
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		
<p>"In accordance with Section 1815 of the FY 2008 National Defense Authorization Act (P.L. 110-181), this item is necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities."</p>		

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Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity:
 2031A: Aircraft Procurement, Army / BA 04: Support Equipment and Facilities / BSA 30: Other Support

P-1 Line Item Number / Title:
 9157J01200 / Launcher Guided Missile: Longbow Hellfire XM299

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

Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	-	0.991	2.991	8.982	-	8.982	8.982	6.985	2.997	-	-	31.928
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	0.991	2.991	8.982	-	8.982	8.982	6.985	2.997	-	-	31.928
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	0.991	2.991	8.982	-	8.982	8.982	6.985	2.997	-	-	31.928

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

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

Description:

The Launchers and Test Sets Product Office is the executive procurement agent for M299 Launchers for all services and Foreign Military customers. This budget line procures all M299 launchers in support of Army operational, training, and war reserve requirements. The M299 launchers are qualified to carry and fire the AGM-114 Family of Missiles and the Joint Air-to-Ground Missile. Each launcher contains: Launcher electronics assembly (LEA) that communicates with the aircraft via bus commands, provides missile launch sequencing, seeker type ID, missile "Hang fire/Misfire" determination, alternate laser code algorithm processing, and Alternating Current (AC) to Direct Current (DC) power conversion for supplying missile DC power; Wiring harnesses that provide electrical connection from LEA to missile rails (not interchangeable with M272 harnesses); Holdback latch that retains missiles on rails and Safe/Arm switch that mechanically interrupts the arm power going to the LEA. The weight of the M299 launcher (4-Rail Launcher) is approximately 114 pounds and the length of the M299 is approximately 66.3 inches. M299 Longbow HELLFIRE Launcher procurement funding supports the launcher system to include resolution of obsolescence, safety, reliability, weapon integration activities, test sets, engineering changes, software, and production issues.

Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	0.991	2.991	8.982	-	8.982	8.982	6.985	2.997	-
Total: Secondary Distribution	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	0.991	2.991	8.982	-	8.982	8.982	6.985	2.997	-

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Exhibit P-40, Budget Line Item Justification: PB 2021 Army **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 2031A: Aircraft Procurement, Army / BA 04: Support Equipment and Facilities / BSA 30: Other Support **P-1 Line Item Number / Title:** 9157J01200 / Launcher Guided Missile: Longbow Hellfire XM299

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

Line Item MDAP/MAIS Code: N/A

Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	J01201 / Hellfire Missile Launcher	P-5a, P-21			- / -	- / 0.991	- / 2.991	- / 8.982	- / -	- / 8.982
P-40	Total Gross/Weapon System Cost				- / -	- / 0.991	- / 2.991	- / 8.982	- / -	- / 8.982

*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 2021 base procurement dollars in the amount of \$8.982 million supports the procurement of 69 M299 launchers for the AH-64 Apache aircraft.

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: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 04 / 30	P-1 Line Item Number / Title: 9157J01200 / Launcher Guided Missile: Longbow Hellfire XM299	Item Number / Title [DODIC]: J01201 / Hellfire Missile Launcher

ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	-	0.991	2.991	8.982	-	8.982
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	-	0.991	2.991	8.982	-	8.982
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	-	0.991	2.991	8.982	-	8.982

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

Initial Spares (\$ in Millions)	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	-	141.571	110.778	130.174	-	130.174

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

Cost Elements	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Flyaway Cost																		
Recurring Cost																		
M299 HELLFIRE Launcher ^(†)	-	-	-	90.091	11	0.991	90.067	15	1.351	91.870	69	6.339	-	-	-	91.870	69	6.339
Engineering Services	-	-	-	-	-	-	-	-	0.227	-	-	0.369	-	-	-	-	-	0.369
Acceptance Testing	-	-	-	-	-	-	-	-	0.021	-	-	0.034	-	-	-	-	-	0.034
Subtotal: Recurring Cost	-	-	-	-	-	0.991	-	-	1.599	-	-	6.742	-	-	-	-	-	6.742
Non Recurring Cost																		
Tooling and Test Equipment	-	-	-	-	-	-	-	-	0.149	-	-	0.239	-	-	-	-	-	0.239
Subtotal: Non Recurring Cost	-	-	-	-	-	-	-	-	0.149	-	-	0.239	-	-	-	-	-	0.239
Subtotal: Flyaway Cost	-	-	-	-	-	0.991	-	-	1.748	-	-	6.981	-	-	-	-	-	6.981
Support - Fielding Cost																		
Fielding	-	-	-	-	-	-	-	-	0.144	-	-	0.232	-	-	-	-	-	0.232
Subtotal: Support - Fielding Cost	-	-	-	-	-	-	-	-	0.144	-	-	0.232	-	-	-	-	-	0.232
Support - Production Engineering Cost																		
Production Engineering	-	-	-	-	-	-	-	-	0.565	-	-	0.908	-	-	-	-	-	0.908
Subtotal: Support - Production Engineering Cost	-	-	-	-	-	-	-	-	0.565	-	-	0.908	-	-	-	-	-	0.908
Support - Program Management Cost																		

