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

March 2019



**Army**

*Justification Book of*

***Other Procurement, Army***

**Communications and Electronics Equipment, Budget Activity 2**

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Army • Budget Estimates FY 2020 • Procurement

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## Cost Statement

The following Justification Books were prepared at a cost of \$366,803.08: Aircraft (ACFT), Missile (MSLS), Weapons & Tracked Combat Vehicles (WTCV), Ammunition (AMMO), Other Procurement Army (OPA) 1 - Tactical & Support Vehicles, Other Procurement Army (OPA) 2 – Communications & Electronics, Other Procurement Army (OPA) 3 & 4 - Other Support Equipment & Spares, Research, Development, Test and Evaluation (RDTE) for: Budget Activity 1, Budget Activity 2, Budget Activity 3, Budget Activity 4, Budget Activity 5A, Budget Activity 5B, Budget Activity 6, and Budget Activity 7.

# OTHER PROCUREMENT, ARMY

## Appropriation Language

For construction, procurement, production, and modification of Other Procurement, Army, equipment, including ordnance, spare parts, and accessories therefore; specialized equipment and training devices; expansion of public and private plants, including the land necessary therefore, for the foregoing purposes, and such lands and interests therein, may be acquired, and construction prosecuted thereon prior to approval of title; and procurement and installation of equipment, appliances, and machine tools in public and private plants; reserve plant and government and contractor-owned equipment layaway; and other expenses necessary for the foregoing purposes, \$8,582,751,000 to remain available for obligation until September 30, 2022.

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

- OCO for Direct War Costs (\$519.034 million): Direct War costs are those combat or direct combat support costs that will not continue to be expended once combat operations end as major contingency locations.
- OCO for Enduring Requirements (\$612.416 million): OCO for Enduring Requirements are enduring in-theater and in-CONUS costs that will likely remain after combat operations cease, and have previously been funded in OCO.
- OCO for Base Requirements (\$8.200 million): OCO for Base Requirements is OCO funding for base budget requirements in support of the National Defense Strategy. The Budget requests these funds in OCO to comply with the base budget defense caps included in the Budget Control Act of 2011.

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Department of the Army  
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 Total Obligational Authority  
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12 Feb 2019

<u>Appropriation</u>	<u>FY 2018 (Base + OCO)</u>	<u>FY 2019 Base Enacted</u>	<u>FY 2019 OCO Enacted</u>	<u>FY 2019 Total Enacted</u>
Other Procurement, Army	8,877,968	7,844,199	1,364,045	9,208,244
Total Department of the Army	8,877,968	7,844,199	1,364,045	9,208,244

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<u>Appropriation</u>	<u>FY 2020 Base</u>	<u>FY 2020 OCO for Base Requirements</u>	<u>FY 2020 OCO for Direct War and Enduring Costs</u>	<u>FY 2020 Total OCO</u>
Other Procurement, Army	7,443,101	8,200	1,131,450	1,139,650
Total Department of the Army	7,443,101	8,200	1,131,450	1,139,650



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<u>Appropriation</u>	<u>FY 2020 Total (Base + OCO)</u>
Other Procurement, Army	8,582,751
Total Department of the Army	8,582,751

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 Total Obligational Authority  
 (Dollars in Thousands)

12 Feb 2019

Appropriation: Other Procurement, Army

Budget Activity	FY 2018 (Base + OCO)	FY 2019 Base Enacted	FY 2019 OCO Enacted	FY 2019 Total Enacted
01. Tactical and Support Vehicles	2,004,615	2,040,990	382,229	2,423,219
02. Communications and Electronics Equipment	5,214,185	4,000,173	737,644	4,737,817
03. Other Support Equipment	1,646,834	1,793,219	244,172	2,037,391
04. Spare and Repair Parts	12,334	9,817		9,817
Total Other Procurement, Army	8,877,968	7,844,199	1,364,045	9,208,244

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Appropriation: Other Procurement, Army

Budget Activity	FY 2020 Base	FY 2020 OCO for Base Requirements	FY 2020 OCO for Direct War and Enduring Costs	FY 2020 Total OCO
01. Tactical and Support Vehicles	1,575,619		184,592	184,592
02. Communications and Electronics Equipment	4,043,043	8,200	480,861	489,061
03. Other Support Equipment	1,814,682		465,997	465,997
04. Spare and Repair Parts	9,757			
Total Other Procurement, Army	7,443,101	8,200	1,131,450	1,139,650

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Appropriation: Other Procurement, Army

<u>Budget Activity</u>	<u>FY 2020 Total (Base + OCO)</u>
01. Tactical and Support Vehicles	1,760,211
02. Communications and Electronics Equipment	4,532,104
03. Other Support Equipment	2,280,679
04. Spare and Repair Parts	9,757
Total Other Procurement, Army	8,582,751

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Appropriation: 2035A Other Procurement, Army

Line No	Item Nomenclature	Ident Code	FY 2018 (Base + OCO)		FY 2019 Base Enacted		FY 2019 OCO Enacted		FY 2019 Total Enacted		S e c
			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	
Budget Activity 01: Tactical and Support Vehicles											
-----											
Tactical Vehicles											
1	Tactical Trailers/Dolly Sets	A		7,716		8,850				8,850	U
2	Semitrailers, Flatbed:	A		43,381		16,951		8,000		24,951	U
3	Ambulance, 4 LITTER, 5/4 TON, 4x4			78,000		170,123		20,770		190,893	U
4	Ground Mobility Vehicles (GMV)	A		40,935		42,695				42,695	U
5	ARNG HMMWV Modernization Program	A		220,000		100,000				100,000	U
6	Joint Light Tactical Vehicle	A	2176	834,440	3393	1,279,437			3393	1,279,437	U
7	Truck, Dump, 20t (CCE)			1,083		5,061				5,061	U
8	Family of Medium Tactical Veh (FMTV)			232,750		123,464				123,464	U
9	Firetrucks & Associated Firefighting Equip			19,404		14,842				14,842	U
10	Family of Heavy Tactical Vehicles (FHTV)			110,195		121,497		39,400		160,897	U
11	Pls Esp	A		59,729							U
12	Hvy Expanded Mobile Tactical Truck Ext Serv			150,878		27,082		82,682		109,764	U
13	HMMWV Recapitalization Program										U
14	Tactical Wheeled Vehicle Protection Kits	A		34,694		38,128		50,000		88,128	U
15	Modification of In Svc Equip			146,587		75,265		181,377		256,642	U
16	Mine-Resistant Ambush-Protected (MRAP) Mods	A		17,508							U

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Appropriation: 2035A Other Procurement, Army

Line No	Item Nomenclature	Ident Code	FY 2020 Base		FY 2020 OCO for Base Requirements		FY 2020 OCO for Direct War and Enduring Costs		FY 2020 Total OCO		S e c
			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	
Budget Activity 01: Tactical and Support Vehicles											
Tactical Vehicles											
1	Tactical Trailers/Dolly Sets	A		12,993							U
2	Semitrailers, Flatbed:	A		102,386							U
3	Ambulance, 4 LITTER, 5/4 TON, 4x4			127,271							U
4	Ground Mobility Vehicles (GMV)	A		37,038							U
5	ARNG HMMWV Modernization Program	A									U
6	Joint Light Tactical Vehicle	A	2530	996,007							U
7	Truck, Dump, 20t (CCE)			10,838							U
8	Family of Medium Tactical Veh (FMTV)			72,057							U
9	Firetrucks & Associated Firefighting Equip			28,048							U
10	Family of Heavy Tactical Vehicles (FHTV)			9,969			26,917		26,917		U
11	Pls Esp	A		6,280			16,941		16,941		U
12	Hvy Expanded Mobile Tactical Truck Ext Serv			30,841			62,734		62,734		U
13	HMMWV Recapitalization Program			5,734							U
14	Tactical Wheeled Vehicle Protection Kits	A		45,113			50,000		50,000		U
15	Modification of In Svc Equip			58,946			28,000		28,000		U
16	Mine-Resistant Ambush-Protected (MRAP) Mods	A									U

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Line No	Item Nomenclature	Ident Code	FY 2020 Total (Base + OCO)		S e c
			Quantity	Cost	
<u>Budget Activity 01: Tactical and Support Vehicles</u>					
Tactical Vehicles					
1	Tactical Trailers/Dolly Sets	A		12,993	U
2	Semitrailers, Flatbed:	A		102,386	U
3	Ambulance, 4 LITTER, 5/4 TON, 4x4			127,271	U
4	Ground Mobility Vehicles (GMV)	A		37,038	U
5	ARNG HMMWV Modernization Program	A			U
6	Joint Light Tactical Vehicle	A	2530	996,007	U
7	Truck, Dump, 20t (CCE)			10,838	U
8	Family of Medium Tactical Veh (FMTV)			72,057	U
9	Firetrucks & Associated Firefighting Equip			28,048	U
10	Family of Heavy Tactical Vehicles (FHTV)			36,886	U
11	Pls Esp	A		23,221	U
12	Hvy Expanded Mobile Tactical Truck Ext Serv			93,575	U
13	HMMWV Recapitalization Program			5,734	U
14	Tactical Wheeled Vehicle Protection Kits	A		95,113	U
15	Modification of In Svc Equip			86,946	U
16	Mine-Resistant Ambush-Protected (MRAP) Mods	A			U

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Line No	Item Nomenclature	Ident Code	FY 2018 (Base + OCO)		FY 2019 Base Enacted		FY 2019 OCO Enacted		FY 2019 Total Enacted		S e c
			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	
Non-Tactical Vehicles											
17	Heavy Armored Vehicle			269		790				790	U
18	Passenger Carrying Vehicles			1,320		1,390				1,390	U
19	Nontactical Vehicles, Other	A		5,726		15,415				15,415	U
Total Tactical and Support Vehicles				2,004,615		2,040,990		382,229		2,423,219	
Budget Activity 02: Communications and Electronics Equipment											
Comm - Joint Communications											
20	Win-T - Ground Forces Tactical Network	A		102,400							U
21	Signal Modernization Program	A		280,944		82,180				82,180	U
22	Tactical Network Technology Mod In Svc	A		414,597		568,367				568,367	U
23	SITUATION INFORMATION TRANSPORT	A				62,727				62,727	U
24	Joint Incident Site Communications Capability	A		6,065		13,895				13,895	U
25	JCSE Equipment (USRDECOM)			5,051		4,866				4,866	U
Comm - Satellite Communications											
26	Spectrum METSAT	A		1,176							U
27	Spectrum Portal	A		48							U
28	Defense Enterprise Wideband Satcom Systems			155,551		97,633				97,633	U
29	Transportable Tactical Command Communications	A		186,272		69,960		7,100		77,060	U
30	SHF Term			13,622		13,100				13,100	U

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Line No	Item Nomenclature	Ident Code	FY 2020 Base		FY 2020 OCO for Base Requirements		FY 2020 OCO for Direct War and Enduring Costs		FY 2020 Total OCO		S e c
			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	
Non-Tactical Vehicles											
17	Heavy Armored Vehicle			791							U
18	Passenger Carrying Vehicles			1,416							U
19	Nontactical Vehicles, Other	A		29,891							U
Total Tactical and Support Vehicles				1,575,619			184,592		184,592		
Budget Activity 02: Communications and Electronics Equipment											
Comm - Joint Communications											
20	Win-T - Ground Forces Tactical Network	A									U
21	Signal Modernization Program	A		153,933							U
22	Tactical Network Technology Mod In Svc	A		387,439			40,000		40,000		U
23	SITUATION INFORMATION TRANSPORT	A		46,693							U
24	Joint Incident Site Communications Capability	A									U
25	JCSE Equipment (USRDECOM)			5,075							U
Comm - Satellite Communications											
26	Spectrum METSAT	A									U
27	Spectrum Portal	A									U
28	Defense Enterprise Wideband Satcom Systems			101,189							U
29	Transportable Tactical Command Communications	A		77,141			6,930		6,930		U
30	SHF Term			16,054							U

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Line No	Item Nomenclature	Ident Code	FY 2020 Total (Base + OCO)		S e c
			Quantity	Cost	
Non-Tactical Vehicles					
17	Heavy Armored Vehicle		791		U
18	Passenger Carrying Vehicles		1,416		U
19	Nontactical Vehicles, Other	A	29,891		U
Total Tactical and Support Vehicles			1,760,211		

Budget Activity 02: Communications and Electronics Equipment

Comm - Joint Communications

20	Win-T - Ground Forces Tactical Network	A			U
21	Signal Modernization Program	A	153,933		U
22	Tactical Network Technology Mod In Svc	A	427,439		U
23	SITUATION INFORMATION TRANSPORT	A	46,693		U
24	Joint Incident Site Communications Capability	A			U
25	JCSE Equipment (USRDECOM)		5,075		U

Comm - Satellite Communications

26	Spectrum METSAT	A			U
27	Spectrum Portal	A			U
28	Defense Enterprise Wideband Satcom Systems		101,189		U
29	Transportable Tactical Command Communications	A	84,071		U
30	SHF Term		16,054		U

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			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	
31	Assured Positioning, Navigation and Timing	A									U
32	Smart-T (SPACE)			6,799		19,160			19,160		U
33	Global Brdcst Svc - GBS			5,665		19,472			19,472		U
34	Enroute Mission Command (EMC)	A		21,067		37,401			37,401		U
35	Spectrum Microwave			5,147							U
Comm - Combat Support Comm											
36	Mod-In-Service Profiler	A		70							U
Comm - C3 System											
37	Army Global Cmd & Control Sys (AGCCS)	A		2,658							U
38	COE Tactical Server Infrastructure (TSI)	A				20,500			20,500		U
Comm - Combat Communications											
39	Handheld Manpack Small Form Fit (HMS)	A		415,351		298,475			298,475		U
40	Radio Terminal Set, Mids Lvt(2)	A		11,160		4,641			4,641		U
41	Tractor Desk			2,041		2,187			2,187		U
42	Tractor Ride			42,144		9,411		13,190	22,601		U
43	Spider Apla Remote Control Unit	A		996							U
44	Spider Family of Networked Munitions Incr	A		4,500		13,345			13,345		U
45	Tactical Communications and Protective System	A		4,411		819		9,549	10,368		U
46	Unified Command Suite	A		15,275		16,270			16,270		U
47	COTS Communications Equipment	A				63,835		22,000	85,835		U

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Line No	Item Nomenclature	Ident Code	FY 2020 Base		FY 2020 OCO for Base Requirements		FY 2020 OCO for Direct War and Enduring Costs		FY 2020 Total OCO		S e c
			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	
31	Assured Positioning, Navigation and Timing	A		41,074				11,778		11,778	U
32	Smart-T (SPACE)			10,515				825		825	U
33	Global Brdcst Svc - GBS			11,800							U
34	Enroute Mission Command (EMC)	A		8,609							U
35	Spectrum Microwave										U
	Comm - Combat Support Comm										
36	Mod-In-Service Profiler	A									U
	Comm - C3 System										
37	Army Global Cmd & Control Sys (AGCCS)	A									U
38	COE Tactical Server Infrastructure (TSI)	A		77,533							U
	Comm - Combat Communications										
39	Handheld Manpack Small Form Fit (HMS)	A		468,026							U
40	Radio Terminal Set, Mids Lvt(2)	A		23,778				350		350	U
41	Tractor Desk										U
42	Tractor Ride										U
43	Spider Apla Remote Control Unit	A									U
44	Spider Family of Networked Munitions Incr	A		10,930							U
45	Tactical Communications and Protective System	A									U
46	Unified Command Suite	A		9,291							U
47	COTS Communications Equipment	A		55,630				20,400		20,400	U

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Line No	Item Nomenclature	Ident Code	FY 2020 Total (Base + OCO)		S e c
			Quantity	Cost	
31	Assured Positioning, Navigation and Timing	A		52,852	U
32	Smart-T (SPACE)			11,340	U
33	Global Brdcst Svc - GBS			11,800	U
34	Enroute Mission Command (EMC)	A		8,609	U
35	Spectrum Microwave				U
	Comm - Combat Support Comm				
36	Mod-In-Service Profiler	A			U
	Comm - C3 System				
37	Army Global Cmd & Control Sys (AGCCS)	A			U
38	COE Tactical Server Infrastructure (TSI)	A		77,533	U
	Comm - Combat Communications				
39	Handheld Manpack Small Form Fit (HMS)	A		468,026	U
40	Radio Terminal Set, Mids Lvt(2)	A		24,128	U
41	Tractor Desk				U
42	Tractor Ride				U
43	Spider Apla Remote Control Unit	A			U
44	Spider Family of Networked Munitions Incr	A		10,930	U
45	Tactical Communications and Protective System	A			U
46	Unified Command Suite	A		9,291	U
47	COTS Communications Equipment	A		76,030	U

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Line No	Item Nomenclature	Ident Code	FY 2018 (Base + OCO)		FY 2019 Base Enacted		FY 2019 OCO Enacted		FY 2019 Total Enacted		S e c
			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	
48	Family of Med Comm for Combat Casualty Care	A		15,964		22,226				22,226	U
49	Army Communications & Electronics Comm - Intelligence Comm	A									U
51	CI Automation Architecture (MIP)	A		17,873		9,740		9,800		19,540	U
52	Defense Military Deception Initiative Information Security	A		4,830		2,667				2,667	U
53	Family of Biometrics	A				8,319				8,319	U
54	Information System Security Program-ISSP	A				2,000				2,000	U
55	Communications Security (COMSEC)	A		104,484		65,580				65,580	U
56	Defensive CYBER Operations	A		53,436		51,343				51,343	U
57	Insider Threat Program - Unit Activity Monito	A		690		330				330	U
58	Persistent Cyber Training Environment Comm - Long Haul Communications	A		4,000		3,000				3,000	U
59	Base Support Communications Comm - Base Communications			45,751		49,557		690		50,247	U
60	Information Systems			85,570		71,314		8,750		80,064	U
61	Emergency Management Modernization Program	A		4,490		4,736				4,736	U
62	Home Station Mission Command Centers (HSMCC)	A		20,050		24,479				24,479	U
63	Installation Info Infrastructure Mod Program	A		187,451		186,433		60,337		246,770	U

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Line No	Item Nomenclature	Ident Code	FY 2020 Base		FY 2020 OCO for Base Requirements		FY 2020 OCO for Direct War and Enduring Costs		FY 2020 Total OCO		S e c
			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	
48	Family of Med Comm for Combat Casualty Care	A		16,590				1,231		1,231	U
49	Army Communications & Electronics	A		43,457							U
	Comm - Intelligence Comm										
51	CI Automation Architecture (MIP)	A		10,470				6,200		6,200	U
52	Defense Military Deception Initiative	A		3,704							U
	Information Security										
53	Family of Biometrics	A		1,000							U
54	Information System Security Program-ISSP	A		3,600							U
55	Communications Security (COMSEC)	A		160,899							U
56	Defensive CYBER Operations	A		61,962							U
57	Insider Threat Program - Unit Activity Monito	A		756							U
58	Persistent Cyber Training Environment	A		3,000							U
	Comm - Long Haul Communications										
59	Base Support Communications			31,770				20,482		20,482	U
	Comm - Base Communications										
60	Information Systems			159,009				55,800		55,800	U
61	Emergency Management Modernization Program	A		4,854							U
62	Home Station Mission Command Centers (HSMCC)	A		47,174							U
63	Installation Info Infrastructure Mod Program	A		297,994				75,820		75,820	U

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Appropriation: 2035A Other Procurement, Army

Line No	Item Nomenclature	Ident Code	FY 2020 Total (Base + OCO)		S e c
			Quantity	Cost	
48	Family of Med Comm for Combat Casualty Care	A		17,821	U
49	Army Communications & Electronics Comm - Intelligence Comm	A		43,457	U
51	CI Automation Architecture (MIP)	A		16,670	U
52	Defense Military Deception Initiative Information Security	A		3,704	U
53	Family of Biometrics	A		1,000	U
54	Information System Security Program-ISSP	A		3,600	U
55	Communications Security (COMSEC)	A		160,899	U
56	Defensive CYBER Operations	A		61,962	U
57	Insider Threat Program - Unit Activity Monito	A		756	U
58	Persistent Cyber Training Environment Comm - Long Haul Communications	A		3,000	U
59	Base Support Communications Comm - Base Communications			52,252	U
60	Information Systems			214,809	U
61	Emergency Management Modernization Program	A		4,854	U
62	Home Station Mission Command Centers (HSMCC)	A		47,174	U
63	Installation Info Infrastructure Mod Program	A		373,814	U

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			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	
Elect Equip - Tact Int Rel Act (TIARA)											
66	JTT/CIBS-M (MIP)	B		12,154		9,027				9,027	U
67	Drug Interdiction Program (Dip) (TIARA)			3,638							U
68	DCGS-A (MIP)			328,397		253,954		37,806		291,760	U
69	Joint Tactical Ground Station (JTAGS) (MIP)	A				5,434				5,434	U
70	Trojan (MIP)	B		40,062		20,623		6,926		27,549	U
71	Mod of In-Svc Equip (Intel Spt) (MIP)			53,334		45,998		2,011		48,009	U
72	CI HUMINT Auto Reprting & Coll (CHARCS) (MIP)			22,275		296				296	U
73	Close Access Target Reconnaissance (CATR)			6,440							U
74	Machine Foreign Language Translation System-M	A		567							U
75	Biometric Tactical Collection Devices (MIP)	A		5,180				5,370		5,370	U
76	Items Less Than \$5.0M (MIP)					410				410	U
Elect Equip - Electronic Warfare (EW)											
77	Lightweight Counter Mortar Radar	A		17,080		6,107				6,107	U
78	EW Planning & Management Tools (EWPMT)	A		5,805		5,875				5,875	U
79	Air Vigilance (AV) (MIP)	A		5,348		8,497				8,497	U
80	Crew			25,600				42,651		42,651	U
81	Multi-Function Electronic Warfare (MFEW) Syst	A									U
82	Family of Persistent Surveillance Cap. (MIP)	A		19,935				20,050		20,050	U
83	Counterintelligence/Security Countermeasures			19,343				12,974		12,974	U

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			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	
Elect Equip - Tact Int Rel Act (TIARA)											
66	JTT/CIBS-M (MIP)	B		7,686							U
67	Drug Interdiction Program (Dip) (TIARA)										U
68	DCGS-A (MIP)			180,350				38,613		38,613	U
69	Joint Tactical Ground Station (JTAGS) (MIP)	A									U
70	Trojan (MIP)	B		17,368				1,337		1,337	U
71	Mod of In-Svc Equip (Intel Spt) (MIP)			59,052				2,051		2,051	U
72	CI HUMINT Auto Reprting & Coll (CHARCS) (MIP)										U
73	Close Access Target Reconnaissance (CATR)										U
74	Machine Foreign Language Translation System-M	A									U
75	Biometric Tactical Collection Devices (MIP)	A						1,800		1,800	U
76	Items Less Than \$5.0M (MIP)										U
Elect Equip - Electronic Warfare (EW)											
77	Lightweight Counter Mortar Radar	A		5,400							U
78	EW Planning & Management Tools (EWPMT)	A		7,568							U
79	Air Vigilance (AV) (MIP)	A		8,953							U
80	Crew										U
81	Multi-Function Electronic Warfare (MFEW) Syst	A		6,420							U
82	Family of Persistent Surveillance Cap. (MIP)	A						71,493		71,493	U
83	Counterintelligence/Security Countermeasures			501				6,917		6,917	U

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			(Base + OCO) Quantity	Cost	
Elect Equip - Tact Int Rel Act (TIARA)					
66	JTT/CIBS-M (MIP)	B		7,686	U
67	Drug Interdiction Program (Dip) (TIARA)				U
68	DCGS-A (MIP)			218,963	U
69	Joint Tactical Ground Station (JTAGS) (MIP)	A			U
70	Trojan (MIP)	B		18,705	U
71	Mod of In-Svc Equip (Intel Spt) (MIP)			61,103	U
72	CI HUMINT Auto Reprting & Coll(CHARCS) (MIP)				U
73	Close Access Target Reconnaissance (CATR)				U
74	Machine Foreign Language Translation System-M	A			U
75	Biometric Tactical Collection Devices (MIP)	A		1,800	U
76	Items Less Than \$5.0M (MIP)				U
Elect Equip - Electronic Warfare (EW)					
77	Lightweight Counter Mortar Radar	A		5,400	U
78	EW Planning & Management Tools (EWPMT)	A		7,568	U
79	Air Vigilance (AV) (MIP)	A		8,953	U
80	Crew				U
81	Multi-Function Electronic Warfare (MFEW) Syst	A		6,420	U
82	Family of Persistent Surveillance Cap. (MIP)	A		71,493	U
83	Counterintelligence/Security Countermeasures			7,418	U

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			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	
84	CI Modernization (MIP)	A		285		486				486	U
	Elect Equip - Tactical Surv. (Tac Surv)										
85	Sentinel Mods			100,491		77,752				77,752	U
86	Night Vision Devices	A		182,619		152,988		463		153,451	U
87	Long Range Advanced Scout Surveillance System							2,861		2,861	U
88	Small Tactical Optical Rifle Mounted MLRF			16,157		21,178		60		21,238	U
89	Radiation Monitoring Systems					17,393				17,393	U
90	Indirect Fire Protection Family of Systems	A		666,113		40,435		251,062		291,497	U
91	Family of Weapon Sights (FWS)	A		59,105		125,513		525		126,038	U
92	Artillery Accuracy Equip			2,129							U
93	Profiler					171				171	U
94	Joint Battle Command - Platform (JBC-P)	A		342,649		383,691		18,300		401,991	U
95	Joint Effects Targeting System (JETS)			38,664		66,574				66,574	U
96	Mod of In-Svc Equip (LLDR)	A		9,172		20,783		4,050		24,833	U
97	Computer Ballistics: LHMBC XM32	A		12,407		8,553		960		9,513	U
98	Mortar Fire Control System			46,490		21,489		7,660		29,149	U
99	Mortar Fire Control Systems Modifications										U
100	Counterfire Radars			400,530		160,126		164,024		324,150	U
	Elect Equip - Tactical C2 Systems										
101	Army Command Post Integrated Infrastructure (	A				2,855				2,855	U

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			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	
84	CI Modernization (MIP)	A		121							U
	Elect Equip - Tactical Surv. (Tac Surv)										
85	Sentinel Mods			115,210				20,000		20,000	U
86	Night Vision Devices	A		236,604				3,676		3,676	U
87	Long Range Advanced Scout Surveillance System										U
88	Small Tactical Optical Rifle Mounted MLRF			22,623							U
89	Radiation Monitoring Systems										U
90	Indirect Fire Protection Family of Systems	A		29,127							U
91	Family of Weapon Sights (FWS)	A		120,883							U
92	Artillery Accuracy Equip										U
93	Profiler										U
94	Joint Battle Command - Platform (JBC-P)	A		265,667				25,568		25,568	U
95	Joint Effects Targeting System (JETS)			69,720							U
96	Mod of In-Svc Equip (LLDR)	A		6,044							U
97	Computer Ballistics: LHMBC XM32	A		3,268				570		570	U
98	Mortar Fire Control System			13,199				15,975		15,975	U
99	Mortar Fire Control Systems Modifications			10,000							U
100	Counterfire Radars			16,416							U
	Elect Equip - Tactical C2 Systems										
101	Army Command Post Integrated Infrastructure (	A									U

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			Quantity	Cost	
84	CI Modernization (MIP)	A		121	U
	Elect Equip - Tactical Surv. (Tac Surv)				
85	Sentinel Mods			135,210	U
86	Night Vision Devices	A		240,280	U
87	Long Range Advanced Scout Surveillance System				U
88	Small Tactical Optical Rifle Mounted MLRF			22,623	U
89	Radiation Monitoring Systems				U
90	Indirect Fire Protection Family of Systems	A		29,127	U
91	Family of Weapon Sights (FWS)	A		120,883	U
92	Artillery Accuracy Equip				U
93	Profiler				U
94	Joint Battle Command - Platform (JBC-P)	A		291,235	U
95	Joint Effects Targeting System (JETS)			69,720	U
96	Mod of In-Svc Equip (LLDR)	A		6,044	U
97	Computer Ballistics: LHMBBC XM32	A		3,838	U
98	Mortar Fire Control System			29,174	U
99	Mortar Fire Control Systems Modifications			10,000	U
100	Counterfire Radars			16,416	U
	Elect Equip - Tactical C2 Systems				
101	Army Command Post Integrated Infrastructure (	A			U

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			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	
102	Fire Support C2 Family	A		8,700		19,153				19,153	U
103	AIR & MSL Defense Planning & Control Sys			132,713		29,913				29,913	U
104	IAMD Battle Command System	A									U
105	Life Cycle Software Support (LCSS)			1,992		5,136				5,136	U
106	Network Management Initialization and Service	A		15,179		15,087				15,087	U
107	Maneuver Control System (MCS)	A		72,672		29,144				29,144	U
108	Global Combat Support System-Army (GCSS-A)	A		37,201		15,164				15,164	U
109	Integrated Personnel and Pay System-Army (IPP)	A		16,140		16,800				16,800	U
110	Reconnaissance and Surveying Instrument Set	A		6,093		6,823				6,823	U
111	Mod of In-Svc Equipment (ENFIRE)	A		1,134		1,177				1,177	U
	Elect Equip - Automation										
112	Army Training Modernization			11,575		12,265				12,265	U
113	Automated Data Processing Equip			84,983		191,337	28,475			219,812	U
114	General Fund Enterprise Business Systems Fam	A		4,465		10,976				10,976	U
115	High Perf Computing Mod Pgm (HPCMP)	A		66,363		66,330				66,330	U
116	Contract Writing System	A		1,001		5,927				5,927	U
117	CSS Communications	A									U
118	Reserve Component Automation Sys (RCAS)			26,183		27,896				27,896	U
	Elect Equip - Audio Visual Sys (A/V)										
119	Tactical Digital Media	A		4,441		4,392				4,392	U

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			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	
102	Fire Support C2 Family	A		13,197							U
103	AIR & MSL Defense Planning & Control Sys			24,730				14,331		14,331	U
104	IAMD Battle Command System	A		29,629							U
105	Life Cycle Software Support (LCSS)			6,774							U
106	Network Management Initialization and Service	A		24,448							U
107	Maneuver Control System (MCS)	A		260							U
108	Global Combat Support System-Army (GCSS-A)	A		17,962							U
109	Integrated Personnel and Pay System-Army (IPP)	A		18,674							U
110	Reconnaissance and Surveying Instrument Set	A		11,000							U
111	Mod of In-Svc Equipment (ENFIRE)	A		7,317							U
	Elect Equip - Automation										
112	Army Training Modernization			14,578				6,014		6,014	U
113	Automated Data Processing Equip			139,342				32,700		32,700	U
114	General Fund Enterprise Business Systems Fam	A		15,802							U
115	High Perf Computing Mod Pgm (HPCMP)	A		67,610							U
116	Contract Writing System	A		15,000							U
117	CSS Communications	A		24,700							U
118	Reserve Component Automation Sys (RCAS)			27,879							U
	Elect Equip - Audio Visual Sys (A/V)										
119	Tactical Digital Media	A									U

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Line No	Item Nomenclature	Ident Code	FY 2020 Total		S e c
			Quantity	Cost	
102	Fire Support C2 Family	A		13,197	U
103	AIR & MSL Defense Planning & Control Sys			39,061	U
104	IAMD Battle Command System	A		29,629	U
105	Life Cycle Software Support (LCSS)			6,774	U
106	Network Management Initialization and Service	A		24,448	U
107	Maneuver Control System (MCS)	A		260	U
108	Global Combat Support System-Army (GCSS-A)	A		17,962	U
109	Integrated Personnel and Pay System-Army (IPP)	A		18,674	U
110	Reconnaissance and Surveying Instrument Set	A		11,000	U
111	Mod of In-Svc Equipment (ENFIRE)	A		7,317	U
	Elect Equip - Automation				
112	Army Training Modernization			20,592	U
113	Automated Data Processing Equip			172,042	U
114	General Fund Enterprise Business Systems Fam	A		15,802	U
115	High Perf Computing Mod Pgm (HPCMP)	A		67,610	U
116	Contract Writing System	A		15,000	U
117	CSS Communications	A		24,700	U
118	Reserve Component Automation Sys (RCAS)			27,879	U
	Elect Equip - Audio Visual Sys (A/V)				
119	Tactical Digital Media	A			U

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			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	
120	Items Less Than \$5M (Surveying Equipment)			3,414		1,970				1,970	U
	Elect Equip - Support										
121	Production Base Support (C-E)			499		15,506				15,506	U
122	BCT Emerging Technologies	A		25,050		144,500				144,500	U
999	Classified Programs			4,819		4,501				4,501	U
	Total Communications and Electronics Equipment			5,214,185		4,000,173		737,644		4,737,817	
	Budget Activity 03: Other Support Equipment										
	Chemical Defensive Equipment										
123	Protective Systems	A		1,613		2,314		27		2,341	U
124	Family of Non-Lethal Equipment (FNLE)	A		16,696		14,478		19,494		33,972	U
125	Base Defense Systems (BDS)	A		25,926				39,200		39,200	U
126	CBRN Defense	A		66,188		186,954		2,317		189,271	U
127	Smoke & Obscurant Family: SOF (NON AAO ITEM)										U
	Bridging Equipment										
128	Tactical Bridging			16,610		81,219				81,219	U
129	Tactical Bridge, Float-Ribbon			21,761		55,145				55,145	U
130	Bridge Supplemental Set	A									U
131	Common Bridge Transporter (CBT) Recap	A		20,046		55,392				55,392	U

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			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	
120	Items Less Than \$5M (Surveying Equipment)			5,000							U
	Elect Equip - Support										
121	Production Base Support (C-E)										U
122	BCT Emerging Technologies	A		22,302							U
999	Classified Programs			3,710		8,200				8,200	U
Total Communications and Electronics Equipment				4,043,043		8,200		480,861		489,061	
Budget Activity 03: Other Support Equipment											
Chemical Defensive Equipment											
123	Protective Systems	A									U
124	Family of Non-Lethal Equipment (FNLE)	A					25,480			25,480	U
125	Base Defense Systems (BDS)	A					47,110			47,110	U
126	CBRN Defense	A		25,828			18,711			18,711	U
127	Smoke & Obscurant Family: SOF (NON AAO ITEM)			5,050							U
Bridging Equipment											
128	Tactical Bridging			59,821			4,884			4,884	U
129	Tactical Bridge, Float-Ribbon			57,661							U
130	Bridge Supplemental Set	A		17,966							U
131	Common Bridge Transporter (CBT) Recap	A		43,155							U

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			Quantity	Cost	
120	Items Less Than \$5M (Surveying Equipment)			5,000	U
	Elect Equip - Support				
121	Production Base Support (C-E)				U
122	BCT Emerging Technologies	A		22,302	U
999	Classified Programs			11,910	U
	Total Communications and Electronics Equipment			4,532,104	
<u>Budget Activity 03: Other Support Equipment</u>					
Chemical Defensive Equipment					
123	Protective Systems	A			U
124	Family of Non-Lethal Equipment (FNLE)	A		25,480	U
125	Base Defense Systems (BDS)	A		47,110	U
126	CBRN Defense	A		44,539	U
127	Smoke & Obscurant Family: SOF (NON AAO ITEM)			5,050	U
Bridging Equipment					
128	Tactical Bridging			64,705	U
129	Tactical Bridge, Float-Ribbon			57,661	U
130	Bridge Supplemental Set	A		17,966	U
131	Common Bridge Transporter (CBT) Recap	A		43,155	U

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			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	
Engineer (Non-Construction) Equipment											
132	Handheld Standoff Minefield Detection Sys-Hst	B		6,000		8,471				8,471	U
133	Grnd Standoff Mine Detectn Sysm (GSTAMIDS)			27,442		27,666		14,335		42,001	U
134	Area Mine Detection System (AMDS)	A		10,571		5,797				5,797	U
135	Husky Mounted Detection System (HMDS)	A		16,695		35,834				35,834	U
136	Robotic Combat Support System (RCSS)			4,516		4,029		4,850		8,879	U
137	EOD Robotics Systems Recapitalization	A		10,073		17,736				17,736	U
138	Robotics and Applique Systems			24,000		31,456				31,456	U
139	Remote Demolition Systems	A		4,454		1,748				1,748	U
140	Render Safe Sets kits Outfits	A									U
141	< \$5m, Countermining Equipment	A		1,530		5,914				5,914	U
142	Family of Boats and Motors	A		4,302		8,006				8,006	U
Combat Service Support Equipment											
143	Heaters and ECU'S	A		7,675		9,852		270		10,122	U
144	Soldier Enhancement			1,095		1,103				1,103	U
145	Personnel Recovery Support System (PRSS)	A		5,390		5,875		4,300		10,175	U
146	Ground Soldier System	A		135,768		34,781		1,725		36,506	U
147	Mobile Soldier Power	A		6,431		30,774				30,774	U
148	Force Provider	A						55,800		55,800	U
149	Field Feeding Equipment			15,485		17,521		1,035		18,556	U

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Line No	Item Nomenclature	Ident Code	FY 2020 Base		FY 2020 OCO for Base Requirements		FY 2020 OCO for Direct War and Enduring Costs		FY 2020 Total OCO		S e c
			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	
Engineer (Non-Construction) Equipment											
132	Handheld Standoff Minefield Detection Sys-Hst	B		7,570							U
133	Grnd Standoff Mine Detectn Systm (GSTAMIDS)			37,025			4,500		4,500		U
134	Area Mine Detection System (AMDS)	A									U
135	Husky Mounted Detection System (HMDS)	A		83,082			34,253		34,253		U
136	Robotic Combat Support System (RCSS)			2,000			3,300		3,300		U
137	EOD Robotics Systems Recapitalization	A		23,115							U
138	Robotics and Applique Systems			101,056							U
139	Remote Demolition Systems	A									U
140	Render Safe Sets kits Outfits	A		18,684			84,000		84,000		U
141	< \$5m, Countermining Equipment	A									U
142	Family of Boats and Motors	A		8,245							U
Combat Service Support Equipment											
143	Heaters and ECU'S	A		7,336			8		8		U
144	Soldier Enhancement										U
145	Personnel Recovery Support System (PRSS)	A		4,281			5,101		5,101		U
146	Ground Soldier System	A		111,955			1,760		1,760		U
147	Mobile Soldier Power	A		31,364							U
148	Force Provider	A					56,400		56,400		U
149	Field Feeding Equipment			1,673							U

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			Quantity	Cost	
Engineer (Non-Construction) Equipment					
132	Handheld Standoff Minefield Detection Sys-Hst	B		7,570	U
133	Grnd Standoff Mine Detectn Systm (GSTAMIDS)			41,525	U
134	Area Mine Detection System (AMDS)	A			U
135	Husky Mounted Detection System (HMDS)	A		117,335	U
136	Robotic Combat Support System (RCSS)			5,300	U
137	EOD Robotics Systems Recapitalization	A		23,115	U
138	Robotics and Applique Systems			101,056	U
139	Remote Demolition Systems	A			U
140	Render Safe Sets kits Outfits	A		102,684	U
141	< \$5m, Countermining Equipment	A			U
142	Family of Boats and Motors	A		8,245	U
Combat Service Support Equipment					
143	Heaters and ECU'S	A		7,344	U
144	Soldier Enhancement				U
145	Personnel Recovery Support System (PRSS)	A		9,382	U
146	Ground Soldier System	A		113,715	U
147	Mobile Soldier Power	A		31,364	U
148	Force Provider	A		56,400	U
149	Field Feeding Equipment			1,673	U

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			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	
150	Cargo Aerial Del & Personnel Parachute System			32,587		44,855		1,980		46,835	U
151	Family of Engr Combat and Construction Sets	A		10,426		15,978				15,978	U
152	Items Less Than \$5M (Eng Spt)	A				2,000				2,000	U
	Petroleum Equipment										
153	Quality Surveillance Equipment	A		6,903							U
154	Distribution Systems, Petroleum & Water			41,622		26,471				26,471	U
	Medical Equipment										
155	Combat Support Medical			95,533		85,238		17,527		102,765	U
	Maintenance Equipment										
156	Mobile Maintenance Equipment Systems	A		34,898		34,479				34,479	U
157	Items Less Than \$5.0M (Maint Eq)	A		2,728		4,985		268		5,253	U
	Construction Equipment										
158	Grader, Road Mtzd, Hvy, 6x4 (CCE)	A		989							U
159	Scrapers, Earthmoving	A		11,180		7,961				7,961	U
160	Loaders										U
161	Hydraulic Excavator	B		3,850		1,355				1,355	U
162	Tractor, Full Tracked	A									U
163	All Terrain Cranes	A		8,935		13,031				13,031	U
164	High Mobility Engineer Excavator (HMEE)	A		75,831		46,048		25,700		71,748	U
165	Enhanced Rapid Airfield Construction Capap	B		2,563		8,480				8,480	U

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			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	
150	Cargo Aerial Del & Personnel Parachute System			43,622				2,040		2,040	U
151	Family of Engr Combat and Construction Sets	A		11,451							U
152	Items Less Than \$5M (Eng Spt)	A		5,167							U
	Petroleum Equipment										
153	Quality Surveillance Equipment	A									U
154	Distribution Systems, Petroleum & Water			74,867				13,986		13,986	U
	Medical Equipment										
155	Combat Support Medical			68,225				2,735		2,735	U
	Maintenance Equipment										
156	Mobile Maintenance Equipment Systems	A		55,053							U
157	Items Less Than \$5.0M (Maint Eq)	A		5,608							U
	Construction Equipment										
158	Grader, Road Mtzd, Hvy, 6x4 (CCE)	A									U
159	Scrapers, Earthmoving	A						4,669		4,669	U
160	Loaders							380		380	U
161	Hydraulic Excavator	B		500							U
162	Tractor, Full Tracked	A		4,835				8,225		8,225	U
163	All Terrain Cranes	A		23,936							U
164	High Mobility Engineer Excavator (HMEE)	A		27,188				3,000		3,000	U
165	Enhanced Rapid Airfield Construction Capap	B									U

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			Quantity	Cost	
150	Cargo Aerial Del & Personnel Parachute System			45,662	U
151	Family of Engr Combat and Construction Sets	A		11,451	U
152	Items Less Than \$5M (Eng Spt)	A		5,167	U
	Petroleum Equipment				
153	Quality Surveillance Equipment	A			U
154	Distribution Systems, Petroleum & Water			88,853	U
	Medical Equipment				
155	Combat Support Medical			70,960	U
	Maintenance Equipment				
156	Mobile Maintenance Equipment Systems	A		55,053	U
157	Items Less Than \$5.0M (Maint Eq)	A		5,608	U
	Construction Equipment				
158	Grader, Road Mtzd, Hvy, 6x4 (CCE)	A			U
159	Scrapers, Earthmoving	A		4,669	U
160	Loaders			380	U
161	Hydraulic Excavator	B		500	U
162	Tractor, Full Tracked	A		13,060	U
163	All Terrain Cranes	A		23,936	U
164	High Mobility Engineer Excavator (HMEE)	A		30,188	U
165	Enhanced Rapid Airfield Construction Capap	B			U

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			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	
166	Const Equip Esp			19,032		33,760				33,760	U
167	Items Less Than \$5.0M (Const Equip)	A		6,899		6,103				6,103	U
	Rail Float Containerization Equipment										
168	Army Watercraft Esp	A		20,110		8,508				8,508	U
169	Maneuver Support Vessel (MSV)	B									U
170	Items Less Than \$5.0M (Float/Rail)	A		2,877		8,385				8,385	U
	Generators										
171	Generators and Associated Equip	A		115,704		133,772		569		134,341	U
172	Tactical Electric Power Recapitalization	A		7,936		8,333				8,333	U
	Material Handling Equipment										
173	Family of Forklifts	A		9,000		12,901				12,901	U
	Training Equipment										
174	Combat Training Centers Support			126,600		117,584				117,584	U
175	Training Devices, Nonsystem			275,629		217,598				217,598	U
176	Synthetic Training Environment (STE)										U
177	Close Combat Tactical Trainer	A		34,008		33,080				33,080	U
178	Aviation Combined Arms Tactical Trainer			30,568		32,700				32,700	U
179	Gaming Technology In Support of Army Training			6,487		25,161				25,161	U
	Test Measure and Dig Equipment (TMD)										
180	Calibration Sets Equipment			5,564		4,270				4,270	U