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Exhibit P-5, Cost Analysis: PB 2021 Army		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 04 / 30	P-1 Line Item Number / Title: 9157J01200 / Launcher Guided Missile: Longbow Hellfire XM299	Item Number / Title [DODIC]: J01201 / Hellfire Missile Launcher

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

Cost Elements	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Government Management	-	-	-	-	-	-	-	-	0.487	-	-	0.786	-	-	-	-	-	0.786
<i>Subtotal: Support - Program Management Cost</i>	-	-	-	-	-	-	-	-	0.487	-	-	0.786	-	-	-	-	-	0.786
Support - System Test and Evaluation Cost																		
Test and Evaluation Support	-	-	-	-	-	-	-	-	0.047	-	-	0.075	-	-	-	-	-	0.075
<i>Subtotal: Support - System Test and Evaluation Cost</i>	-	-	-	-	-	-	-	-	0.047	-	-	0.075	-	-	-	-	-	0.075
Gross/Weapon System Cost	-	-	-	141.571	-	0.991	110.778	-	2.991	130.174	-	8.982	-	-	-	130.174	-	8.982

Secondary Distribution		FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Army	Quantity	-	-	-	-	-
	Total Obligation Authority	0.991	2.991	8.982	-	8.982
Total:	Quantity	-	-	-	-	-
Secondary Distribution	Total Obligation Authority	0.991	2.991	8.982	-	8.982

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

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Exhibit P-5a, Procurement History and Planning: PB 2021 Army							Date: February 2020					
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 04 / 30			P-1 Line Item Number / Title: 9157J01200 / Launcher Guided Missile: Longbow Hellfire XM299				Item Number / Title [DODIC]: J01201 / Hellfire Missile Launcher					

Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty <i>(Each)</i>	Unit Cost <i>(\$ K)</i>	Specs Avail Now?	Date Revision Available	RFP Issue Date
M299 HELLFIRE Launcher ^(†)		2019	Lockheed Martin / Orlando, Florida	Option / FPIF	ACC Redstone	Apr 2019	Feb 2021	11	90.091	Y		
M299 HELLFIRE Launcher ^(†)		2020	Lockheed Martin / Orlando, Florida	C / FPIF	ACC Redstone	Sep 2020	Jun 2022	15	90.067	Y		Jun 2019
M299 HELLFIRE Launcher ^(†)		2021	Lockheed Martin / Orlando, Florida	Option / FPIF	ACC Redstone	May 2021	Feb 2023	69	91.870	Y		

^(†) indicates the presence of a P-21

Remarks:
FY20 Contract is sole source with a 4 year J&A.

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Exhibit P-21, Production Schedule: PB 2021 Army															Date: February 2020														
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 04 / 30										P-1 Line Item Number / Title: 9157J01200 / Launcher Guided Missile: Longbow Hellfire XM299										Item Number / Title [DODIC]: J01201 / Hellfire Missile Launcher									

Cost Elements <i>(Units in Each)</i>					Fiscal Year 2019													Fiscal Year 2020													BALANCE		
O C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2018	BAL DUE AS OF 1 OCT	Calendar Year 2019													Calendar Year 2020													
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P			
M299 HELLFIRE Launcher																																	
	1	2019	AF (+)	122	0	122																									122		
	1	2019	ARMY	11	0	11																									11		
	1	2019	FMS (+)	57	0	57																									57		
	1	2019	NAVY (+)	62	0	62																									62		
	1	2019	OTH (+)	74	0	74																									74		
	1	2019	Total	326	0	326																									326		
	1	2020	AF (+)	549	0	549																									549		
	1	2020	ARMY	15	0	15																									15		
	1	2020	FMS (+)	82	0	82																									82		
	1	2020	NAVY (+)	126	0	126																									126		
	1	2020	OTH (+)	52	0	52																									52		
	1	2020	Total	824	0	824																									824		
	1	2021	AF (+)	32	0	32																									0		
	1	2021	ARMY	69	0	69																									69		
	1	2021	FMS (+)	52	0	52																									52		
	1	2021	NAVY (+)	154	0	154																									154		
	1	2021	OTH (+)	92	0	92																									92		
	1	2021	Total	399	0	399																									399		
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P			

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Exhibit P-21, Production Schedule: PB 2021 Army		Date: February 2020	
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 04 / 30		P-1 Line Item Number / Title: 9157J01200 / Launcher Guided Missile: Longbow Hellfire XM299	
		Item Number / Title [DODIC]: J01201 / Hellfire Missile Launcher	