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			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	
166	Const Equip Esp			34,790				3,870		3,870	U
167	Items Less Than \$5.0M (Const Equip)	A		4,381				350		350	U
	Rail Float Containerization Equipment										
168	Army Watercraft Esp	A		35,194							U
169	Maneuver Support Vessel (MSV)	B		14,185							U
170	Items Less Than \$5.0M (Float/Rail)	A		6,920							U
	Generators										
171	Generators and Associated Equip	A		58,566				2,436		2,436	U
172	Tactical Electric Power Recapitalization	A		14,814							U
	Material Handling Equipment										
173	Family of Forklifts	A		14,864				5,152		5,152	U
	Training Equipment										
174	Combat Training Centers Support			123,411							U
175	Training Devices, Nonsystem			220,707				2,106		2,106	U
176	Synthetic Training Environment (STE)			20,749							U
177	Close Combat Tactical Trainer	A									U
178	Aviation Combined Arms Tactical Trainer			4,840							U
179	Gaming Technology In Support of Army Training			15,463							U
	Test Measure and Dig Equipment (TMD)										
180	Calibration Sets Equipment			3,030							U

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			Quantity	Cost	
166	Const Equip Esp			38,660	U
167	Items Less Than \$5.0M (Const Equip)	A		4,731	U
	Rail Float Containerization Equipment				
168	Army Watercraft Esp	A		35,194	U
169	Maneuver Support Vessel (MSV)	B		14,185	U
170	Items Less Than \$5.0M (Float/Rail)	A		6,920	U
	Generators				
171	Generators and Associated Equip	A		61,002	U
172	Tactical Electric Power Recapitalization	A		14,814	U
	Material Handling Equipment				
173	Family of Forklifts	A		20,016	U
	Training Equipment				
174	Combat Training Centers Support			123,411	U
175	Training Devices, Nonsystem			222,813	U
176	Synthetic Training Environment (STE)			20,749	U
177	Close Combat Tactical Trainer	A			U
178	Aviation Combined Arms Tactical Trainer			4,840	U
179	Gaming Technology In Support of Army Training			15,463	U
	Test Measure and Dig Equipment (TMD)				
180	Calibration Sets Equipment			3,030	U

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			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	
181	Integrated Family of Test Equipment (IFTE)			36,644		72,542		9,495		82,037	U
182	Test Equipment Modernization (TEMOD)			7,771		9,806				9,806	U
	Other Support Equipment										
183	M25 Stabilized Binocular	A		3,956		4,368				4,368	U
184	Rapid Equipping Soldier Support Equipment	A		13,500		11,879		18,000		29,879	U
185	Physical Security Systems (OPA3)	A		58,208		47,836		6,000		53,836	U
186	Base Level Common Equipment			13,239		6,633		2,080		8,713	U
187	Modification of In-Svc Equipment (OPA-3)			52,265		46,189		19,200		65,389	U
188	Production Base Support (OTH)			2,271		2,301				2,301	U
189	Building, Pre-Fab, Relocatable	A									U
190	Special Equipment for User Testing			14,319		11,608				11,608	U
191	Tractor Yard			5,935		4,956				4,956	U
	Total Other Support Equipment			1,646,834		1,793,219		244,172		2,037,391	
	Budget Activity 04: Spare and Repair Parts										
	-----										
	OPA2										
192	Initial Spares - C&E			12,334		9,817				9,817	U
	Total Spare and Repair Parts			12,334		9,817				9,817	
	Total Other Procurement, Army			8,877,968		7,844,199		1,364,045		9,208,244	

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			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	
181	Integrated Family of Test Equipment (IFTE)			76,980				1,395		1,395	U
182	Test Equipment Modernization (TEMOD)			16,415							U
	Other Support Equipment										
183	M25 Stabilized Binocular	A									U
184	Rapid Equipping Soldier Support Equipment	A		9,877				24,122		24,122	U
185	Physical Security Systems (OPA3)	A		82,158				10,016		10,016	U
186	Base Level Common Equipment			15,340							U
187	Modification of In-Svc Equipment (OPA-3)			50,458				33,354		33,354	U
188	Production Base Support (OTH)										U
189	Building, Pre-Fab, Relocatable	A		14,400				62,654		62,654	U
190	Special Equipment for User Testing			9,821							U
191	Tractor Yard										U
	Total Other Support Equipment			1,814,682				465,997		465,997	
	Budget Activity 04: Spare and Repair Parts										
	OPA2										
192	Initial Spares - C&E			9,757							U
	Total Spare and Repair Parts			9,757							
	Total Other Procurement, Army			7,443,101		8,200		1,131,450		1,139,650	

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			Quantity	Cost	
181	Integrated Family of Test Equipment (IFTE)			78,375	U
182	Test Equipment Modernization (TEMOD)			16,415	U
	Other Support Equipment				
183	M25 Stabilized Binocular	A			U
184	Rapid Equipping Soldier Support Equipment	A		33,999	U
185	Physical Security Systems (OPA3)	A		92,174	U
186	Base Level Common Equipment			15,340	U
187	Modification of In-Svc Equipment (OPA-3)			83,812	U
188	Production Base Support (OTH)				U
189	Building, Pre-Fab, Relocatable	A		77,054	U
190	Special Equipment for User Testing			9,821	U
191	Tractor Yard				U
	Total Other Support Equipment			2,280,679	
Budget Activity 04: Spare and Repair Parts					
-----					
	OPA2				
192	Initial Spares - C&E			9,757	U
	Total Spare and Repair Parts			9,757	
	Total Other Procurement, Army			8,582,751	



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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 12: Comm - Joint Communications	<b>P-1 Line Item Number / Title:</b> 1975BW7100 / WIN-T - Ground Forces Tactical Network
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** 349

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity <i>(Units in Each)</i>	400	868	-	-	-	-	-	-	-	-	-	1,268
Gross/Weapon System Cost <i>(\$ in Millions)</i>	3,552.297	102.400	-	-	-	-	-	-	-	-	-	3,654.697
Less PY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) <i>(\$ in Millions)</i>	3,552.297	102.400	-	-	-	-	-	-	-	-	-	3,654.697
Plus CY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority <i>(\$ in Millions)</i></b>	<b>3,552.297</b>	<b>102.400</b>	-	-	-	-	-	-	-	-	-	<b>3,654.697</b>

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

Initial Spares <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost <i>(\$ in Thousands)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost <i>(\$ in Thousands)</i>	8,880.743	117.972	-	-	-	-	-	-	-	-	-	2,882.253

**Description:**

Warfighter Information Network - Tactical (WIN-T) connects all users to each other from theater down to the maneuver battalion, to joint and multinational elements, and the Defense Information System Network (DISN). WIN-T employs a combination of terrestrial, airborne, and satellite-based transport options, to provide robust, redundant connectivity. Network modernization is one of the Army's top priorities, and WIN-T is its cornerstone program. It enables mission command on the move, keeping highly mobile and dispersed forces connected to one another and to the Army's global information network. With essential voice, video and data services, commanders can make decisions faster than ever before and from anywhere on the battlefield. WIN-T's infrastructure provides commanders and other users the ability to communicate via voice, data, and video simultaneously at all levels of security.

**Warfighter Information Network- Tactical (WIN-T) Increment (Inc) 1: Networking At-the-Halt**

A state-of-the-art, Beyond Line of Sight, at-the-halt communications network that ensures operational relevancy and interoperability with future increments. It provides the current Warfighter with communications backbone that enables them to exchange information (voice, data, and video) at high speeds with high reliability throughout the tactical Division, Brigade Combat Team (BCT), and Battalion level elements using a wired and wireless backbones for the tactical Network Operations Centers (NOC) The wireless solution leverages the National Security Agency approved Commercial Solution for Classified (CSfC) architecture within the Operations Centers allowing simple and quick deployment of the NOC equipment and C2 applications. Two sub-increments are noted as follows: (Increment 1a): Extended Networking at-the-Halt - with Ka military satellite communications capability; and (Increment 1b): Enhanced Networking at-the-Halt, building on the Increment 1a capability by adding the Net Centric Waveform (NCW) and the Department of Defense Information Network (DoDIN) compliant Colorless Core Capability. The NCW is essential to provide a meshed satellite network, minimizing latency through multiple hops at the below brigade HQs and the DoDIN compliant Colorless Core Capability allows an efficient transport of multiple classified and unclassified data streams between WIN-T Inc 1 and Inc 2, as well as to reach back hub facilities. The Increment 1 architecture is an integral part of the converged Network Operations (NETOPS) initiative allowing common NETOPS from any WIN-T assemblage. Regional Hub Nodes are the uppermost level of the tactical architecture which provides a sanctuary, overlapping global presence that all WIN-T increments and product lines can leverage for transport services.

**WIN-T Increment 2: Initial Networking On-the-Move**

Warfighter Information Network (WIN-T) Increment 2 (Inc 2) provides the Army with On-The-Move (OTM) networking capability. The WIN-T Inc 2 network retains capabilities delivered by WIN-T Inc 1 and by leveraging proven government and commercial technologies, adds greater network throughput and automated Network Management to optimize planning (to include spectrum use), initialization, monitoring and troubleshooting. WIN-T Inc 2 employs Satellite Communications (SATCOM) OTM to extend the network in maneuver Brigade Combat Teams (BCTs) to Company level through FY18. Using equipment mounted on combat platforms, WIN-T Inc 2 delivers a mobile capability that reduces reliance on fixed infrastructure and allows key leaders to move on the battlefield while retaining Situational Awareness and Mission Command capabilities. Using the Highband Networking Radio, with the Highband Networking Waveform and high performance antennas, the WIN-T Inc 2 Line-of-Sight network offers an adaptive 30 Megabit per second (Mbps) aggregate throughput to key leaders in their Command Post or in their vehicle. The WIN-T Inc 2 network is self-forming, which means that it automatically creates transmission paths based

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<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 12: Comm - Joint Communications		<b>P-1 Line Item Number / Title:</b> 1975BW7100 / WIN-T - Ground Forces Tactical Network
<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A

**Line Item MDAP/MAIS Code:** 349

on terrain and environmental conditions; and self-healing, meaning that the paths will automatically re-route traffic to complete network transactions and calls even if one or more nodes break down or loses connectivity. This offers greater network reliability and better end-to-end connectivity than traditional point-to-point networks. WIN-T Inc 2 introduces the network management capability needed to keep the mobile and dispersed forces networked together through automated planning, initialization, monitoring, and troubleshooting. Finally, WIN-T Inc 2 adopts "Colorless Core" technology that encrypts both classified and unclassified user information in the network and minimizes the number of users on the "core" of the network. The Colorless Core allows commanders to utilize the tactical network without fear of the enemy intercepting information. Colorless Core is a technical insertion in the WIN-T Inc 1b network which enables information sharing between WIN-T Inc 1b and WIN-T Inc 2.

The WIN-T Inc 2 capabilities are identified for fielding to Armored, Infantry, and Stryker BCTs, Fires and CABs and Division Headquarters. The Point of Presence and the Tactical Communications Node have both satellite and Line-of-Sight communication capability. The Soldier Network Extension (SNE) provides satellite communication only. The Point of Presence and the Tactical Communications Node are deployed at Division, Brigade and Battalion echelons. The SNE serves as the S3 vehicle at Battalion level and is also deployed down to Company level through FY18, when Network Capability Review (NCR) removes SNEs from the Company Commanders.

WIN-T Inc 3 developed NetOps and NetCentric Waveform (NCW) updates will be inserted into WIN-T Increment 2 equipped units.

**Area Common User System Modernization (ACUS MOD):**  
Supports the Bridge to Future Networks (BFN) systems architecture by providing items to modernize the network or tech refresh existing legacy equipment. ACUS Mod supports the Army's Transformation/Modularity initiatives by developing, procuring, and fielding product improvements into the Army's Stryker Brigade Combat Teams (SBCTs) and 24 Expeditionary Signal Battalions (ESBs). Also provides support to those systems that were fielded under the Area Common User System Modernization Plan (ACUS MP). Overall, ACUS Mod supports the Army's mission by providing Ethernet local area network communications between Tactical Operational Centers (TOC); TOC & Tactical Internet network management capabilities; integrated voice, video and data services; Line of Sight (LOS) and Beyond Line of Sight (BLOS) transmission capability.

The ACUS Mod systems consist of: the High Capacity Line of Sight (HCLOS/AN/TRC-190) radio which provides a 16 Mbps line of site transmission capability required to transport the increased volume of data on the digital battlefield; the Battlefield Video-Teleconferencing Center (BVTC) provides Video Teleconference (VTC) and data collaboration to assist the commander in coordinating and interacting with different echelons and adjacent units; the AN/TRC-170 tropospheric scatter radio which provides Beyond Line Of Sight (BLOS) communications with ranges in excess of 100 miles and bandwidth of up to 16 Mbps; and the Single Shelter Switch (SSS) which provides commanders with a "First In" capability and building block for network expansion. The SSS is enhanced to provide Joint and Coalition interoperability using Commercial-Off-The-Shelf and Government-Off-The-Shelf (COTS/GOTS) architecture for technology upgrade ease. The aforementioned systems are an integral part of the Warfighter Information Network-Tactical (WIN-T) Increment 1 system architecture. The Tactical NetOps Management System (TNMS) is a scalable modular NetOps capability that operates on multiple client or server platforms. It is fielded to units not provided with WIN-T Inc 1 NetOps capabilities. The TNMS will facilitate decision-making necessary to quickly identify network problems, shift resources, change configurations and coordinate the management of the critical network infrastructure supporting Mission Command (MC)/Command and Control (C2) functions.

WIN-T Inc 2 is currently fielded to sixteen BCTs and nine Divisions. From FY19-23, WIN-T Inc 2 funding is realigned into two separate lines, Situational Information Transport (SIT) (B27201) and Tactical Network Technology Mod in Service (TNT MIS) (B07110) as part of the new Army Network Strategy. The P-forms for B27201 and B07110 provide the description and justification associated with this new strategy.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	868	-	-	-	-	-	-	-	-
	Total Obligation Authority	102.400	-	-	-	-	-	-	-	-
<b>Total:</b> <b>Secondary Distribution</b>	<b>Quantity</b>	<b>868</b>	-	-	-	-	-	-	-	-
	<b>Total Obligation Authority</b>	<b>102.400</b>	-	-	-	-	-	-	-	-

**Justification:**

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<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 12: Comm - Joint Communications		<b>P-1 Line Item Number / Title:</b> 1975BW7100 / WIN-T - Ground Forces Tactical Network
<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
<b>Line Item MDAP/MAIS Code:</b> 349		
Program has no FY 2020 request.		

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

**Appropriation / Budget Activity / Budget Sub Activity:**  
2035A: Other Procurement, Army / BA 02: Communications and Electronics  
Equipment / BSA 12: Comm - Joint Communications

**P-1 Line Item Number / Title:**  
1981B00010 / Signal Modernization Program

**ID Code** (A=Service Ready, B=Not Service Ready): **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0604818A

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

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	168	164	172	333	-	333	769	356	358	349	-	2,669
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	179.216	280.944	82.180	153.933	-	153.933	174.041	190.207	224.490	221.457	-	1,506.468
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	179.216	280.944	82.180	153.933	-	153.933	174.041	190.207	224.490	221.457	-	1,506.468
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>179.216</b>	<b>280.944</b>	<b>82.180</b>	<b>153.933</b>	<b>-</b>	<b>153.933</b>	<b>174.041</b>	<b>190.207</b>	<b>224.490</b>	<b>221.457</b>	<b>-</b>	<b>1,506.468</b>

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

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	1,066.762	1,713.073	477.791	462.261	-	462.261	226.321	534.289	627.067	634.547	-	564.432

**Description:**

Signal Modernization Program supports the Army's Network Modernization Strategy Line of Effort (LOE) 1 - Unified Network

The Signal Modernization (SIGMOD) funding line will procure additional and enhanced capabilities to modernize tactical network components by reducing Size, Weight and Power (SWaP) and providing more expeditionary communications, leveraging the Tactical Network, including Expeditionary Signal Battalions, Maneuver and Multi-Functional Brigades, and Division and Corps Headquarters. SIGMOD capabilities will provide augmentation and additional increased capabilities to units equipped with Warfighter Information Network - Tactical (WIN-T), allowing them to support the full spectrum of operations with Cellular Solution (4G LTE & WIFI), Commercial Coalition Equipment, and Top Secret enclaves. SIGMOD will provide redundancy communications in a satellite denied environment by providing improved Line of Sight Terrestrial Transmission System (TRILOS) and beyond line of sight Troposcatter Transmission System (TROPO) radio systems.

SIGMOD provides Secure But Unclassified (SBU) Very Small Aperture Terminal (VSAT) and gateway capabilities to Security Force Assistance Brigades (SFABs). It also provides VSAT High Capability Beyond Line of Sight systems to support Implementation of the Integrated Tactical Network (ITN) baseline capabilities for the maneuver Brigade Combat Teams (BCTs).

The following SIGMOD Capabilities/systems are part of this base effort for this funding line:

Commercial Coalition Equipment (CCE): Provides both Commercial and Coalition communications cross-banding capabilities supporting command control and coalition partners in order to enable Mission Command between forces. By integrating disparate and unique forces communications together, the network is extended and Mission Command is further enabled

Modular Communications Node - Advanced Enclave (MCN-AE): Provides Top Secret/Sensitive Compartmented Information (TS/SCI) communications to Brigades, Divisions, Corps, and Signal Battalions over the WIN-T network. MCN-AE enables operation/intelligence conversion and reduction in the number of high power Radio Frequency (RF) systems in the Command Post (CP). MCN-AE also supports expeditionary / initial entry operations.

Cellular Solution (4G LTE and WiFi): Expands the Tactical network below battalion, using an expeditionary 4G LTE cellular and wireless (WiFi) network. The 4G LTE network enables Situational Awareness (SA) and Mission Command (MC) capability down to the individual Soldier (starting in FY22). The WiFi capability enables untethered Mission Command within the command post for wireless laptops, tablets and phone, dramatically reducing TOC set-up and teardown times.



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<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 12: Comm - Joint Communications		<b>P-1 Line Item Number / Title:</b> 1981B00010 / Signal Modernization Program
<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> 0604818A
<b>Line Item MDAP/MAIS Code:</b> N/A		
<p>Terrestrial Transmission System (TRILOS): Enables Mission Command in a satellite denied environment at higher throughput than the current High Capacity Line of Sight System (HCLOS). TRILOS will enable Army units to reduce reliance on costly satellite bandwidth. TRILOS will extend the network by utilizing a significantly reduced SWaP radio verses the aging HCLOS system. TRILOS will also provide RF path diversity, making the system more resilient to jamming in a contested environment.</p> <p>Troposcatter Transmission System (TROPO): Enables Mission Command in a satellite denied environment by providing Beyond Line of Sight (BLOS) capability over longer ranges and at higher throughput than the current BLOS System. TROPO extends the network by utilizing a significantly reduced SWaP radio verses the legacy system. TROPO will enable Army units to reduce reliance on costly satellite bandwidth. TROPO will also provide RF path diversity, making the system more resilient to jamming in a contested environment.</p>		

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 12: Comm - Joint Communications	<b>P-1 Line Item Number / Title:</b> 1981B00010 / Signal Modernization Program
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> 0604818A
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**Line Item MDAP/MAIS Code:** N/A

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	B00010 / Signal Modernization Program	P-5a, P-21			168 / 179.216	164 / 280.944	172 / 82.180	333 / 153.933	- / -	333 / 153.933
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>168 / 179.216</b>	<b>164 / 280.944</b>	<b>172 / 82.180</b>	<b>333 / 153.933</b>	<b>- / -</b>	<b>333 / 153.933</b>

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

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

**Justification:**  
 FY 2020 Base procurement dollars in the amount of \$153.933 million supports procurement of eighteen (18) Commercial Coalition Equipment (CCE), twenty five (25) Modular Communications Node - Advanced Enclave (MCN-AE), and thirty six (36) WiFi systems. In addition, funding procures one hundred and fifty (150) TRILOS and thirty six (36) TROPO to support at the halt terrestrial and beyond line of sight communications supporting the Tactical Network. In addition, sixty eight (68) High Capability Beyond Line of Sight systems will be procured to support Implementation of Integrated Tactical Network (ITN) baseline capabilities for four (4) Brigade Combat Teams (BCTs).

The Training Support and Initial Spares increase from FY19 to FY20 is due to increased quantities being fielding for TRILOS and WiFi. All TROPO unit cost is based on Program Office Estimate (POE) and not actuals.

The Transmission Systems Capability Production Document (CPD) was approved on 30 Jan 2015.