Cost Elements <i>(Units in Each)</i>				Fiscal Year 2021																	Fiscal Year 2022												BALANCE			
O C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2020	BAL DUE AS OF 1 OCT	Calendar Year 2021																	Calendar Year 2022												
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P						
M299 HELLFIRE Launcher																																				
	1	2019	AF (+)	122	0	122	-	-	-	-	-	-	-	-	13	27	28	28	26	-										0						
	1	2019	ARMY	11	0	11	-	-	-	-	1	1	1	1	1	1	1	1	1	1										0						
	1	2019	FMS (+)	57	0	57	-	-	-	-	-	-	22	28	6	-	1	-	-	-										0						
	1	2019	NAVY (+)	62	0	62	-	-	-	1	-	18	6	-	22	15	-	-	-	-										0						
	1	2019	OTH (+)	74	0	74	-	-	-	11	28	10	-	-	-	-	-	-	2	23									0							
	1	2019	Total	326	0	326	-	-	-	12	29	29	7	23	51	35	28	30	29	29	24								0							
	1	2020	AF (+)	549	0	549	-	-	-	-	-	-	-	-	-	-	-	-	-	-							46	46	46	46	365					
	1	2020	ARMY	15	0	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-							15	-	-	-	0					
	1	2020	FMS (+)	82	0	82	-	-	-	-	-	-	-	-	-	-	-	-	-	-							7	7	7	7	54					
	1	2020	NAVY (+)	126	0	126	-	-	-	-	-	-	-	-	-	-	-	-	-	-							11	11	10	10	84					
	1	2020	OTH (+)	52	0	52	-	-	-	-	-	-	-	-	-	-	-	-	-	-							4	4	4	4	36					
	1	2020	Total	824	0	824	-	-	-	-	-	-	-	-	-	-	-	-	-	-							83	68	67	67	539					
	1	2021	AF (+)	32	32	0								A -	-	-	-	-	-	-							-	-	-	-	0					
	1	2021	ARMY	69	0	69								A -	-	-	-	-	-	-							-	-	-	-	69					
	1	2021	FMS (+)	52	0	52								A -	-	-	-	-	-	-							-	-	-	-	52					
	1	2021	NAVY (+)	154	0	154								A -	-	-	-	-	-	-							-	-	-	-	154					
	1	2021	OTH (+)	92	0	92								A -	-	-	-	-	-	-							-	-	-	-	92					
	1	2021	Total	399	32	367								-	-	-	-	-	-	-							-	-	-	-	367					
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P						

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Exhibit P-21, Production Schedule: PB 2021 Army															Date: February 2020														
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 04 / 30										P-1 Line Item Number / Title: 9157J01200 / Launcher Guided Missile: Longbow Hellfire XM299										Item Number / Title [DODIC]: J01201 / Hellfire Missile Launcher									

Cost Elements <i>(Units in Each)</i>						Fiscal Year 2023												Fiscal Year 2024												BALANCE	
O C O	M F R #	FY	SERVICE	PROC QTY	ACCEP T P R I O R T O 1 O C T 2 0 2 2	BAL D U E A S O F 1 O C T	Calendar Year 2023												Calendar Year 2024												
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G		S E P
M299 HELLFIRE Launcher																															
1	2019	AF (+)		122	122	0																							0		
1	2019	ARMY		11	11	0																							0		
1	2019	FMS (+)		57	57	0																							0		
1	2019	NAVY (+)		62	62	0																							0		
1	2019	OTH (+)		74	74	0																							0		
1	2019	Total		326	326	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0		
1	2020	AF (+)		549	184	365	46	45	45	45	46	46	46	46														0			
1	2020	ARMY		15	15	0	-	-	-	-	-	-	-	-														0			
1	2020	FMS (+)		82	28	54	7	7	7	5	7	7	7	7														0			
1	2020	NAVY (+)		126	42	84	10	10	10	10	11	11	11	11														0			
1	2020	OTH (+)		52	16	36	4	4	4	4	5	5	5	5														0			
1	2020	Total		824	285	539	67	66	66	64	69	69	69	69	-	-	-	-	-	-	-	-	-	-	-	-	-	0			
1	2021	AF (+)		32	32	0	-	-	-	-	-	-	-	-														0			
1	2021	ARMY		69	0	69	-	-	-	-	1	1	4	6	6	6	6	6	6	6	5	5	5					0			
1	2021	FMS (+)		52	0	52	-	-	-	-	5	5	5	5	5	5	4	-	4	4	-	-					0				
1	2021	NAVY (+)		154	0	154	-	-	-	-	13	13	13	13	13	13	13	13	12	12	-	-					0				
1	2021	OTH (+)		92	0	92	-	-	-	-	9	9	-	9	9	8	8	8	8	8	-	-					0				
1	2021	Total		399	32	367	-	-	-	-	28	28	22	33	33	32	32	32	31	27	30	29	5	5	-	-	-	0			
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	

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Exhibit P-21, Production Schedule: PB 2021 Army				Date: February 2020				
Appropriation / Budget Activity / Budget Sub Activity: 2031A / 04 / 30			P-1 Line Item Number / Title: 9157J01200 / Launcher Guided Missile: Longbow Hellfire XM299				Item Number / Title [DODIC]: J01201 / Hellfire Missile Launcher	

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Month)			Procurement Leadtime (Months)							
		MSR For 2021	1-8-5 For 2021	MAX For 2021	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	Lockheed Martin - Orlando, Florida	50	320	840	0	0	21	21	0	0	21	21

Remarks:

Army agencies other than Apache are included in the "Other" schedule entries. This includes Gray Eagle, IM-SHORAD, and ATI.

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

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

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