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

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 12	<b>P-1 Line Item Number / Title:</b> 1981B00010 / Signal Modernization Program	<b>Item Number / Title [DODIC]:</b> B00010 / Signal Modernization Program

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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<b>Resource Summary</b>	<b>Prior Years</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Procurement Quantity (Units in Each)	168	164	172	333	-	333
Gross/Weapon System Cost (\$ in Millions)	179.216	280.944	82.180	153.933	-	153.933
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	179.216	280.944	82.180	153.933	-	153.933
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>179.216</b>	<b>280.944</b>	<b>82.180</b>	<b>153.933</b>	<b>-</b>	<b>153.933</b>

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

Initial Spares (\$ in Millions)	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	1,066.762	1,713.073	477.791	462.261	-	462.261

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

<b>Cost Elements</b>	<b>Prior Years</b>			<b>FY 2018</b>			<b>FY 2019</b>			<b>FY 2020 Base</b>			<b>FY 2020 OCO</b>			<b>FY 2020 Total</b>		
	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>
<b>Flyaway Cost</b>																		
<b>Recurring Cost</b>																		
MCN-AE HW-Equipment <sup>(f)</sup>	76.059	118	8.975	-	-	-	79.000	34	2.686	80.000	25	2.000	-	-	-	80.000	25	2.000
CCE HW-Equipment <sup>(f)</sup>	234.000	48	11.232	241.000	24	5.784	246.000	18	4.428	251.000	18	4.518	-	-	-	251.000	18	4.518
Cellular Solution HW - Equipment	880.000	30	26.400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WiFi HW - Equipment <sup>(f)</sup>	-	-	-	213.000	30	6.390	217.000	32	6.944	221.000	36	7.956	-	-	-	221.000	36	7.956
TROPO HW-Equipment <sup>(f)</sup>	-	-	-	-	-	-	679.000	18	12.222	693.000	36	24.948	-	-	-	693.000	36	24.948
TRILOS HW - Equipment <sup>(f)</sup>	179.000	120	21.480	185.000	110	20.350	186.000	70	13.020	190.000	150	28.500	-	-	-	190.000	150	28.500
SBU VSAT and gateway (SFAB)	-	-	-	-	-	189.000	-	-	-	-	-	-	-	-	-	-	-	-
Integrated Tactical Network (ITN) / VSAT	-	-	-	-	-	-	-	-	-	383.000	68	26.044	-	-	-	383.000	68	26.044
Engineering / Integration Support	-	-	15.711	-	-	16.457	-	-	17.375	-	-	18.095	-	-	-	-	-	18.095
Non- Recurring Engineering	-	-	35.561	-	-	0.481	-	-	1.420	-	-	2.429	-	-	-	-	-	2.429
System Test / Validation	-	-	5.746	-	-	1.704	-	-	1.940	-	-	3.395	-	-	-	-	-	3.395
Training	-	-	12.704	-	-	3.150	-	-	3.071	-	-	5.012	-	-	-	-	-	5.012

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 12		<b>P-1 Line Item Number / Title:</b> 1981B00010 / Signal Modernization Program
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :		<b>MDAP/MAIS Code:</b>

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Fielding	-	-	11.617	-	-	4.028	-	-	4.726	-	-	4.834	-	-	-	-	-	4.834
Initial Spares	-	-	8.356	-	-	7.400	-	-	3.063	-	-	13.640	-	-	-	-	-	13.640
Software	-	-	10.625	-	-	4.949	-	-	4.889	-	-	5.603	-	-	-	-	-	5.603
Rescission - FY19APPN	-	-	-	-	-	15.000	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	168.407	-	-	274.693	-	-	75.784	-	-	146.974	-	-	-	-	-	146.974
<i>Subtotal: Flyaway Cost</i>	-	-	<b>168.407</b>	-	-	<b>274.693</b>	-	-	<b>75.784</b>	-	-	<b>146.974</b>	-	-	-	-	-	<b>146.974</b>
<b>Support - Program Management Cost</b>																		
Government Management	-	-	6.452	-	-	3.163	-	-	3.235	-	-	3.308	-	-	-	-	-	3.308
Contractor Management	-	-	4.357	-	-	3.088	-	-	3.161	-	-	3.651	-	-	-	-	-	3.651
<i>Subtotal: Support - Program Management Cost</i>	-	-	<b>10.809</b>	-	-	<b>6.251</b>	-	-	<b>6.396</b>	-	-	<b>6.959</b>	-	-	-	-	-	<b>6.959</b>
<b>Gross/Weapon System Cost</b>	<b>1,066.762</b>	<b>168</b>	<b>179.216</b>	<b>1,713.073</b>	<b>164</b>	<b>280.944</b>	<b>477.791</b>	<b>172</b>	<b>82.180</b>	<b>462.261</b>	<b>333</b>	<b>153.933</b>	-	-	-	<b>462.261</b>	<b>333</b>	<b>153.933</b>

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

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 12	<b>P-1 Line Item Number / Title:</b> 1981B00010 / Signal Modernization Program	<b>Item Number / Title [DODIC]:</b> B00010 / Signal Modernization Program
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Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty <i>(Each)</i>	Unit Cost <i>(\$ K)</i>	Specs Avail Now?	Date Revision Available	RFP Issue Date
MCN-AE HW-Equipment		2017	GDMS CHS IV / Taunton, MA	C / IDIQ	Aberdeen Proving Ground, MD	Aug 2017	Jan 2018	24	76.300	Y		
MCN-AE HW-Equipment		2019	GDMS CHS IV / Taunton, MA	C / IDIQ	Aberdeen Proving Ground, MD	Feb 2019	Jun 2019	34	79.000	Y		
MCN-AE HW-Equipment		2020	GDMS CHS IV / Taunton, MA	C / IDIQ	Aberdeen Proving Ground, MD	Jan 2020	May 2020	25	80.000	Y		
CCE HW-Equipment		2017	GDMS CHS IV / Taunton, MA	C / IDIQ	Aberdeen Proving Ground, MD	Jul 2017	Dec 2017	24	238.000	Y		
CCE HW-Equipment		2018	GDMS CHS IV / Taunton, MA	C / IDIQ	Aberdeen Proving Ground, MD	Apr 2018	Sep 2018	24	241.000	Y		
CCE HW-Equipment		2019	GDMS CHS IV / Taunton, MA	C / IDIQ	Aberdeen Proving Ground, MD	Feb 2019	Jun 2019	18	246.000	Y		
CCE HW-Equipment		2020	GDMS CHS IV / Taunton, MA	C / IDIQ	Aberdeen Proving Ground, MD	Jan 2020	May 2020	18	251.000	Y		
WiFi HW - Equipment <sup>(†)</sup>		2019	GDMS CHS IV / Taunton, MA	C / IDDQ	Aberdeen Proving Ground, MD	Jan 2019	May 2019	32	217.000	Y		
WiFi HW - Equipment <sup>(†)</sup>		2020	GDMS CHS IV / Taunton, MA	C / IDDQ	Aberdeen Proving Ground, MD	Jan 2020	May 2020	36	221.000	Y		
TROPO HW-Equipment <sup>(†)</sup>		2019	TBD / Aberdeen Proving Ground, MD	C / IDIQ	Aberdeen Proving Ground, MD	Mar 2019	Oct 2019	18	679.000	N		
TROPO HW-Equipment <sup>(†)</sup>		2020	TBD / Aberdeen Proving Ground, MD	C / IDIQ	Aberdeen Proving Ground, MD	Jun 2020	Feb 2021	36	693.000	N		
TRILOS HW - Equipment <sup>(†)</sup>		2017	ADS / Virginia Beach, VA	C / IDIQ	Aberdeen Proving Ground, MD	Aug 2017	Jan 2018	120	179.000	N		
TRILOS HW - Equipment <sup>(†)</sup>		2018	ADS / Virginia Beach, VA	C / IDIQ	Aberdeen Proving Ground, MD	Jun 2018	Jan 2019	110	185.000	N		
TRILOS HW - Equipment <sup>(†)</sup>		2019	TBD / Aberdeen Proving Ground, MD	C / IDIQ	Aberdeen Proving Ground, MD	Jun 2019	Jan 2020	70	186.000	N		
TRILOS HW - Equipment <sup>(†)</sup>		2020	TBD / Aberdeen Proving Ground, MD	C / IDDQ	Aberdeen Proving Ground, MD	Jun 2020	Jan 2021	150	190.000	N		

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

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

**Appropriation / Budget Activity / Budget Sub Activity:** 2035A / 02 / 12 **P-1 Line Item Number / Title:** 1981B00010 / Signal Modernization Program **Item Number / Title [DODIC]:** B00010 / Signal Modernization Program

Cost Elements <i>(Units in Each)</i>						Fiscal Year 2017												Fiscal Year 2018												B A L A N C E	
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2016	BAL DUE AS OF 1 OCT	Calendar Year 2017												Calendar Year 2018												
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G		S E P
WiFi HW - Equipment																															
	1	2019	ARMY	32	0	32																							32		
	1	2020	ARMY	36	0	36																							36		
TROPO HW-Equipment																															
	2	2019	ARMY	18	0	18																							18		
	2	2020	ARMY	36	0	36																							36		
TRILOS HW - Equipment																															
	4	2017	ARMY	120	0	120																							15		
	4	2018	ARMY	110	0	110																							110		
	3	2019	ARMY	70	0	70																							70		
	3	2020	ARMY	150	0	150																							150		
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	

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

**Appropriation / Budget Activity / Budget Sub Activity:** 2035A / 02 / 12 **P-1 Line Item Number / Title:** 1981B00010 / Signal Modernization Program **Item Number / Title [DODIC]:** B00010 / Signal Modernization Program

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			
WiFi HW - Equipment																																	
	1	2019	ARMY	32	0	32																							0				
	1	2020	ARMY	36	0	36																							11				
TROPO HW-Equipment																																	
	2	2019	ARMY	18	0	18																							0				
	2	2020	ARMY	36	0	36																							36				
TRILOS HW - Equipment																																	
	4	2017	ARMY	120	105	15	10	5																					0				
	4	2018	ARMY	110	0	110																							0				
	3	2019	ARMY	70	0	70																							0				
	3	2020	ARMY	150	0	150																							150				
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P			

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 12	<b>P-1 Line Item Number / Title:</b> 1981B00010 / Signal Modernization Program	<b>Item Number / Title [DODIC]:</b> B00010 / Signal Modernization Program
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Cost Elements <i>(Units in Each)</i>						Fiscal Year 2021												Fiscal Year 2022												BALANCE	
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2020	BAL DUE AS OF 1 OCT	Calendar Year 2021												Calendar Year 2022												
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G		S E P
WiFi HW - Equipment																															
	1	2019	ARMY	32	32	0																							0		
	1	2020	ARMY	36	25	11	5		4	2																			0		
TROPO HW-Equipment																															
	2	2019	ARMY	18	18	0																							0		
	2	2020	ARMY	36	0	36	-	-	-	-	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	0		
TRILOS HW - Equipment																															
	4	2017	ARMY	120	120	0																							0		
	4	2018	ARMY	110	110	0																							0		
	3	2019	ARMY	70	70	0																							0		
	3	2020	ARMY	150	0	150	-	-	-	15	15	15	15	15	15	15	15	15	15	15									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 2020 Army **Date:** March 2019

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 12	<b>P-1 Line Item Number / Title:</b> 1981B00010 / Signal Modernization Program	<b>Item Number / Title [DODIC]:</b> B00010 / Signal Modernization Program
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MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Month)			Procurement Leadtime (Months)								
		MSR For 2020	1-8-5 For 2020	MAX For 2020	Initial				Reorder				
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	
1	GDMS CHS IV - Taunton, MA	1	10	250	0	4	0	4	0	4	4	4	8
2	TBD - Aberdeen Proving Ground, MD	1	20	200	0	6	0	6	0	4	7	7	11
3	TBD - Aberdeen Proving Ground, MD	1	20	200	0	6	0	6	0	4	7	7	11
4	ADS - Virginia Beach, VA	1	10	200	0	6	0	6	0	9	7	7	16

**Remarks:**

Production rates represent monthly values.

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

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

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 12: Comm - Joint Communications	<b>P-1 Line Item Number / Title:</b> 1982B07100 / Tactical Network Technology Mod In Svc
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	-	414.597	568.367	387.439	40.000	427.439	416.818	482.964	434.943	458.359	-	3,203.487
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	-	414.597	568.367	387.439	40.000	427.439	416.818	482.964	434.943	458.359	-	3,203.487
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	-	<b>414.597</b>	<b>568.367</b>	<b>387.439</b>	<b>40.000</b>	<b>427.439</b>	<b>416.818</b>	<b>482.964</b>	<b>434.943</b>	<b>458.359</b>	-	<b>3,203.487</b>

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

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

**Description:**

The Tactical Network Technology Modernization in Service (TNT MIS) funding line supports the Army's Network Modernization Strategy Line of Effort #1, Unified Network and Integrated Tactical Network.

The purpose of TNT MIS funding is to modernize the Army's Tactical Network (comprised of WIN-T Increment 1 and WIN-T Increment 2 and Tactical Network equipped units). The Tactical Network provides both Networking At-The-Halt and Networking On-The-Move, keeping highly mobile and dispersed forces connected to one another and to the Army's global information network. It connects all users to each other to allow information sharing from theater down to the maneuver battalion and to select Company-level roles, to joint and multinational elements, and the Department of Defense Information Network (DoDIN). With essential voice, video and data services, at all levels of security, commanders can make decisions faster than ever before and from anywhere on the battlefield. The Tactical Network employs a combination of terrestrial and satellite-based transport options to provide robust, redundant connectivity with greater network reliability and better end-to-end connectivity than traditional point-to-point networks.

TNT MIS supports the near-term objectives of the Army Network Modernization Strategy by standardizing the Tactical Network baseline to help create the first 'future state' of the network. TNT MIS supports the Army's Mission Command Network Modernization Implementation Plan mid-term goals by providing technology insertion that incorporates cyber and electronic warfare resiliency required for the expeditionary Army. TNT MIS will introduce new capabilities and new technologies through engineering changes to the tactical network baseline. TNT MIS provides the Army with acquisition agility to respond to the network environment in which it operates and remain the world's most lethal land force. Modernizing the Army's Tactical Network is one of the Army's top six priorities.

TNT MIS provides technology insertion for the tactical network and modernization of non-sustainable/end of life commercial technology and other information technology (IT) component end item equipment (switches, routers, servers etc.) procured under tactical networking efforts. Technology insertion and modernization are critical to ensure the Army's tactical network maintains its security posture and compliance with new Information Assurance policies. TNT MIS is executing a modernization cycle to counter obsolescence and to sustain Commercial off the Shelf (COTS) IT components. Modernization reduces life cycle costs by reducing size, weight and power through collapsing and converging capabilities that previously resided on individual hardware components into virtual servers, and leverages common COTS solutions across various programs.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	414.597	568.367	387.439	40.000	427.439	416.818	482.964	434.943	458.359

**UNCLASSIFIED**

<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2020 Army							<b>Date:</b> March 2019		
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 12: Comm - Joint Communications					<b>P-1 Line Item Number / Title:</b> 1982B07100 / Tactical Network Technology Mod In Svc				
<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A			<b>Program Elements for Code B Items:</b> N/A			<b>Other Related Program Elements:</b> N/A			
<b>Line Item MDAP/MAIS Code:</b> N/A									

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
<b>Total:</b>	<b>Quantity</b>	-	-	-	-	-	-	-	-	-
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	414.597	568.367	387.439	40.000	427.439	416.818	482.964	434.943	458.359

**UNCLASSIFIED**

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

**Appropriation / Budget Activity / Budget Sub Activity:**  
 2035A: Other Procurement, Army / BA 02: Communications and Electronics  
 Equipment / BSA 12: Comm - Joint Communications

**P-1 Line Item Number / Title:**  
 1982B07100 / Tactical Network Technology Mod In Svc

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

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

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	B07110 / Tactical Network Technology Mod In Svc		A		- / -	- / 414.597	- / 568.367	- / 387.439	- / 40.000	- / 427.439
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / -</b>	<b>- / 414.597</b>	<b>- / 568.367</b>	<b>- / 387.439</b>	<b>- / 40.000</b>	<b>- / 427.439</b>

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

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

**Justification:**

FY 2020 Base procurement dollars in the amount of \$387.439 million procures and fields Mission Network refresh, initial spares, and modernization of non-sustainable/end of life commercial technology to support 14 variously sized units (Division, Brigade Combat Team (BCT) and Corps), Regional Hub Nodes (RHN), and Tactical Network Management System (TNMS).

(a) Technology insertion and modernization are critical to ensure the Army's tactical network maintains its security posture and compliance with new Information Assurance policies. TNT MIS is executing a 5-year refresh for Networking On The Move and a 7-year tech refresh cycle for Networking At The Halt to counter obsolescence and inability to sustain COTS IT components. Tech refresh reduces life cycle costs by reducing size, weight and power through collapsing and converging capabilities that previously resided on individual hardware components into virtual servers, and leveraging common COTS solutions across various programs.

(b) Technology Insertion: Supports modernization of 4 Networking On The Move IBCTs, 1 Networking On The Move SBCT, and 2 Networking On The Move Divisions.

(c) Supports training and fielding for previously procured IBCTs with Tactical Communication Nodes - Lite (TCN-L) and Network Operations and Security Center - Lite (NOSC-L) capabilities; thereby improving deployability, a reduction of signature, and improved network resiliency in contested environments. Technology Insertion of TCN-L/NOSC-L is congruent with the Chief of Staff of the Army's First Principles, Characteristics and Requirements for the Army Network. Increase in training costs in FY20 due to 2 additional Inc 2 units being modernized.

(d) SATCOM obsolescence procures and fields 10 Satellite Transportable Terminals (STT) as well as associated Non-Recurring Engineering and Division Hub Node redesign. This ensures previously fielded baseband configuration items remain interoperable with new capabilities to ensure the network extends to the tactical edge of the battlefield.

(e) Supports Post Deployment Software Support (PDSS) and COTS licenses for 19 previously fielded Networking On The Move BCTs and 9 Networking On The Move Divisions which is critical for maintaining an Authority to Operate and enabling a low vulnerability of cyber-attack. PDSS costs include contractor furnished software licenses, government furnished software licenses, and the contractor labor portion of trouble ticket fixes and Information Assurance Vulnerability Assessment (IAVA) updates.

(f) Supports Tactical Public Key Infrastructure (PKI), allowing equipment and services on the Army's tactical network to be cryptographically authenticated as genuine.

(g) Fielding: Supports a Soldier Network Extension (SNE) reduction/redistribution per Vice Chief of Staff, Army approved Basis of Issue (BOI) for Networking On The Move capabilities and the fielding of additional Points of Presence (PoP) per the Vice Chief of Staff, Army approved BOI for Networking On The Move capabilities.

(h) Supports procurement and fielding to 2 Expeditionary Signal Battalion (ESB) - Enhanced. The ESB - Enhanced pilot program is to provide full spectrum early-entry signal support with a tailorable capability. It has the capacity to provide JWICS/SIPR/NIPR/Coalition voice, data and VTC to scale across Phases 0 - 5. The Joint Communications Support Element-like equipment purchase will deliver modular and scalable capabilities and is intended to modernize elements of Tactical Network Transport.

(i) FY 2020 OCO procurement dollars in the amount of \$40.000 million support procurement and fielding to 1 Expeditionary Signal Battalion (ESB)-Enhanced unit and modernizes 2 tactical network equipped units for the expeditionary Army.

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 12	<b>P-1 Line Item Number / Title:</b> 1982B07100 / Tactical Network Technology Mod In Svc	<b>Item Number / Title [DODIC]:</b> B07110 / Tactical Network Technology Mod In Svc

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A	<b>MDAP/MAIS Code:</b>
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<b>Resource Summary</b>	<b>Prior Years</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Procurement Quantity (Units in Each)	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	-	414.597	568.367	387.439	40.000	427.439
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	-	414.597	568.367	387.439	40.000	427.439
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	-	<b>414.597</b>	<b>568.367</b>	<b>387.439</b>	<b>40.000</b>	<b>427.439</b>

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

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

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

<b>Cost Elements</b>	<b>Prior Years</b>			<b>FY 2018</b>			<b>FY 2019</b>			<b>FY 2020 Base</b>			<b>FY 2020 OCO</b>			<b>FY 2020 Total</b>		
	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>
Flyaway Cost																		
Recurring Cost																		
NetOps Components	-	-	-	-	-	9.819	-	-	-	-	-	-	-	-	-	-	-	-
Lab Assets	-	-	-	-	-	8.417	-	-	-	-	-	15.620	-	-	-	-	-	15.620
RHN Obsolescence	-	-	-	-	-	17.323	-	-	25.053	-	-	19.644	-	-	-	-	-	19.644
TNMS	-	-	-	-	-	-	-	-	2.263	-	-	1.426	-	-	-	-	-	1.426
Tactical PKI	-	-	-	-	-	0.017	-	-	1.497	-	-	1.660	-	-	-	-	-	1.660
SATCOM Obsolescence	-	-	-	-	-	48.116	-	-	128.584	-	-	36.264	-	-	-	-	-	36.264
TCN-L	-	-	-	-	-	-	-	-	49.362	-	-	-	-	-	-	-	-	-
NOSC-L	-	-	-	-	-	-	-	-	5.969	-	-	-	-	-	-	-	-	-
NextGen POP B-Kit	-	-	-	-	-	58.577	-	-	28.825	-	-	-	-	-	-	-	-	-
NextGen POP A-Kit	-	-	-	-	-	-	-	-	6.066	-	-	-	-	-	-	-	-	-
NextGen SNE B-kit	-	-	-	-	-	-	-	-	15.574	-	-	-	-	-	-	-	-	-
NextGen SNE A-Kit	-	-	-	-	-	10.278	-	-	2.064	-	-	-	-	-	-	-	-	-
HMMWWs	-	-	-	-	-	5.600	-	-	4.284	-	-	-	-	-	-	-	-	-
MRAP A-kits	-	-	-	-	-	-	-	-	10.100	-	-	-	-	-	-	-	-	-
Tech Insertions	-	-	-	-	-	14.172	-	-	12.556	-	-	63.476	-	-	5.310	-	-	68.786
Expeditionary Signal Battalion (ESB) - Enhanced	-	-	-	-	-	35.000	-	-	20.000	-	-	92.013	-	-	34.690	-	-	126.703

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 12	<b>P-1 Line Item Number / Title:</b> 1982B07100 / Tactical Network Technology Mod In Svc	<b>Item Number / Title [DODIC]:</b> B07110 / Tactical Network Technology Mod In Svc
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A		<b>MDAP/MAIS Code:</b>

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Post Deployment Software Support	-	-	-	-	-	110.184	-	-	48.347	-	-	52.719	-	-	-	-	-	52.719
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	317.503	-	-	360.544	-	-	282.822	-	-	40.000	-	-	322.822
Non Recurring Cost																		
Engineering	-	-	-	-	-	23.469	-	-	16.287	-	-	-	-	-	-	-	-	-
<i>Subtotal: Non Recurring Cost</i>	-	-	-	-	-	23.469	-	-	16.287	-	-	-	-	-	-	-	-	-
<i>Subtotal: Flyaway Cost</i>	-	-	-	-	-	340.972	-	-	376.831	-	-	282.822	-	-	40.000	-	-	322.822
Support - Fielding Cost																		
Fielding	-	-	-	-	-	13.324	-	-	26.704	-	-	31.353	-	-	-	-	-	31.353
<i>Subtotal: Support - Fielding Cost</i>	-	-	-	-	-	13.324	-	-	26.704	-	-	31.353	-	-	-	-	-	31.353
Support - Initial Spares and Repair Parts Cost																		
Initial Spares and Repair Parts	-	-	-	-	-	-	-	-	91.595	-	-	2.316	-	-	-	-	-	2.316
<i>Subtotal: Support - Initial Spares and Repair Parts Cost</i>	-	-	-	-	-	-	-	-	91.595	-	-	2.316	-	-	-	-	-	2.316
Support - Program Management Cost																		
Contractor Management	-	-	-	-	-	24.491	-	-	15.759	-	-	14.465	-	-	-	-	-	14.465
Government Management	-	-	-	-	-	10.627	-	-	17.416	-	-	15.328	-	-	-	-	-	15.328
<i>Subtotal: Support - Program Management Cost</i>	-	-	-	-	-	35.118	-	-	33.175	-	-	29.793	-	-	-	-	-	29.793
Support - System Engineering Cost																		
System Engineering	-	-	-	-	-	17.683	-	-	18.037	-	-	12.893	-	-	-	-	-	12.893
<i>Subtotal: Support - System Engineering Cost</i>	-	-	-	-	-	17.683	-	-	18.037	-	-	12.893	-	-	-	-	-	12.893
Support - System Test and Evaluation Cost																		
Development Test and Evaluation	-	-	-	-	-	1.535	-	-	6.000	-	-	2.521	-	-	-	-	-	2.521
<i>Subtotal: Support - System Test and Evaluation Cost</i>	-	-	-	-	-	1.535	-	-	6.000	-	-	2.521	-	-	-	-	-	2.521
Support - Training Cost																		
Services	-	-	-	-	-	5.965	-	-	16.025	-	-	25.741	-	-	-	-	-	25.741
<i>Subtotal: Support - Training Cost</i>	-	-	-	-	-	5.965	-	-	16.025	-	-	25.741	-	-	-	-	-	25.741

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 12	<b>P-1 Line Item Number / Title:</b> 1982B07100 / Tactical Network Technology Mod In Svc	<b>Item Number / Title [DODIC]:</b> B07110 / Tactical Network Technology Mod In Svc
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A		<b>MDAP/MAIS Code:</b>

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Gross/Weapon System Cost	-	-	-	-	-	414.597	-	-	568.367	-	-	387.439	-	-	40.000	-	-	427.439

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	-	-	-	-	-
	Total Obligation Authority	414.597	568.367	387.439	40.000	427.439
<b>Total:</b>	<b>Quantity</b>	-	-	-	-	-
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	414.597	568.367	387.439	40.000	427.439

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 12: Comm - Joint Communications	<b>P-1 Line Item Number / Title:</b> 1983BW7200 / SITUATION INFORMATION TRANSPORT
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	-	-	62.727	46.693	-	46.693	63.463	-	-	-	-	172.883
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	-	-	62.727	46.693	-	46.693	63.463	-	-	-	-	172.883
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	-	-	<b>62.727</b>	<b>46.693</b>	-	<b>46.693</b>	<b>63.463</b>	-	-	-	-	<b>172.883</b>

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

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

**Description:**

Line of Effort (LOE) 1: Unified Network

The Situational Information Transport (SIT) funding line supports the Army's Network Modernization Strategy Line of Effort #1, Unified Network. SIT funds the fielding of Warfighter Information Network - Tactical Increment 2 to active component Infantry Brigade Combat Teams and Stryker Brigade Combat Teams and completes fielding by the end of FY2021. SIT also funds the procurement of initial spares and repair parts. SIT and the Tactical Network Technology Modernization in Service (TNT MIS) budget line provide unity of effort as part of the Army Network Modernization Strategy. Tactical Network Transport systems will be modernized and upgraded over time via TNT MIS.



**UNCLASSIFIED**

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

**Appropriation / Budget Activity / Budget Sub Activity:** 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 12: Comm - Joint Communications **P-1 Line Item Number / Title:** 1983BW7200 / SITUATION INFORMATION TRANSPORT

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

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

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	B27201 / Situation Information Transport				- / -	- / -	- / 62.727	- / 46.693	- / -	- / 46.693
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				- / -	- / -	- / 62.727	- / 46.693	- / -	- / 46.693

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

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

**Justification:**

FY 2020 Base procurement dollars in the amount of \$46.693 million supports WIN-T Increment 2 new equipment fielding and initial spares to one Stryker Brigade Combat Team (SBCT).

Inc 2 will be fielded based on the Army Force Generation cycle.

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 12	<b>P-1 Line Item Number / Title:</b> 1983BW7200 / SITUATION INFORMATION TRANSPORT	<b>Item Number / Title [DODIC]:</b> B27201 / Situation Information Transport

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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<b>Resource Summary</b>	<b>Prior Years</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Procurement Quantity <i>(Units in Each)</i>	-	-	-	-	-	-
Gross/Weapon System Cost <i>(\$ in Millions)</i>	-	-	62.727	46.693	-	46.693
Less PY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-
Net Procurement (P-1) <i>(\$ in Millions)</i>	-	-	62.727	46.693	-	46.693
Plus CY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-
<b>Total Obligation Authority</b> <i>(\$ in Millions)</i>	-	-	<b>62.727</b>	<b>46.693</b>	-	<b>46.693</b>

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

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

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

<b>Cost Elements</b>	<b>Prior Years</b>			<b>FY 2018</b>			<b>FY 2019</b>			<b>FY 2020 Base</b>			<b>FY 2020 OCO</b>			<b>FY 2020 Total</b>		
	<b>Unit Cost</b> <i>(\$ K)</i>	<b>Qty</b> <i>(Each)</i>	<b>Total Cost</b> <i>(\$ M)</i>	<b>Unit Cost</b> <i>(\$ K)</i>	<b>Qty</b> <i>(Each)</i>	<b>Total Cost</b> <i>(\$ M)</i>	<b>Unit Cost</b> <i>(\$ K)</i>	<b>Qty</b> <i>(Each)</i>	<b>Total Cost</b> <i>(\$ M)</i>	<b>Unit Cost</b> <i>(\$ K)</i>	<b>Qty</b> <i>(Each)</i>	<b>Total Cost</b> <i>(\$ M)</i>	<b>Unit Cost</b> <i>(\$ K)</i>	<b>Qty</b> <i>(Each)</i>	<b>Total Cost</b> <i>(\$ M)</i>	<b>Unit Cost</b> <i>(\$ K)</i>	<b>Qty</b> <i>(Each)</i>	<b>Total Cost</b> <i>(\$ M)</i>
<b>Support - Fielding Cost</b>																		
Fielding	-	-	-	-	-	-	-	-	33.200	-	-	26.256	-	-	-	-	-	26.256
<i>Subtotal: Support - Fielding Cost</i>	-	-	-	-	-	-	-	-	<b>33.200</b>	-	-	<b>26.256</b>	-	-	-	-	-	<b>26.256</b>
<b>Support - Initial Spares and Repair Parts Cost</b>																		
Initial Spares and Repair Parts	-	-	-	-	-	-	-	-	18.027	-	-	6.813	-	-	-	-	-	6.813
<i>Subtotal: Support - Initial Spares and Repair Parts Cost</i>	-	-	-	-	-	-	-	-	<b>18.027</b>	-	-	<b>6.813</b>	-	-	-	-	-	<b>6.813</b>
<b>Support - Program Management Cost</b>																		
Government Management	-	-	-	-	-	-	-	-	11.500	-	-	5.079	-	-	-	-	-	5.079
Contractor Management	-	-	-	-	-	-	-	-	-	-	-	8.545	-	-	-	-	-	8.545
<i>Subtotal: Support - Program Management Cost</i>	-	-	-	-	-	-	-	-	<b>11.500</b>	-	-	<b>13.624</b>	-	-	-	-	-	<b>13.624</b>
<b>Gross/Weapon System Cost</b>	-	-	-	-	-	-	-	-	<b>62.727</b>	-	-	<b>46.693</b>	-	-	-	-	-	<b>46.693</b>

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 12: Comm - Joint Communications	<b>P-1 Line Item Number / Title:</b> 2101B00009 / Joint Incident Site Communications Capability
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	8	6	11	-	-	-	-	-	-	-	-	25
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	25.595	6.065	13.895	-	-	-	-	4.230	3.989	0.277	-	54.051
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	25.595	6.065	13.895	-	-	-	-	4.230	3.989	0.277	-	54.051
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>25.595</b>	<b>6.065</b>	<b>13.895</b>	-	-	-	-	<b>4.230</b>	<b>3.989</b>	<b>0.277</b>	-	<b>54.051</b>

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

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	3,199.375	1,010.833	1,263.182	-	-	-	-	-	-	-	-	2,162.040

**Description:**

Joint Incident Site Communications Capability supports the Army's Network Modernization Strategy Line of Effort (LOE) 4 - Command Post

The Joint Incident Site Communications Capability (JISCC) funding line procures the Disaster Incident Response Emergency Communications Terminal (DIRECT) capability. DIRECT provides communication to each of the 50 States and 4 Territories to meet the information exchange requirements of the States National Guard (NG) operational commanders while performing Defense Support of Civil Authorities (DSCA) missions. The program leverages Warfighter Information Network-Tactical (WIN-T) Cellular and Commercial Capabilities to provide seamless network connectivity to support first responders and emergency managers.

DIRECT Capabilities consist of:

Commercial Coalition Equipment (CCE): Provides commercial internet access to civilian and multinational partners to reduce Size Weight and Power (SWaP) technology, thus fully addressing the increasingly high demand for accelerated capabilities. Interconnects disparate voice communications networks/devices used by multiple response agencies at an incident site.

Cellular Solution (Commercial Wireless and 4th Generation Long Term Evolution (4G LTE)): Provides immediate cellular and wireless network connectivity to first responders, state authorities, and federal authorities allowing for enhanced Command and Control (C2) and shared situational awareness at an incident site.

**Justification:**

Program has no FY 2020 funding requirement.

The Transmission Systems Capability Production Document (CPD) was approved on 30 Jan 2015.

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

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 12: Comm - Joint Communications	<b>P-1 Line Item Number / Title:</b> 2930BB5777 / JCSE Equipment (USRDECOM)
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	159.226	5.051	4.866	5.075	-	5.075	5.175	5.307	5.402	5.567	Continuing	Continuing
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	159.226	5.051	4.866	5.075	-	5.075	5.175	5.307	5.402	5.567	Continuing	Continuing
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>159.226</b>	<b>5.051</b>	<b>4.866</b>	<b>5.075</b>	<b>-</b>	<b>5.075</b>	<b>5.175</b>	<b>5.307</b>	<b>5.402</b>	<b>5.567</b>	<b>Continuing</b>	<b>Continuing</b>

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

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

**Description:**

The JCSE Equipment (USRDECOM) funding line supports the Army's Network Modernization Strategy Line of Effort #1, Unified Network.

JOINT COMMUNICATIONS SUPPORT ELEMENT (JCSE): JCSE, assigned under Joint Enabling Capabilities Command (JECC), US Transportation Command, is the only joint Department of Defense (DoD) unit specifically formed to provide Command, Control, Communications and Computers (C4) systems support for Joint Chiefs of Staff (JCS) contingency operations worldwide. The JCSE mission is to provide, on short notice, those critical communications required to support Joint Task Force support (JTF) and Joint Special Operations Task Force (JSOTF) headquarters. These assets support the warfighter's ability to deploy rapidly and immediately provide the positive command and control required. This support includes contingency and crisis communications for the Joint Chiefs of Staff, Combatant Commands, Services, Defense agencies, non-Defense agencies, and foreign governments. The program's modernization goals include meeting emerging real-world operational requirements with improved capabilities, smaller footprint, reduced operations and maintenance costs, and seamless integration with the global information grid. Per Defense Planning Guidance (DPG) and Director, Joint Staff Memorandum (DJSJ) 0291-14, the Army is mandated to fund 1/3rd of JCSE's validated equipment modernization plan.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	5.051	4.866	5.075	-	5.075	5.175	5.307	5.402	5.567
<b>Total:</b>									
<b>Secondary Distribution</b>									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	<b>5.051</b>	<b>4.866</b>	<b>5.075</b>	<b>-</b>	<b>5.075</b>	<b>5.175</b>	<b>5.307</b>	<b>5.402</b>	<b>5.567</b>

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

**Appropriation / Budget Activity / Budget Sub Activity:** 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 12: Comm - Joint Communications **P-1 Line Item Number / Title:** 2930BB5777 / JCSE Equipment (USRDECOM)

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

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

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	BB5777 / JCSE Equipment (USRDECOM)	P-5a			- / 159.226	- / 5.051	- / 4.866	- / 5.075	- / -	- / 5.075
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 159.226</b>	<b>- / 5.051</b>	<b>- / 4.866</b>	<b>- / 5.075</b>	<b>- / -</b>	<b>- / 5.075</b>

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

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

**Justification:**  
 FY 2020 Base funding in the amount of \$5.075 million procures communications equipment based on Strategic Planning Guidance; which includes major upgrades to large and small aperture mobile satellite systems, Everything over Internet Protocol (EoIP), Airborne/En-Route, Forced Entry, single-channel radios, and power generation equipment. Currently employed commercial-off-the-shelf (COTS) equipment is approaching the end of its life cycle and requires replacement, along with technology refresh, to meet the modernization program goals which include meeting emerging real-world operational requirements with improved capabilities, smaller footprint, reduced operations and maintenance costs, and seamless integration with the global information grid. This equipment is a critical part of Command and Control communications packages that provide direct operational support to joint forces and HQ elements deployed to austere locations around the globe. Army is mandated to fund one-third share of JCSE's validated equipment modernization plan. JCSE's Modernization Program is based on Combatant Command (CCMD) and Service Components' requirements and emerging technologies. Services influence JCSE's plan through recommendations in concert with Major Defense Acquisition Program (MDAP) schedules, ensuring that Service dollars meet Joint Service requirements.

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

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 12	<b>P-1 Line Item Number / Title:</b> 2930BB5777 / JCSE Equipment (USRDECOM)	<b>Item Number / Title [DODIC]:</b> BB5777 / JCSE Equipment (USRDECOM)

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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<b>Resource Summary</b>	<b>Prior Years</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	159.226	5.051	4.866	5.075	-	5.075
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	159.226	5.051	4.866	5.075	-	5.075
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>159.226</b>	<b>5.051</b>	<b>4.866</b>	<b>5.075</b>	-	<b>5.075</b>

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

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

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

<b>Cost Elements</b>	<b>Prior Years</b>			<b>FY 2018</b>			<b>FY 2019</b>			<b>FY 2020 Base</b>			<b>FY 2020 OCO</b>			<b>FY 2020 Total</b>		
	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)
Flyaway Cost																		
Recurring Cost																		
(JCSE) <sup>(t)</sup>	159,226.000	1	159.226	5,051.000	1	5.051	4,866.000	1	4.866	5,075.000	1	5.075	-	-	-	5,075.000	1	5.075
<i>Subtotal: Recurring Cost</i>	-	-	159.226	-	-	5.051	-	-	4.866	-	-	5.075	-	-	-	-	-	5.075
<i>Subtotal: Flyaway Cost</i>	-	-	159.226	-	-	5.051	-	-	4.866	-	-	5.075	-	-	-	-	-	5.075
<b>Gross/Weapon System Cost</b>	-	-	159.226	-	-	5.051	-	-	4.866	-	-	5.075	-	-	-	-	-	5.075

<b>Secondary Distribution</b>		<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Army	Quantity	-	-	-	-	-
	Total Obligation Authority	5.051	4.866	5.075	-	5.075
<b>Total:</b>	<b>Quantity</b>	-	-	-	-	-
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>5.051</b>	<b>4.866</b>	<b>5.075</b>	-	<b>5.075</b>

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

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<b>Exhibit P-5a, Procurement History and Planning:</b> PB 2020 Army								<b>Date:</b> March 2019				
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 12			<b>P-1 Line Item Number / Title:</b> 2930BB5777 / JCSE Equipment (USRDECOM)					<b>Item Number / Title [DODIC]:</b> BB5777 / JCSE Equipment (USRDECOM)				
<b>Cost Elements</b>	<b>O C O</b>	<b>FY</b>	<b>Contractor and Location</b>	<b>Method/Type or Funding Vehicle</b>	<b>Location of PCO</b>	<b>Award Date</b>	<b>Date of First Delivery</b>	<b>Qty (Each)</b>	<b>Unit Cost (\$ K)</b>	<b>Specs Avail Now?</b>	<b>Date Revision Available</b>	<b>RFP Issue Date</b>
(JCSE)		2018	Multiple (4) / MULTIPLE	Various	Varius	Apr 2018	Sep 2018	1	5,051.000	N		
(JCSE)		2019	Multiple (2) / MULTIPLE	Various	Varius	Apr 2019	Sep 2019	1	4,866.000	N		
(JCSE)		2020	Multiple (3) / MULTIPLE	Various	Varius	Apr 2020	Sep 2020	1	5,075.000	N		

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 18: Comm - Satellite Communications	<b>P-1 Line Item Number / Title:</b> 2936B09800 / Spectrum METSAT
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	11.888	1.176	-	-	-	-	-	-	-	-	-	13.064
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	11.888	1.176	-	-	-	-	-	-	-	-	-	13.064
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>11.888</b>	<b>1.176</b>	-	-	-	-	-	-	-	-	-	<b>13.064</b>

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

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

**Description:**

The 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 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	-	-	-	-	-	-	-	-
	Total Obligation Authority	1.176	-	-	-	-	-	-	-
<b>Total:</b> Secondary Distribution	Quantity	-	-	-	-	-	-	-	-
	Total Obligation Authority	1.176	-	-	-	-	-	-	-

**Justification:**

Spectrum METSAT funds support the utilization of the National Oceanic and Atmospheric Administration (NOAA) Radio Frequency Interference Monitoring System (RFIMS) to design, build, install and maintain a system to monitor and detect undesirable radio frequency interference at seven (7) Army ground stations, with a centralized monitoring hub.



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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 18: Comm - Satellite Communications	<b>P-1 Line Item Number / Title:</b> 2937B09700 / Spectrum Portal
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	0.425	0.048	-	-	-	-	-	-	-	-	-	0.473
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	0.425	0.048	-	-	-	-	-	-	-	-	-	0.473
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>0.425</b>	<b>0.048</b>	-	-	-	-	-	-	-	-	-	<b>0.473</b>

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

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

**Description:**

The 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 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	-	-	-	-	-	-	-	-
	Total Obligation Authority	0.048	-	-	-	-	-	-	-
<b>Total:</b> Secondary Distribution	Quantity	-	-	-	-	-	-	-	-
	Total Obligation Authority	<b>0.048</b>	-	-	-	-	-	-	-

**Justification:**  
Spectrum Portal is a web-based, secure tool to provide coordination between Advance Wireless Services (AWS-3) licenses and affected federal spectrum users. The overall cost is shared between the Department of Commerce (DoC), Department of Defense (DoD), and the Department of Labor (DoL).

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 18: Comm - Satellite Communications	<b>P-1 Line Item Number / Title:</b> 2948BB8500 / Defense Enterprise Wideband Satcom Systems
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> 1203142A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	24	19	21	21	-	21	15	20	17	24	Continuing	Continuing
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	2,932.540	155.551	97.633	101.189	-	101.189	99.102	108.642	112.177	112.505	Continuing	Continuing
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	2,932.540	155.551	97.633	101.189	-	101.189	99.102	108.642	112.177	112.505	Continuing	Continuing
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>2,932.540</b>	<b>155.551</b>	<b>97.633</b>	<b>101.189</b>	<b>-</b>	<b>101.189</b>	<b>99.102</b>	<b>108.642</b>	<b>112.177</b>	<b>112.505</b>	<b>Continuing</b>	<b>Continuing</b>

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

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	122,189.167	8,186.895	4,649.190	4,818.524	-	4,818.524	6,606.800	5,432.100	6,598.647	4,687.708	Continuing	Continuing

**Description:**

The Defense Enterprise Wideband SATCOM Systems funding line supports the Army's Network Modernization Strategy Line Of Effort (LOE) 1 (Unified Network).

The Defense Enterprise Wideband Satellite Communications (SATCOM) Systems (DEWSS) funding line provides Super High Frequency (SHF) wideband with Anti-Jam (AJ) satellite communications readiness and resiliency supporting critical national strategic and tactical Command, Control, Communications and Intelligence (C3I) requirements. The DEWSS supports not only the Army, but is considered a Joint program supporting all of the Department of Defense (DoD) and has oversight at the Chairman of the Joint Chief of Staff (CJCS) level. The DEWSS/Wideband Global SATCOM (WGS) will be used in conjunction with the terrestrial transmissions of the Department of Defense Information Network (DoDIN) and other communications systems to provide end-to-end communications and long-haul connectivity. DEWSS is a system of systems composed of various hardware and software components. Requirements vary based on geographic area, terrain, end users, and joint partners (both national and international).

B08701/GMF Enhancement - The AN/TSC-93E Tactical Satellite Service Life Extension Program (SLEP) provides satellite communications (SATCOM) capability in the SHF (Super High Frequency) range. AN/TSC-93E operates over both commercial and military SHF satellites for Army Expeditionary Signal Battalions (ESBs). 93E, along with the Warfighter Information Network - Tactical (WIN-T) program's AN/TSC-156 Phoenix Terminal, is the Army's primary means of extending Defense Information Systems Network (DISN) services (Unclassified but Sensitive Internet Protocol Router Network (NIPR), Secret Internet Protocol Router Network (SIPR), Joint Worldwide Intelligence Communications System (JWICS), Defense Switched Network (DSN), Defense Red Switched Network (DRSN), and Secure Video Teleconference (SVTC) to deployed Army forces. AN/TSC-93E SLEP has replaced existing "D" models with "E" models. E model upgrades the AN/TSC-93E from 20 Mbps to 50 Mbps, and extends the service life of the AN/TSC-93E until 2025. AN/TSC-93E configuration is as follows: up-armored, consisting of antenna pallet housing the AS-3036D antenna mounted on an M1152 D1 vehicle towing a M1102 trailer. The M1102 transports two MEP-803A generators, a SN-571 SYNC box, and a 20 gallon fuel cell. The cell will increase fuel capacity over 200%. A second M1152A1 will tow a fifth wheel commercial trailer transporting the AN/TSC-93E 250 shelter. The 93E configuration will also work in a non-up armored mode using the M1097 and the M1113.

B08900/Special Communications Links Program - The Senior National Leadership Communications (SNLC) program and the required modernization effort exists through a bilateral agreement for a 10-year user equipment modernization. This is a must fund effort which supports unique internal requirements that provide critical communications to support continuing relations between the United States President, Department of State (DoS), Secretary of Defense (SECDEF), other high level United States members and the Russia/Ukraine/Belarus/Kazakhstan leaders. The program includes the Direct Communications Link (DCL), Continuous Communications Link (CCL) and the Government-to-Government Communications Link (GGCL). Communications are required for diplomatic peacekeeping, arms control and treaty verification purposes.

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<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 18: Comm - Satellite Communications		<b>P-1 Line Item Number / Title:</b> 2948BB8500 / Defense Enterprise Wideband Satcom Systems
<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> 1203142A

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

BB8416/Enterprise Wideband Satellite Terminal (Mod) - The Modernization of Enterprise Terminals (MET) program is a complete modernization of fixed X-Band enterprise satellite communications terminals. The MET family of terminal equipment will increase the capacity of existing satellite communications facilities by adding military Ka-Band capability, enabling the Army to maximize its use of the Wideband Global SATCOM (WGS) constellation. The MET's modular design and incorporation of Commercial-Off-The-Shelf (COTS) systems will improve the sustainability of Army enterprise satellite communications systems, reduce life cycle costs, and extend the life of the enterprise terminal family beyond 2025.

BB8501/Enterprise Wideband Satellite Terminal Digital EQ - The Digital Communications Satellite Subsystem (DCSS) is an array of baseband equipment that is integral to the Defense Enterprise Wideband SATCOM System (DEWSS). DCSS is the interconnection between the Department of Defense Information Network (DoDIN) and the DEWSS satellite earth terminal equipment, providing users with access to the Wideband Global SATCOM (WGS) system, the DoDIN, and other military and commercially available satellite constellations. Provides deployed Warfighters with global connectivity to military command and control systems, reach back to the sustaining base, and access to enterprise information resources and the Defense Information Systems Network. Interfaces with the national strategic communications infrastructure to support Presidential and senior DoD leadership communications.

BB8509 - Enterprise Wideband Sat Payload Control System - The Enterprise Wideband Satellite Payload Control System is responsible for the Department of Defense (DoD) readiness and resiliency for the management of Defense Satellite Communications System (DSCS) and Wideband Global SATCOM (WGS) satellite resources, which are required for rapid and efficient reaction to operational needs for all DOD users to include the President and International Partners. The Enterprise Wideband Satellite Payload Control System ensure efficient use and security of satellite power and spectrum, overcoming existing and projected bandwidth constraints, and allow U.S. forces to achieve information superiority on the battlefield. This system provides reliable satellite communications networks to support unique user mission requirements vital to national security under stressed and unstressed conditions.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	19	21	21	-	21	15	20	17	24
	Total Obligation Authority	155.551	97.633	101.189	-	101.189	99.102	108.642	112.177	112.505
<b>Total:</b>	<b>Quantity</b>	<b>19</b>	<b>21</b>	<b>21</b>	<b>-</b>	<b>21</b>	<b>15</b>	<b>20</b>	<b>17</b>	<b>24</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>155.551</b>	<b>97.633</b>	<b>101.189</b>	<b>-</b>	<b>101.189</b>	<b>99.102</b>	<b>108.642</b>	<b>112.177</b>	<b>112.505</b>

**UNCLASSIFIED**

<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2020 Army	<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 18: Comm - Satellite Communications	<b>P-1 Line Item Number / Title:</b> 2948BB8500 / Defense Enterprise Wideband Satcom Systems

<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> 1203142A
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**Line Item MDAP/MAIS Code:** N/A

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	B08701 / GMF Enhancement				1 / 79.571	1 / 1.205	- / 1.000	- / 0.800	- / -	- / 0.800
P-5	B08900 / Special Communications Links Program				- / 33.470	- / 1.355	- / 1.954	- / 2.348	- / -	- / 2.348
P-5	BB8416 / Enterprise Wideband Satellite Terminal - (Mod)				7 / 860.071	5 / 48.565	5 / 20.532	5 / 29.449	- / -	5 / 29.449
P-5	BB8501 / Enterprise Wideband Satellite Terminal Digital EQ				5 / 882.260	5 / 46.806	10 / 33.361	10 / 29.902	- / -	10 / 29.902
P-5	BB8509 / Enterprise Wideband Sat Payload Control System				11 / 1,077.168	8 / 57.620	6 / 40.786	6 / 38.690	- / -	6 / 38.690
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>24 / 2,932.540</b>	<b>19 / 155.551</b>	<b>21 / 97.633</b>	<b>21 / 101.189</b>	<b>- / -</b>	<b>21 / 101.189</b>

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

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

**Justification:**  
 FY 2020 BB8500 Base procurement dollars in the amount of \$101.189 million support the following programs:

FY2020 B08701 Base procurement dollars in the amount of \$.800 million procures and integrates SHF Ka band capability with currently existing SHF X band capability; and conducts fielding and new equipment training of the AN/TSC-93E in support of the Active, Reserve, and National Guard components and supports program management organic support.

FY 2020 B08900 Base procurement dollars in the amount of \$2.348 million supports modernization of the Direct Communications Link (DCL) software suite to support modern computers, network hardware and operating systems. Funding provides integration, installation and training support for software and associated hardware.

FY 2020 BB8416 Base procurement dollars in the amount of \$29.449 million supports technology refresh of the Modernization of Enterprise Terminals (MET) systems and provides the required engineering, integration, and installation support for terminal fielding.

FY 2020 BB8501 Base procurement dollars in the amount \$29.902 million procures satellite terminal and baseband equipment and associated management systems in support of Network Enterprise Technology Command (NETCOM's) relocations of the satellite earth stations at Camp Roberts, California and Ft. Buckner, Okinawa. Provides the minimum essential baseband and telecommunications equipment to support the modernization of Digital Communications Satellite System (DCSS) components and their integration into the Defense Enterprise Wideband SATCOM Systems (DEWSS), including modernization of baseband infrastructure to enable net-centric Internet Protocol communications at satellite earth terminals. Supports Chairman, Joint Chiefs of Staff (CJCS) validated Combatant Commanders/Service long haul communication requirements and provides baseband equipment support for the Modernization of Enterprise Terminals (MET) program.

FY 2020 BB8509 Base procurement dollars in the amount of \$38.690 million supports the readiness and resiliency in the procurement of hardware/software and security for the enterprise wideband satellite payload control system, which acquires and installs state-of-the-art strategic and tactical satellite payload control, spectrum monitoring, transmission control and network planning systems for wideband satellite constellations. Without wideband control systems to plan mission communications through Wideband Global SATCOM (WGS) and Defense Satellite Communications System (DSCS) programs, all DoD users to include the President and International Partners will not be supported.

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

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 18	<b>P-1 Line Item Number / Title:</b> 2948BB8500 / Defense Enterprise Wideband Satcom Systems	<b>Item Number / Title [DODIC]:</b> B08701 / GMF Enhancement

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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<b>Resource Summary</b>	<b>Prior Years</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Procurement Quantity (Units in Each)	1	1	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	79.571	1.205	1.000	0.800	-	0.800
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	79.571	1.205	1.000	0.800	-	0.800
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>79.571</b>	<b>1.205</b>	<b>1.000</b>	<b>0.800</b>	<b>-</b>	<b>0.800</b>

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

Initial Spares (\$ in Millions)	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	79,571.000	1,205.000	-	-	-	-

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

<b>Cost Elements</b>	<b>Prior Years</b>			<b>FY 2018</b>			<b>FY 2019</b>			<b>FY 2020 Base</b>			<b>FY 2020 OCO</b>			<b>FY 2020 Total</b>		
	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)
<b>Package Fielding Cost</b>																		
Recurring Cost																		
Fielding	-	-	2.646	-	-	0.505	-	-	0.300	-	-	0.350	-	-	-	-	-	0.350
<i>Subtotal: Recurring Cost</i>	-	-	2.646	-	-	0.505	-	-	0.300	-	-	0.350	-	-	-	-	-	0.350
<i>Subtotal: Package Fielding Cost</i>	-	-	<b>2.646</b>	-	-	<b>0.505</b>	-	-	<b>0.300</b>	-	-	<b>0.350</b>	-	-	-	-	-	<b>0.350</b>
<b>Support - Initial Spares and Repair Parts Cost</b>																		
Initial Spares and Repair Parts	-	-	1.500	250.000	1	0.250	-	-	0.250	-	-	0.155	-	-	-	-	-	0.155
<i>Subtotal: Support - Initial Spares and Repair Parts Cost</i>	-	-	<b>1.500</b>	-	-	<b>0.250</b>	-	-	<b>0.250</b>	-	-	<b>0.155</b>	-	-	-	-	-	<b>0.155</b>
<b>Support - Program Management Cost</b>																		
Government Management	-	-	74.593	-	-	0.050	-	-	0.055	-	-	0.050	-	-	-	-	-	0.050
<i>Subtotal: Support - Program Management Cost</i>	-	-	<b>74.593</b>	-	-	<b>0.050</b>	-	-	<b>0.055</b>	-	-	<b>0.050</b>	-	-	-	-	-	<b>0.050</b>
<b>Support - System Engineering Cost</b>																		
System Engineering	-	-	0.832	-	-	0.400	-	-	0.395	-	-	0.245	-	-	-	-	-	0.245
<i>Subtotal: Support - System Engineering Cost</i>	-	-	<b>0.832</b>	-	-	<b>0.400</b>	-	-	<b>0.395</b>	-	-	<b>0.245</b>	-	-	-	-	-	<b>0.245</b>
<b>Gross/Weapon System Cost</b>	<b>79,571.000</b>	<b>1</b>	<b>79.571</b>	<b>1,205.000</b>	<b>1</b>	<b>1.205</b>	-	-	<b>1.000</b>	-	-	<b>0.800</b>	-	-	-	-	-	<b>0.800</b>

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 18	<b>P-1 Line Item Number / Title:</b> 2948BB8500 / Defense Enterprise Wideband Satcom Systems	<b>Item Number / Title [DODIC]:</b> B08701 / GMF Enhancement
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**ID Code** (A=Service Ready, B=Not Service Ready) : **MDAP/MAIS Code:**

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	1	-	-	-	-
	Total Obligation Authority	1.205	1.000	0.800	-	0.800
<b>Total:</b>	<b>Quantity</b>	<b>1</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>1.205</b>	<b>1.000</b>	<b>0.800</b>	<b>-</b>	<b>0.800</b>

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 18	<b>P-1 Line Item Number / Title:</b> 2948BB8500 / Defense Enterprise Wideband Satcom Systems	<b>Item Number / Title [DODIC]:</b> B08900 / Special Communications Links Program

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	33.470	1.355	1.954	2.348	-	2.348
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	33.470	1.355	1.954	2.348	-	2.348
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>33.470</b>	<b>1.355</b>	<b>1.954</b>	<b>2.348</b>	<b>-</b>	<b>2.348</b>

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

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

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
<b>Software Cost</b>																		
Recurring Cost																		
Software Development Integration	-	-	2.252	-	-	0.550	-	-	-	-	-	0.688	-	-	-	-	-	0.688
Subtotal: Recurring Cost	-	-	2.252	-	-	0.550	-	-	-	-	-	0.688	-	-	-	-	-	0.688
Subtotal: Software Cost	-	-	2.252	-	-	0.550	-	-	-	-	-	0.688	-	-	-	-	-	0.688
<b>Package Fielding Cost</b>																		
Recurring Cost																		
Fielding	-	-	2.252	-	-	0.550	-	-	0.500	-	-	0.550	-	-	-	-	-	0.550
Subtotal: Recurring Cost	-	-	2.252	-	-	0.550	-	-	0.500	-	-	0.550	-	-	-	-	-	0.550
Subtotal: Package Fielding Cost	-	-	2.252	-	-	0.550	-	-	0.500	-	-	0.550	-	-	-	-	-	0.550
<b>Support - Program Management Cost</b>																		
Government Management	-	-	28.966	-	-	0.255	-	-	1.454	-	-	1.110	-	-	-	-	-	1.110
Subtotal: Support - Program Management Cost	-	-	28.966	-	-	0.255	-	-	1.454	-	-	1.110	-	-	-	-	-	1.110
<b>Gross/Weapon System Cost</b>	<b>-</b>	<b>-</b>	<b>33.470</b>	<b>-</b>	<b>-</b>	<b>1.355</b>	<b>-</b>	<b>-</b>	<b>1.954</b>	<b>-</b>	<b>-</b>	<b>2.348</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>2.348</b>

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 18	<b>P-1 Line Item Number / Title:</b> 2948BB8500 / Defense Enterprise Wideband Satcom Systems	<b>Item Number / Title [DODIC]:</b> B08900 / Special Communications Links Program

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

<b>Secondary Distribution</b>		<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Army	Quantity	-	-	-	-	-
	Total Obligation Authority	1.355	1.954	2.348	-	2.348
<b>Total:</b>	Quantity	-	-	-	-	-
<b>Secondary Distribution</b>	Total Obligation Authority	<b>1.355</b>	<b>1.954</b>	<b>2.348</b>	-	<b>2.348</b>



**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 18	<b>P-1 Line Item Number / Title:</b> 2948BB8500 / Defense Enterprise Wideband Satcom Systems	<b>Item Number / Title [DODIC]:</b> BB8416 / Enterprise Wideband Satellite Terminal - (Mod)

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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<b>Resource Summary</b>	<b>Prior Years</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Procurement Quantity (Units in Each)	7	5	5	5	-	5
Gross/Weapon System Cost (\$ in Millions)	860.071	48.565	20.532	29.449	-	29.449
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	860.071	48.565	20.532	29.449	-	29.449
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>860.071</b>	<b>48.565</b>	<b>20.532</b>	<b>29.449</b>	<b>-</b>	<b>29.449</b>

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

Initial Spares (\$ in Millions)	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	122,867.286	9,713.000	4,106.400	5,889.800	-	5,889.800

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

<b>Cost Elements</b>	<b>Prior Years</b>			<b>FY 2018</b>			<b>FY 2019</b>			<b>FY 2020 Base</b>			<b>FY 2020 OCO</b>			<b>FY 2020 Total</b>		
	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)
<b>Flyaway Cost</b>																		
Recurring Cost																		
Modernization of Enterprise Terminals (MET) Hardware	94,112.286	7	658.786	2,901.000	5	14.505	-	-	-	-	-	-	-	-	-	-	-	-
MET Depot Support	-	-	8.205	-	-	3.607	-	-	3.005	-	-	4.500	-	-	-	-	-	4.500
MET PDSS	-	-	2.521	-	-	2.030	-	-	2.035	-	-	-	-	-	-	-	-	-
MET Tech Refresh	-	-	-	-	-	-	1,072.200	5	5.361	2,190.000	5	10.950	-	-	-	2,190.000	5	10.950
Radome Hardware	-	-	-	-	-	-	-	-	-	-	-	2.400	-	-	-	-	-	2.400
<b>Subtotal: Recurring Cost</b>	<b>-</b>	<b>-</b>	<b>669.512</b>	<b>-</b>	<b>-</b>	<b>20.142</b>	<b>-</b>	<b>-</b>	<b>10.401</b>	<b>-</b>	<b>-</b>	<b>17.850</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>17.850</b>
<b>Subtotal: Flyaway Cost</b>	<b>-</b>	<b>-</b>	<b>669.512</b>	<b>-</b>	<b>-</b>	<b>20.142</b>	<b>-</b>	<b>-</b>	<b>10.401</b>	<b>-</b>	<b>-</b>	<b>17.850</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>17.850</b>
<b>Support - Fielding Cost</b>																		
Fielding	-	-	36.810	-	-	15.343	-	-	2.001	-	-	3.722	-	-	-	-	-	3.722
<b>Subtotal: Support - Fielding Cost</b>	<b>-</b>	<b>-</b>	<b>36.810</b>	<b>-</b>	<b>-</b>	<b>15.343</b>	<b>-</b>	<b>-</b>	<b>2.001</b>	<b>-</b>	<b>-</b>	<b>3.722</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>3.722</b>
<b>Support - Program Management Cost</b>																		
Government Management	-	-	117.563	-	-	6.967	-	-	4.980	-	-	4.780	-	-	-	-	-	4.780
<b>Subtotal: Support - Program Management Cost</b>	<b>-</b>	<b>-</b>	<b>117.563</b>	<b>-</b>	<b>-</b>	<b>6.967</b>	<b>-</b>	<b>-</b>	<b>4.980</b>	<b>-</b>	<b>-</b>	<b>4.780</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>4.780</b>
<b>Support - System Engineering Cost</b>																		
System Engineering	-	-	36.186	-	-	6.113	-	-	3.150	-	-	3.097	-	-	-	-	-	3.097

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 18	<b>P-1 Line Item Number / Title:</b> 2948BB8500 / Defense Enterprise Wideband Satcom Systems	<b>Item Number / Title [DODIC]:</b> BB8416 / Enterprise Wideband Satellite Terminal - (Mod)
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :		<b>MDAP/MAIS Code:</b>

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
<i>Subtotal: Support - System Engineering Cost</i>	-	-	36.186	-	-	6.113	-	-	3.150	-	-	3.097	-	-	-	-	-	3.097
<b>Gross/Weapon System Cost</b>	122,867.286	7	860.071	9,713.000	5	48.565	4,106.400	5	20.532	5,889.800	5	29.449	-	-	-	5,889.800	5	29.449

**Remarks:**

No additional MET Terminals will be procured beyond FY18.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	5	5	5	-	5
	Total Obligation Authority	48.565	20.532	29.449	-	29.449
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>-</b>	<b>5</b>
	<b>Total Obligation Authority</b>	<b>48.565</b>	<b>20.532</b>	<b>29.449</b>	<b>-</b>	<b>29.449</b>

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 18	<b>P-1 Line Item Number / Title:</b> 2948BB8500 / Defense Enterprise Wideband Satcom Systems	<b>Item Number / Title [DODIC]:</b> BB8501 / Enterprise Wideband Satellite Terminal Digital EQ

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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Resource Summary		Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity (Units in Each)		5	5	10	10	-	10
Gross/Weapon System Cost (\$ in Millions)		882.260	46.806	33.361	29.902	-	29.902
Less PY Advance Procurement (\$ in Millions)		-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)		882.260	46.806	33.361	29.902	-	29.902
Plus CY Advance Procurement (\$ in Millions)		-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>		<b>882.260</b>	<b>46.806</b>	<b>33.361</b>	<b>29.902</b>	<b>-</b>	<b>29.902</b>

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

Initial Spares (\$ in Millions)	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	176,452.000	9,361.200	3,336.100	2,990.200	-	2,990.200

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Flyaway Cost																		
Recurring Cost																		
Baseband Production Support	-	-	6.864	6,078.000	1	6.078	3,105.000	1	3.105	-	-	0.354	-	-	-	-	-	0.354
Landstuhl Baseband Installs	91,372.000	3	274.116	-	-	7.261	1,703.000	1	1.703	-	-	-	-	-	-	-	-	-
Precision Timing Rack Modification	818.000	1	0.818	600.000	1	0.600	1,005.000	1	1.005	500.000	1	0.500	-	-	-	500.000	1	0.500
Enhanced Bandwidth Efficient Modem (EBEM)	150.000	1	0.150	403.000	1	0.403	551.000	1	0.551	-	-	-	-	-	-	-	-	-
Transport Convergence	-	-	2.301	-	-	0.275	-	-	0.205	-	-	0.750	-	-	-	-	-	0.750
Prototyping, Integration, Test, Training (PITT) Lab	-	-	-	-	-	0.916	2,590.000	1	2.590	586.500	2	1.173	-	-	-	586.500	2	1.173
SATCOM Unified Net-Centric System (SUNS)	-	-	-	12,105.000	1	12.105	2,743.400	5	13.717	2,976.571	7	20.836	-	-	-	2,976.571	7	20.836
Communication Configuration and Asset Management System (CCAMS)	-	-	-	4,000.000	1	4.000	-	-	-	-	-	-	-	-	-	-	-	-
Power Distribution Rack	-	-	-	-	-	-	-	-	-	-	-	0.354	-	-	-	-	-	0.354

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 18	<b>P-1 Line Item Number / Title:</b> 2948BB8500 / Defense Enterprise Wideband Satcom Systems	<b>Item Number / Title [DODIC]:</b> BB8501 / Enterprise Wideband Satellite Terminal Digital EQ

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Ft. Buckner Installs	-	-	-	-	-	-	-	-	-	-	-	1.316	-	-	-	-	-	1.316
Camp Roberts Installs	-	-	-	-	-	-	-	-	-	-	-	0.452	-	-	-	-	-	0.452
<i>Subtotal: Recurring Cost</i>	-	-	284.249	-	-	31.638	-	-	22.876	-	-	25.735	-	-	-	-	-	25.735
<i>Subtotal: Flyaway Cost</i>	-	-	284.249	-	-	31.638	-	-	22.876	-	-	25.735	-	-	-	-	-	25.735
<b>Support - Fielding Cost</b>																		
Fielding	-	-	4.976	-	-	3.492	-	-	1.477	-	-	0.340	-	-	-	-	-	0.340
<i>Subtotal: Support - Fielding Cost</i>	-	-	4.976	-	-	3.492	-	-	1.477	-	-	0.340	-	-	-	-	-	0.340
<b>Support - Production Engineering Cost</b>																		
Production Engineering	-	-	9.352	-	-	1.500	-	-	2.824	-	-	1.000	-	-	-	-	-	1.000
<i>Subtotal: Support - Production Engineering Cost</i>	-	-	9.352	-	-	1.500	-	-	2.824	-	-	1.000	-	-	-	-	-	1.000
<b>Support - Program Management Cost</b>																		
Government Management	-	-	389.807	-	-	3.425	-	-	3.610	-	-	1.527	-	-	-	-	-	1.527
<i>Subtotal: Support - Program Management Cost</i>	-	-	389.807	-	-	3.425	-	-	3.610	-	-	1.527	-	-	-	-	-	1.527
<b>Support - System Engineering Cost</b>																		
System Engineering	-	-	193.876	-	-	6.751	-	-	2.574	-	-	1.300	-	-	-	-	-	1.300
<i>Subtotal: Support - System Engineering Cost</i>	-	-	193.876	-	-	6.751	-	-	2.574	-	-	1.300	-	-	-	-	-	1.300
<b>Gross/Weapon System Cost</b>	176,452.000	5	882.260	9,361.200	5	46.806	3,336.100	10	33.361	2,990.200	10	29.902	-	-	-	2,990.200	10	29.902

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	5	10	10	-	10
	Total Obligation Authority	46.806	33.361	29.902	-	29.902
<b>Total:</b>	<b>Quantity</b>	<b>5</b>	<b>10</b>	<b>10</b>	<b>-</b>	<b>10</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>46.806</b>	<b>33.361</b>	<b>29.902</b>	<b>-</b>	<b>29.902</b>

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>					<b>Date:</b> March 2019			
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 18			<b>P-1 Line Item Number / Title:</b> 2948BB8500 / Defense Enterprise Wideband Satcom Systems			<b>Item Number / Title [DODIC]:</b> BB8509 / Enterprise Wideband Sat Payload Control System		
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :					<b>MDAP/MAIS Code:</b>			
<b>Resource Summary</b>			<b>Prior Years</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Procurement Quantity (Units in Each)			11	8	6	6	-	6
Gross/Weapon System Cost (\$ in Millions)			1,077.168	57.620	40.786	38.690	-	38.690
Less PY Advance Procurement (\$ in Millions)			-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)			1,077.168	57.620	40.786	38.690	-	38.690
Plus CY Advance Procurement (\$ in Millions)			-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>			<b>1,077.168</b>	<b>57.620</b>	<b>40.786</b>	<b>38.690</b>	<b>-</b>	<b>38.690</b>
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>								
Initial Spares (\$ in Millions)			-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)			97,924.364	7,202.500	6,797.667	6,448.333	-	6,448.333

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Flyaway Cost																		
Recurring Cost																		
Wideband Satellite Communications Trend Analysis and Anomaly Resolution Solution (WSTARS)	120,885.000	1	120.885	4,200.000	1	4.200	4,250.000	1	4.250	4,715.000	1	4.715	-	-	-	4,715.000	1	4.715
Wideband Remote Monitoring System (WRMS)	127,909.000	1	127.909	3,000.000	1	3.000	3,050.000	1	3.050	1,792.000	1	1.792	-	-	-	1,792.000	1	1.792
Common Network Planning System (CNPS)	123,478.000	1	123.478	6,307.000	1	6.307	6,000.000	1	6.000	3,400.000	1	3.400	-	-	-	3,400.000	1	3.400
Global Satellite Configuration Control Element (GSCCE)	196,163.000	1	196.163	2,800.000	1	2.800	2,815.000	1	2.815	-	-	-	-	-	-	-	-	-
Wideband SATCOM Operational Management System (WSOMS)	13,007.000	1	13.007	-	-	1.264	-	-	-	4,574.000	1	4.574	-	-	-	4,574.000	1	4.574
Joint Mngmt. & Ops. System (JMOS)	125,318.000	1	125.318	-	-	7.584	-	-	-	-	-	0.040	-	-	-	-	-	0.040
Remote Monitor Control Equipment (RMCE)	91,068.500	2	182.137	-	-	-	-	-	-	1,100.000	1	1.100	-	-	-	1,100.000	1	1.100

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>													<b>Date:</b> March 2019					
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 18						<b>P-1 Line Item Number / Title:</b> 2948BB8500 / Defense Enterprise Wideband Satcom Systems						<b>Item Number / Title [DODIC]:</b> BB8509 / Enterprise Wideband Sat Payload Control System						
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :										<b>MDAP/MAIS Code:</b>								
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Wideband Trainer & Certification System (WTCS)	753.000	1	0.753	1,346.000	1	1.346	-	-	1.350	-	-	1.457	-	-	-	-	-	1.457
Radio Frequency Modulated Orderwire (RFMOW)	70,591.500	2	141.183	150.000	1	0.150	155.000	1	0.155	-	-	-	-	-	-	-	-	-
Power Control Management System (PCMS)	-	-	-	10,420.000	1	10.420	7,925.000	1	7.925	7,775.000	1	7.775	-	-	-	7,775.000	1	7.775
Post Gres Enterprise Class Data Management Platform	-	-	-	3,000.000	1	3.000	-	-	3.005	-	-	-	-	-	-	-	-	-
Replacement and Patch Test Facility (RPTF)	-	-	-	-	-	0.368	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	1,030.833	-	-	40.439	-	-	28.550	-	-	24.853	-	-	-	-	-	24.853
<i>Subtotal: Flyaway Cost</i>	-	-	1,030.833	-	-	40.439	-	-	28.550	-	-	24.853	-	-	-	-	-	24.853
<b>Support - Fielding Cost</b>																		
Fielding	-	-	-	-	-	0.128	-	-	-	-	-	1.000	-	-	-	-	-	1.000
<i>Subtotal: Support - Fielding Cost</i>	-	-	-	-	-	0.128	-	-	-	-	-	1.000	-	-	-	-	-	1.000
<b>Support - Production Engineering Cost</b>																		
Production Engineering	-	-	1.781	-	-	2.121	-	-	-	-	-	2.681	-	-	-	-	-	2.681
<i>Subtotal: Support - Production Engineering Cost</i>	-	-	1.781	-	-	2.121	-	-	-	-	-	2.681	-	-	-	-	-	2.681
<b>Support - Program Management Cost</b>																		
Government Management	-	-	34.221	-	-	7.486	-	-	6.586	-	-	4.996	-	-	-	-	-	4.996
<i>Subtotal: Support - Program Management Cost</i>	-	-	34.221	-	-	7.486	-	-	6.586	-	-	4.996	-	-	-	-	-	4.996
<b>Support - System Engineering Cost</b>																		
System Engineering	-	-	10.333	-	-	7.446	-	-	5.650	-	-	5.160	-	-	-	-	-	5.160
<i>Subtotal: Support - System Engineering Cost</i>	-	-	10.333	-	-	7.446	-	-	5.650	-	-	5.160	-	-	-	-	-	5.160
<b>Gross/Weapon System Cost</b>	<b>97,924.364</b>	<b>11</b>	<b>1,077.168</b>	<b>7,202.500</b>	<b>8</b>	<b>57.620</b>	<b>6,797.667</b>	<b>6</b>	<b>40.786</b>	<b>6,448.333</b>	<b>6</b>	<b>38.690</b>	-	-	-	<b>6,448.333</b>	<b>6</b>	<b>38.690</b>

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<b>Exhibit P-5, Cost Analysis:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 18	<b>P-1 Line Item Number / Title:</b> 2948BB8500 / Defense Enterprise Wideband Satcom Systems	<b>Item Number / Title [DODIC]:</b> BB8509 / Enterprise Wideband Sat Payload Control System

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

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	8	6	6	-	6
	Total Obligation Authority	57.620	40.786	38.690	-	38.690
<b>Total:</b>	<b>Quantity</b>	<b>8</b>	<b>6</b>	<b>6</b>	<b>-</b>	<b>6</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>57.620</b>	<b>40.786</b>	<b>38.690</b>	<b>-</b>	<b>38.690</b>

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 18: Comm - Satellite Communications	<b>P-1 Line Item Number / Title:</b> 2956B85800 / Transportable Tactical Command Communications (T2C
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> 1203142A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	146	106	159	118	-	118	116	85	90	-	Continuing	Continuing
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	96.551	186.272	77.060	77.141	6.930	84.071	83.846	74.054	79.389	47.471	Continuing	Continuing
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	96.551	186.272	77.060	77.141	6.930	84.071	83.846	74.054	79.389	47.471	Continuing	Continuing
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>96.551</b>	<b>186.272</b>	<b>77.060</b>	<b>77.141</b>	<b>6.930</b>	<b>84.071</b>	<b>83.846</b>	<b>74.054</b>	<b>79.389</b>	<b>47.471</b>	<b>Continuing</b>	<b>Continuing</b>

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

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	661.308	1,757.283	484.654	653.737	-	712.466	722.810	871.224	882.100	-	Continuing	Continuing

**Description:**

The Transportable Tactical Command Communications (T2C2) funding line supports the Army's Network Modernization Strategy Line of Effort #1, Unified Network.

T2C2 extends the Tactical Network to small company and team sized early entry units. The T2C2 system is based on combat proven capabilities and provides robust voice and data communication capabilities. T2C2 enables warfighters in select Command Posts (CP) (typically Company level) and select Army teams to send and receive time sensitive Situational Awareness (SA), Intelligence, and Mission Command (MC) information while At-the-Halt (ATH) in support of all Joint determined and defined operational phases. These phases span from the initial Shaping Phase (designed to dissuade or deter adversaries and assure mission friends), Deterrence, Initiative Seizure and Domination culminating with post maneuver Stabilization and Enabling of Civil Authorities supporting a legitimate civil governance in safe and secure environment.

The approved Army Procurement Objective (APO) for Transportable Tactical Command Communications (T2C2) is 424 Lite systems, 390 Heavy systems.

The T2C2 Capability Production Document (CPD) was validated in November 2013. In 2018, the Army approved procurement of tri-band (X, Ka, Ku) systems for both variants to provide great operational flexibility creating increased system availability.

T2C2 transitioned into Full Rate Production (FRP) in January 2018 after a successful FRP Decision and immediately began fielding in March 2018.

T2C2 leverages modular Commercial Off the Shelf (COTS) communications and network package requirements for the Lite and Heavy variants. Deployable Ku-Band Earth Terminals (DKET) are satellite terminals, used to augment the Army's communications network infrastructure in theater. They also operate as hubs, providing inter- and intra- theater satellite links and network hub services for disadvantaged forward operating bases. Common hardware is shared between both variants to reduce soldier training and to reduce unique hardware components in the Army Supply System. Additionally, the T2C2 technology and hardware is leveraged by the Security Force Assistance Brigade (SFAB) and Combat Service Support Very Small Aperture Terminal (CSS-VSAT) in support of an 8th Army Operational Needs Statement.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	69	150	91	-	91	93	23	11	-
	Total Obligation Authority	172.595	72.747	70.471	6.930	77.401	34.731	19.111	7.443	32.471
ANG	Quantity	36	9	27	-	27	17	41	72	-



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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 18: Comm - Satellite Communications	<b>P-1 Line Item Number / Title:</b> 2956B85800 / Transportable Tactical Command Communications (T2C)
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ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 1203142A
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Line Item MDAP/MAIS Code: N/A

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
	Total Obligation Authority	13.151	4.313	6.670	-	6.670	36.302	51.758	44.656	10.000
AR	Quantity	1	-	-	-	-	6	21	7	-
	Total Obligation Authority	0.526	-	-	-	-	12.813	3.185	27.290	5.000
<b>Total:</b>	<b>Quantity</b>	<b>106</b>	<b>159</b>	<b>118</b>	<b>-</b>	<b>118</b>	<b>116</b>	<b>85</b>	<b>90</b>	<b>-</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>186.272</b>	<b>77.060</b>	<b>77.141</b>	<b>6.930</b>	<b>84.071</b>	<b>83.846</b>	<b>74.054</b>	<b>79.389</b>	<b>47.471</b>

**UNCLASSIFIED**

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

**Appropriation / Budget Activity / Budget Sub Activity:**  
 2035A: Other Procurement, Army / BA 02: Communications and Electronics  
 Equipment / BSA 18: Comm - Satellite Communications

**P-1 Line Item Number / Title:**  
 2956B85800 / Transportable Tactical Command Communications (T2C)

**ID Code** (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 1203142A

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

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	B85800 / Transportable Tactical Command Communications (T2C)	P-5a, P-21	A		146 / 96.551	106 / 186.272	159 / 77.060	118 / 77.141	- / 6.930	118 / 84.071
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>146 / 96.551</b>	<b>106 / 186.272</b>	<b>159 / 77.060</b>	<b>118 / 77.141</b>	<b>- / 6.930</b>	<b>118 / 84.071</b>

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

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

**Justification:**

FY 2020 base procurement dollars, in the amount of \$77.141 million, supports the procurement of Full Rate Production (FRP) quantities for T2C2 Light (59) and T2C2 Heavy (59) tri-band systems (X, Ka, Ku), applicable spares, fielding and training of on hand Lite and Heavy systems, and any approved emerging modular communications and network package requirements. Cost growth is driven by a change in the requirement from single-band systems to tri-band systems.

FY 2020 OCO procurement dollars, in the amount of \$6.930 million, supports the procurement and fielding of 4 modular communications and network packages to remote locations with limited or challenged communications services and fielding of units imminently deploying. The communications and network package will be able to scale from a platoon to battalion size element, include a portable satellite antenna and small-form networking, servers and backup battery equipment. Most importantly, the communications and network package will be transportable by a two-man team to remote locations, in order to respond to contingency deployment operations requiring X, Ka, and/or Ku; multiple enclave availability; easily transportable (commercial transport); and scalable communications. Deployable Ku-Band Earth Terminals (DKET) are satellite terminals, used to augment the Army's communications network infrastructure in theater. They also operate as hubs, providing inter- and intra- theater satellite links and network hub services for disadvantaged forward operating bases.

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

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>													<b>Date:</b> March 2019								
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 18						<b>P-1 Line Item Number / Title:</b> 2956B85800 / Transportable Tactical Command Communications (T2C)						<b>Item Number / Title [DODIC]:</b> B85800 / Transportable Tactical Command Communications (T2C)									
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A									<b>MDAP/MAIS Code:</b>												
<b>Resource Summary</b>				<b>Prior Years</b>			<b>FY 2018</b>			<b>FY 2019</b>			<b>FY 2020 Base</b>			<b>FY 2020 OCO</b>			<b>FY 2020 Total</b>		
Procurement Quantity (Units in Each)				146			106			159			118			-			118		
Gross/Weapon System Cost (\$ in Millions)				96.551			186.272			77.060			77.141			6.930			84.071		
Less PY Advance Procurement (\$ in Millions)				-			-			-			-			-			-		
Net Procurement (P-1) (\$ in Millions)				96.551			186.272			77.060			77.141			6.930			84.071		
Plus CY Advance Procurement (\$ in Millions)				-			-			-			-			-			-		
<b>Total Obligation Authority (\$ in Millions)</b>				<b>96.551</b>			<b>186.272</b>			<b>77.060</b>			<b>77.141</b>			<b>6.930</b>			<b>84.071</b>		
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>																					
Initial Spares (\$ in Millions)				-			-			-			-			-			-		
Gross/Weapon System Unit Cost (\$ in Thousands)				661.308			1,757.283			484.654			653.737			-			712.466		
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																					
<b>Cost Elements</b>		<b>Prior Years</b>			<b>FY 2018</b>			<b>FY 2019</b>			<b>FY 2020 Base</b>			<b>FY 2020 OCO</b>			<b>FY 2020 Total</b>				
		<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>		
<b>Hardware Cost</b>																					
<b>Recurring Cost</b>																					
T2C2 Lite <sup>(†)</sup>		380.292	48	18.254	350.294	51	17.865	346.818	88	30.520	348.559	59	20.565	-	-	-	348.559	59	20.565		
T2C2 Heavy <sup>(†)</sup>		694.618	34	23.617	513.382	55	28.236	508.276	58	29.480	510.831	59	30.139	-	-	-	510.831	59	30.139		
T2C2 Tri-band Delta Kit		-	-	-	155.049	82	12.714	-	-	-	-	-	-	-	-	-	-	-	-		
<b>Subtotal: Recurring Cost</b>		<b>-</b>	<b>-</b>	<b>41.871</b>	<b>-</b>	<b>-</b>	<b>58.815</b>	<b>-</b>	<b>-</b>	<b>60.000</b>	<b>-</b>	<b>-</b>	<b>50.704</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>50.704</b>		
<b>Non Recurring Cost</b>																					
RHN Upgrades		-	-	12.749	-	-	4.100	-	-	-	-	-	-	-	-	-	-	-	-		
Commercially Available Systems		477.000	12	5.724	-	-	6.200	546.154	13	7.100	-	-	-	675.000	4	2.700	675.000	4	2.700		
AN/PSC-15 (GRRIP) Upgrade		10.000	54	0.540	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
CSS-VSAT		-	-	-	-	-	90.372	-	-	-	-	-	-	-	-	-	-	-	-		
<b>Subtotal: Non Recurring Cost</b>		<b>-</b>	<b>-</b>	<b>19.013</b>	<b>-</b>	<b>-</b>	<b>100.672</b>	<b>-</b>	<b>-</b>	<b>7.100</b>	<b>-</b>	<b>-</b>	<b>0.000</b>	<b>-</b>	<b>-</b>	<b>2.700</b>	<b>-</b>	<b>-</b>	<b>2.700</b>		
<b>Subtotal: Hardware Cost</b>		<b>-</b>	<b>-</b>	<b>60.884</b>	<b>-</b>	<b>-</b>	<b>159.487</b>	<b>-</b>	<b>-</b>	<b>67.100</b>	<b>-</b>	<b>-</b>	<b>50.704</b>	<b>-</b>	<b>-</b>	<b>2.700</b>	<b>-</b>	<b>-</b>	<b>53.404</b>		
<b>Software Cost</b>																					
<b>Recurring Cost</b>																					
Software		-	-	2.701	-	-	2.466	-	-	4.803	-	-	9.084	-	-	-	-	-	9.084		
<b>Subtotal: Recurring Cost</b>		<b>-</b>	<b>-</b>	<b>2.701</b>	<b>-</b>	<b>-</b>	<b>2.466</b>	<b>-</b>	<b>-</b>	<b>4.803</b>	<b>-</b>	<b>-</b>	<b>9.084</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>9.084</b>		
<b>Subtotal: Software Cost</b>		<b>-</b>	<b>-</b>	<b>2.701</b>	<b>-</b>	<b>-</b>	<b>2.466</b>	<b>-</b>	<b>-</b>	<b>4.803</b>	<b>-</b>	<b>-</b>	<b>9.084</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>9.084</b>		

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 18	<b>P-1 Line Item Number / Title:</b> 2956B85800 / Transportable Tactical Command Communications (T2C)	<b>Item Number / Title [DODIC]:</b> B85800 / Transportable Tactical Command Communications (T2C)
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A		<b>MDAP/MAIS Code:</b>

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
<b>Support - Data Cost</b>																		
Technical Publications	-	-	-	-	-	2.600	-	-	-	-	-	1.066	-	-	-	-	-	1.066
<i>Subtotal: Support - Data Cost</i>	-	-	-	-	-	<b>2.600</b>	-	-	-	-	-	<b>1.066</b>	-	-	-	-	-	<b>1.066</b>
<b>Support - Fielding Cost</b>																		
Fielding	-	-	7.937	-	-	15.645	-	-	-	-	-	10.372	-	-	4.230	-	-	14.602
<i>Subtotal: Support - Fielding Cost</i>	-	-	<b>7.937</b>	-	-	<b>15.645</b>	-	-	-	-	-	<b>10.372</b>	-	-	<b>4.230</b>	-	-	<b>14.602</b>
<b>Support - Program Management Cost</b>																		
Government Management	-	-	9.788	-	-	3.191	-	-	1.062	-	-	1.127	-	-	-	-	-	1.127
Contractor Management	-	-	4.894	-	-	1.728	-	-	2.878	-	-	3.406	-	-	-	-	-	3.406
<i>Subtotal: Support - Program Management Cost</i>	-	-	<b>14.682</b>	-	-	<b>4.919</b>	-	-	<b>3.940</b>	-	-	<b>4.533</b>	-	-	-	-	-	<b>4.533</b>
<b>Support - System Engineering Cost</b>																		
System Engineering	-	-	10.347	-	-	1.155	-	-	1.217	-	-	1.382	-	-	-	-	-	1.382
<i>Subtotal: Support - System Engineering Cost</i>	-	-	<b>10.347</b>	-	-	<b>1.155</b>	-	-	<b>1.217</b>	-	-	<b>1.382</b>	-	-	-	-	-	<b>1.382</b>
<b>Gross/Weapon System Cost</b>	<b>661.308</b>	<b>146</b>	<b>96.551</b>	<b>1,757.283</b>	<b>106</b>	<b>186.272</b>	<b>484.654</b>	<b>159</b>	<b>77.060</b>	<b>653.737</b>	<b>118</b>	<b>77.141</b>	-	-	<b>6.930</b>	<b>712.466</b>	<b>118</b>	<b>84.071</b>

**Remarks:**

Prior cost estimates were for a single-band system, updated FY18 cost estimates are based on a tri-band (X, Ka, Ku) system configuration and updated contract costs. Contract extension was awarded in FY18 to extend the current period of performance to FY23.

Government Management funds in FY19 and beyond are to fund Matrix support.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	69	150	91	-	91
	Total Obligation Authority	172.595	72.747	70.471	6.930	77.401
ANG	Quantity	36	9	27	-	27
	Total Obligation Authority	13.151	4.313	6.670	-	6.670
AR	Quantity	1	-	-	-	-
	Total Obligation Authority	0.526	-	-	-	-
<b>Total:</b>	<b>Quantity</b>	<b>106</b>	<b>159</b>	<b>118</b>	<b>-</b>	<b>118</b>

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<b>Exhibit P-5, Cost Analysis:</b> PB 2020 Army				<b>Date:</b> March 2019		
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 18		<b>P-1 Line Item Number / Title:</b> 2956B85800 / Transportable Tactical Command Communications (T2C)		<b>Item Number / Title [DODIC]:</b> B85800 / Transportable Tactical Command Communications (T2C)		
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A			<b>MDAP/MAIS Code:</b>			
<b>Secondary Distribution</b>		<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	186.272	77.060	77.141	6.930	84.071

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

**UNCLASSIFIED**

<b>Exhibit P-5a, Procurement History and Planning:</b> PB 2020 Army							<b>Date:</b> March 2019				
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 18			<b>P-1 Line Item Number / Title:</b> 2956B85800 / Transportable Tactical Command Communications (T2C				<b>Item Number / Title [DODIC]:</b> B85800 / Transportable Tactical Command Communications (T2C				

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
T2C2 Lite <sup>(†)</sup>		2018	GATR Technologies / Huntsville	C / IDIQ	Aberdeen Proving Ground, MD	Aug 2018	Sep 2018	51	350.294	Y		Jun 2013
T2C2 Lite <sup>(†)</sup>		2019	GATR Technologies / Huntsville	C / IDIQ	Aberdeen Proving Ground, MD	Mar 2019	Jul 2019	88	346.818	Y		Jun 2013
T2C2 Lite <sup>(†)</sup>		2020	GATR Technologies / Huntsville	C / IDIQ	Aberdeen Proving Ground, MD	Jan 2020	Jun 2020	59	348.559	Y		Jun 2013
T2C2 Heavy <sup>(†)</sup>		2018	GATR Technologies / Huntsville	C / IDIQ	Aberdeen Proving Ground, MD	Aug 2018	Sep 2018	55	513.382	Y		Jun 2013
T2C2 Heavy <sup>(†)</sup>		2019	GATR Technologies / Huntsville	C / IDIQ	Aberdeen Proving Ground, MD	Mar 2019	Jul 2019	58	508.276	Y		Jun 2013
T2C2 Heavy <sup>(†)</sup>		2020	GATR Technologies / Huntsville	C / IDIQ	Aberdeen Proving Ground, MD	Jan 2020	Jun 2020	59	510.831	Y		Jun 2013

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

**Remarks:**

T2C2 executes Delivery Orders under an existing Small Business Innovated Research (SBIR) III, Firm Fixed Price (FFP), Indefinite Delivery, Indefinite Quantity (IDIQ) contract to procure system hardware. The current period of performance ends in September 2023.

Fielding and training dollars for FY19 procurements are within the FY18 funding line due to congressional funding increases to the T2C2 line.

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 18	<b>P-1 Line Item Number / Title:</b> 2956B85800 / Transportable Tactical Command Communications (T2C)	<b>Item Number / Title [DODIC]:</b> B85800 / Transportable Tactical Command Communications (T2C)
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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	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				
T2C2 Lite																																		
Prior Years Deliveries: 48																																		
	1	2018	ARMY	51	0	51																												
	1	2019	ARMY	88	0	88																												
	1	2020	ARMY	59	0	59																												
T2C2 Heavy																																		
Prior Years Deliveries: 34																																		
	2	2018	ARMY	55	0	55																												
	2	2019	ARMY	58	0	58																												
	2	2020	ARMY	59	0	59																												
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P				

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<b>Exhibit P-21, Production Schedule:</b> PB 2020 Army															<b>Date:</b> March 2019														
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 18										<b>P-1 Line Item Number / Title:</b> 2956B85800 / Transportable Tactical Command Communications (T2C)										<b>Item Number / Title [DODIC]:</b> B85800 / Transportable Tactical Command Communications (T2C)									

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	
T2C2 Lite																																
Prior Years Deliveries: 48																																
1		2018	ARMY	51	51	0																						0				
1		2019	ARMY	88	88	0																						0				
1		2020	ARMY	59	0	59			A	-	-	-	-	-	30	29												0				
T2C2 Heavy																																
Prior Years Deliveries: 34																																
2		2018	ARMY	55	55	0																						0				
2		2019	ARMY	58	58	0																						0				
2		2020	ARMY	59	0	59			A	-	-	-	-	-	30	29												0				
									O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P



**UNCLASSIFIED**

<b>Exhibit P-21, Production Schedule:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 18		<b>P-1 Line Item Number / Title:</b> 2956B85800 / Transportable Tactical Command Communications (T2C)
		<b>Item Number / Title [DODIC]:</b> B85800 / Transportable Tactical Command Communications (T2C)

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Month)			Procurement Leadtime (Months)							
		MSR For 2020	1-8-5 For 2020	MAX For 2020	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	GATR Technologies - Huntsville	1	30	80	0	3	3	6	0	6	3	9
2	GATR Technologies - Huntsville	1	30	80	0	3	3	6	0	6	3	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 2020 Army **Date:** March 2019

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 18: Comm - Satellite Communications	<b>P-1 Line Item Number / Title:</b> 9810BA9350 / SHF Term
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	560.849	13.622	13.100	16.054	-	16.054	13.187	34.448	22.715	22.715	Continuing	Continuing
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	560.849	13.622	13.100	16.054	-	16.054	13.187	34.448	22.715	22.715	Continuing	Continuing
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>560.849</b>	<b>13.622</b>	<b>13.100</b>	<b>16.054</b>	<b>-</b>	<b>16.054</b>	<b>13.187</b>	<b>34.448</b>	<b>22.715</b>	<b>22.715</b>	<b>Continuing</b>	<b>Continuing</b>

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

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

**Description:**

The SHF TERM funding line supports the Army's Network Modernization Strategy Line of Effort #1: Unified Network

The Super High Frequency (SHF) terminal (aka Phoenix, AN/TSC-156D) program procured and fielded the Army's only quad-band, multi-carrier, high throughput (max 52 Mbps), self-contained, satellite communications system that can be rapidly reconfigured with on-board equipment. The AN/TSC-156D is an Expeditionary Signal Battalion (ESB) asset that provides tactical, highly mobile, command and control, intelligence, fire support, air defense and logistics wideband communications requirements. New and emerging architectures levied in the Transmission Systems Increment 1 Capabilities Production Document (CPD) and Expeditionary Signal Battalion - Enhanced (ESB-E) necessitate a modernization of the AN/TSC-156D to the AN/TSC-156E configuration. The design of the AN/TSC-156E will leverage commercial off-the-shelf (COTS) solutions to increase commonality with lateral systems and any approved emerging modular communications and network package requirements. The AN/TSC-156E will utilize a transit-case based concept allowing for scalability with or without the vehicle support. This modernization effort focuses on building network capacity, improving system interoperability, and extending/adding flexibility to the network for the tactical formation. Specifically, the AN/TSC-156E will add Internet Protocol (IP) capable Frequency Division Multiple Access (FDMA) and Multi-frequency Time Division Multiple Access (MF-TDMA) Net-Centric Waveform (NCW) modems as well as provide a dual head capability to access two satellites and/or bands simultaneously in order to increase network diversity, robustness, and capacity. The network attributes that will be enabled network wide by the Transmission CPD are: network extension, network flexibility, and network integration. This will align the AN/TSC-156E with the Tactical Network (TN) and allow seamless integration with current and future proposed tactical communications networks at the high data rates and multiple bands required by current and future operations. Of note, the AN/TSC-156E will serve as the solution for the ESB-E's large SATCOM system requirement. This program is designated as a DoD Space Program.

The Approved Acquisition Objective (AAO) for the SHF Terminal is 160.

	Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	8.622	8.100	11.054	-	11.054	8.187	29.448	15.715	5.840
ANG	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	4.000	4.000	3.000	-	3.000	3.000	3.000	2.000	8.437
AR	Quantity	-	-	-	-	-	-	-	-	-

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 18: Comm - Satellite Communications	<b>P-1 Line Item Number / Title:</b> 9810BA9350 / SHF Term
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

	Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
	Total Obligation Authority	1.000	1.000	2.000	-	2.000	2.000	2.000	5.000	8.438
<b>Total:</b>	<b>Quantity</b>	-	-	-	-	-	-	-	-	-
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>13.622</b>	<b>13.100</b>	<b>16.054</b>	<b>-</b>	<b>16.054</b>	<b>13.187</b>	<b>34.448</b>	<b>22.715</b>	<b>22.715</b>

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 18: Comm - Satellite Communications	<b>P-1 Line Item Number / Title:</b> 9810BA9350 / SHF Term
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ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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**Line Item MDAP/MAIS Code:** N/A

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	BA9350 / SHF Term		A		- / 560.849	- / 13.622	- / 13.100	- / 16.054	- / -	- / 16.054
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 560.849</b>	<b>- / 13.622</b>	<b>- / 13.100</b>	<b>- / 16.054</b>	<b>- / -</b>	<b>- / 16.054</b>

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

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

**Justification:**

FY 2020 Base procurement dollars in the amount of \$16.054 million supports the continued production of four (4) modification work order (MWOs) kits, to add a standard Internet Protocol (IP) interface and Time Division Multiple Access (TDMA) modems to currently fielded Phoenix satellite terminals. These modifications will significantly enhance Phoenix interoperability with the Tactical Network. The result of these upgrades will be the E-model Phoenix terminal. These modifications were specified in the Transmission Systems Increment 1 Capabilities Production Document (CPD) requirements.

Notes: The Phoenix E-Model acquisition strategy has changed between the FY19 and FY20 PB submits. FY19 PB costing reflected a government activity doing the integration of GFE hardware into MWO kits. FY20 PB costing now portrays an Other Transaction Agreement (OTA) approach, whereby the contractor will procure and integrate the hardware into MWO kits. Additional information regarding the MWO process has resulted in more fidelity for fielding and training costs and those are now broken out separately. The Obsolescence mitigation effort was completed in FY18, however that cost line now includes the continued technical support (at decreasing levels) for the D-Model Phoenix until the E-Model MWOs are fielded. That support was shown under Logistic Services in FY19. The Depot Pipeline/ Organic Maintenance funding line was added in FY20 to accurately cost stocking the depot with pipeline spares and supporting the depot to take on the organic maintenance responsibility. In addition, the FY20 GFE funding is to provide trucks (IAW truck contract availability) and other equipment required for the E-model upgrades. The FY20 Data/Test funding is to prepare the detailed competitive technical drawing package to facilitate the FY21 Full Rate Production (FRP) Competitive contract, and to support the LRIP tests prior to a FRP decision.

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

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 18		<b>P-1 Line Item Number / Title:</b> 9810BA9350 / SHF Term
		<b>Item Number / Title [DODIC]:</b> BA9350 / SHF Term

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A	<b>MDAP/MAIS Code:</b>
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Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	560.849	13.622	13.100	16.054	-	16.054
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	560.849	13.622	13.100	16.054	-	16.054
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>560.849</b>	<b>13.622</b>	<b>13.100</b>	<b>16.054</b>	<b>-</b>	<b>16.054</b>

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

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

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
<b>Flyaway Cost</b>																		
Recurring Cost																		
SHF Terminals	1,650.946	112	184.906	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GFE	-	-	2.250	-	-	-	-	-	1.313	-	-	1.351	-	-	-	-	-	1.351
E-Model MWOs/ECP	-	-	39.731	-	-	5.554	-	-	4.934	-	-	6.312	-	-	-	-	-	6.312
<i>Subtotal: Recurring Cost</i>	-	-	<b>226.887</b>	-	-	<b>5.554</b>	-	-	<b>6.247</b>	-	-	<b>7.663</b>	-	-	-	-	-	<b>7.663</b>
Non Recurring Cost																		
Data/ Test	-	-	-	-	-	0.446	-	-	1.668	-	-	2.150	-	-	-	-	-	2.150
<i>Subtotal: Non Recurring Cost</i>	-	-	-	-	-	<b>0.446</b>	-	-	<b>1.668</b>	-	-	<b>2.150</b>	-	-	-	-	-	<b>2.150</b>
<i>Subtotal: Flyaway Cost</i>	-	-	<b>226.887</b>	-	-	<b>6.000</b>	-	-	<b>7.915</b>	-	-	<b>9.813</b>	-	-	-	-	-	<b>9.813</b>
<b>Package Fielding Cost</b>																		
Recurring Cost																		
Fielding	-	-	-	-	-	-	-	-	-	-	-	0.219	-	-	-	-	-	0.219
Training	-	-	-	-	-	-	-	-	-	-	-	0.179	-	-	-	-	-	0.179
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	<b>0.398</b>	-	-	-	-	-	<b>0.398</b>
<i>Subtotal: Package Fielding Cost</i>	-	-	-	-	-	-	-	-	-	-	-	<b>0.398</b>	-	-	-	-	-	<b>0.398</b>
<b>Logistics Cost</b>																		
Recurring Cost																		
Logistics Services	-	-	78.633	-	-	2.315	-	-	1.050	-	-	0.937	-	-	-	-	-	0.937

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>												<b>Date:</b> March 2019					
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 18						<b>P-1 Line Item Number / Title:</b> 9810BA9350 / SHF Term						<b>Item Number / Title [DODIC]:</b> BA9350 / SHF Term					
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A												<b>MDAP/MAIS Code:</b>					

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Obsolescence Mitigation/ D-Model Terminal Support	-	-	-	-	-	2.882	-	-	1.360	-	-	1.350	-	-	-	-	-	1.350
<i>Subtotal: Recurring Cost</i>	-	-	78.633	-	-	5.197	-	-	2.410	-	-	2.287	-	-	-	-	-	2.287
Non Recurring Cost																		
Depot Pipeline / Organic Maintenance Build Up	-	-	-	-	-	-	-	-	-	-	-	1.211	-	-	-	-	-	1.211
<i>Subtotal: Non Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	1.211	-	-	-	-	-	1.211
<i>Subtotal: Logistics Cost</i>	-	-	78.633	-	-	5.197	-	-	2.410	-	-	3.498	-	-	-	-	-	3.498
Support - Program Management Cost																		
Government Management	-	-	19.734	-	-	0.680	-	-	0.694	-	-	0.707	-	-	-	-	-	0.707
Contractor Management	-	-	17.604	-	-	0.750	-	-	1.054	-	-	0.795	-	-	-	-	-	0.795
<i>Subtotal: Support - Program Management Cost</i>	-	-	37.338	-	-	1.430	-	-	1.748	-	-	1.502	-	-	-	-	-	1.502
Support - System Engineering Cost																		
System Engineering	-	-	205.558	-	-	0.720	-	-	0.725	-	-	0.843	-	-	-	-	-	0.843
<i>Subtotal: Support - System Engineering Cost</i>	-	-	205.558	-	-	0.720	-	-	0.725	-	-	0.843	-	-	-	-	-	0.843
Support - Training Cost																		
Services	-	-	12.433	-	-	0.275	-	-	0.302	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - Training Cost</i>	-	-	12.433	-	-	0.275	-	-	0.302	-	-	-	-	-	-	-	-	-
<b>Gross/Weapon System Cost</b>	-	-	560.849	-	-	13.622	-	-	13.100	-	-	16.054	-	-	-	-	-	16.054

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	-	-	-	-	-
	Total Obligation Authority	8.622	8.100	11.054	-	11.054
ANG	Quantity	-	-	-	-	-
	Total Obligation Authority	4.000	4.000	3.000	-	3.000
AR	Quantity	-	-	-	-	-
	Total Obligation Authority	1.000	1.000	2.000	-	2.000
<b>Total:</b>	<b>Quantity</b>	-	-	-	-	-

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>				<b>Date:</b> March 2019		
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 18		<b>P-1 Line Item Number / Title:</b> 9810BA9350 / SHF Term		<b>Item Number / Title [DODIC]:</b> BA9350 / SHF Term		
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A			<b>MDAP/MAIS Code:</b>			
<b>Secondary Distribution</b>		<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	13.622	13.100	16.054	-	16.054

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**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 18: Comm - Satellite Communications	<b>P-1 Line Item Number / Title:</b> 9897K49000 / Assured Positioning, Navigation and Timing
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> 1206120A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	-	-	-	41.074	11.778	52.852	54.011	87.199	140.844	92.395	Continuing	Continuing
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	-	-	-	41.074	11.778	52.852	54.011	87.199	140.844	92.395	Continuing	Continuing
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	-	-	-	<b>41.074</b>	<b>11.778</b>	<b>52.852</b>	<b>54.011</b>	<b>87.199</b>	<b>140.844</b>	<b>92.395</b>	<b>Continuing</b>	<b>Continuing</b>

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

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

**Description:**

Mission Command Network Modernization Plan: Line of Effort 1B - Network Enabling Functions (Assured PNT).

Assured Positioning, Navigation and Timing (PNT) provides the Army's ground maneuver forces access to trusted PNT information under conditions where space-based PNT Global Positioning System (GPS) may be limited or denied. Joint Requirements Oversight Council Memo (JROCM) 049-10, dated 05 Apr 2010, approved the Positioning, Navigation and Timing Assurance Initial Capabilities Document and designated the Army as the Lead Component for Assured PNT. The Material Development Decision (MDD) was approved on 30 Jul 2013. The Assured PNT draft Capabilities Development Document was validated by the Army Requirements Oversight Council (AROC) on 28 Jul 2014. The Assured PNT Cross Functional Team is drafting directed requirements for each product.

PNT is a critical enabler of many Army systems. The current GPS capability is a fixed frequency system vulnerable to current and emerging threats, and field conditions (e.g. urban, dense vegetation), which means Warfighter assured access and integrity to PNT is not guaranteed. This situation degrades mission performance to an unacceptable level. Therefore, current Army systems cannot operate at the required PNT Assurance Levels with GPS alone.

Assured PNT consists of:

SSN K49020 - Dismounted Hub: The Dismounted Assured Positioning, Navigation and Timing (PNT) System is a Size, Weight, Power, and Cost (SWAP-C) optimized military Global Positioning System (GPS) and non-GPS sensor suite that acquires and distributes trusted PNT data to soldier-borne systems.

SSN K49030 - Mounted Hub A-PNT: The Mounted Assured PNT System (MAPS) fuses military GPS with physics based sensors and timing technology to acquire and distribute secure trusted PNT data to tactical client systems on vehicular and watercraft platforms. MAPS will deliver distributed assured PNT capabilities to mounted platforms over time in an iterative, affordable manner that allows for future modernization.

SSN K49040 - Anti-Jam Antenna A-PNT: The Anti-Jam Antenna Systems (AJAS) provides GPS signal point protection and PNT Assurance in challenged environments through Anti-Jam technologies. AJAS enables tactical capabilities through assured signal acquisition in challenged environments. The AJAS will assist in delivering distributed assured PNT capabilities to mounted platforms over time in an iterative, affordable manner that allows for future modernization.



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<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 18: Comm - Satellite Communications		<b>P-1 Line Item Number / Title:</b> 9897K49000 / Assured Positioning, Navigation and Timing
<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> 1206120A
<b>Line Item MDAP/MAIS Code:</b> N/A		
SSNK49050 - Pseudolite Capability A-PNT: The Pseudolite system provides area protection and PNT Assurance in GPS denied environments by providing terrestrial radio navigation (GPS-like) service in electronically or physically challenged environments using a higher power signal.		
SSN K49010 - Mounted/Dismounted Receiver: PNT System of Systems Architecture (SOSA) Testing and Resiliency and Software Assurance Measures (RSAM) to legacy GPS systems, and enhancements to Army PNT Enterprise Enablers and capabilities (Alternative Navigation).		

**UNCLASSIFIED**

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

**Appropriation / Budget Activity / Budget Sub Activity:**  
 2035A: Other Procurement, Army / BA 02: Communications and Electronics  
 Equipment / BSA 18: Comm - Satellite Communications

**P-1 Line Item Number / Title:**  
 9897K49000 / Assured Positioning, Navigation and Timing

**ID Code** (A=Service Ready, B=Not Service Ready): **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 1206120A

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

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	K49010 / Mounted/Dismounted Receivers				- / -	- / -	- / -	- / 1.980	- / -	- / 1.980
P-5	K49020 / Dismounted Hub				- / -	- / -	- / -	- / 2.000	- / -	- / 2.000
P-5	K49030 / Mounted Hub A-PNT	P-5a, P-21			- / -	- / -	- / -	- / 29.950	- / 6.339	- / 36.289
P-5	K49040 / Anti-Jam Antenna A-PNT	P-5a			- / -	- / -	- / -	- / 5.144	- / -	- / 5.144
P-5	K49050 / Pseudolite Capability A-PNT	P-5a			- / -	- / -	- / -	- / 2.000	- / 5.439	- / 7.439
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				- / -	- / -	- / -	- / 41.074	- / 11.778	- / 52.852

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

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

**Justification:**

FY20 Base funding in the amount of \$41.074 million and FY20 OCO funding in the amount of \$11.778 million will support the following:

SSN K49020 - Dismounted Hub: FY 2020 base procurement dollars in the amount of \$2.000 million supports the statutory and regulatory Milestone/Contract documentation preparation and Program Management Support for a tailored Milestone C Decision.

SSN K49030 - Mounted Hub A-PNT: FY 2020 base procurement dollars in the amount of \$29.950 million supports the statutory and regulatory Milestone/Contract documentation preparation, Program Management Support for a tailored Milestone C Decision, initiates platform integration for Full Operational Capability (FOC) and supports the procurement of 184 Mounted A-PNT systems. In addition, FY 2020 OCO procurement dollars in the amount of \$6.339 million procures 89 Enhance Defense Advanced GPS Receiver [DAGR] (ED3).

SSN K49040 - Anti-Jam Antenna A-PNT: FY 2020 base procurement dollars in the amount of \$5.144 million supports the statutory and regulatory Milestone/Contract documentation preparation, Program Management Support for a tailored Milestone C Decision, initiates platform integration for Full Operational Capability (FOC) and supports the procurement of 184 Anti-Jam Antenna hardware.

SSN K49050 - Pseudolite Capability A-PNT: FY 2020 base procurement dollars in the amount of \$2.000 million support the statutory and regulatory Milestone/Contract documentation preparation and Program Management Support. In addition, FY 2020 OCO procurement dollars in the amount of \$5.439 million supports the procurement of 5 sensor systems.

SSN K49010 - Mounted/Dismounted Receiver: FY 2020 base procurement dollars in the amount of \$1.980 million supports the delivery of Resiliency Software Assurance Measures (RSAM) to legacy GPS systems.

All Quantities are for the Active component.

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 18	<b>P-1 Line Item Number / Title:</b> 9897K49000 / Assured Positioning, Navigation and Timing	<b>Item Number / Title [DODIC]:</b> K49010 / Mounted/Dismounted Receivers

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :				<b>MDAP/MAIS Code:</b>				
<b>Resource Summary</b>			<b>Prior Years</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Procurement Quantity ( <i>Units in Each</i> )			-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )			-	-	-	1.980	-	1.980
Less PY Advance Procurement ( <i>\$ in Millions</i> )			-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )			-	-	-	1.980	-	1.980
Plus CY Advance Procurement ( <i>\$ in Millions</i> )			-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )			-	-	-	<b>1.980</b>	-	<b>1.980</b>
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>								
Initial Spares ( <i>\$ in Millions</i> )			-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )			-	-	-	-	-	-

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Support - Program Management Cost																		
Contractor Management	-	-	-	-	-	-	-	-	-	-	-	1.980	-	-	-	-	-	1.980
<i>Subtotal: Support - Program Management Cost</i>	-	-	-	-	-	-	-	-	-	-	-	1.980	-	-	-	-	-	1.980
<b>Gross/Weapon System Cost</b>	-	-	-	-	-	-	-	-	-	-	-	1.980	-	-	-	-	-	1.980

**Remarks:**

\$1.980 million base procurement Support for Program Management Costs is for the Program Management Office and Fielding Support Teams.

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 18	<b>P-1 Line Item Number / Title:</b> 9897K49000 / Assured Positioning, Navigation and Timing	<b>Item Number / Title [DODIC]:</b> K49020 / Dismounted Hub

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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<b>Resource Summary</b>	<b>Prior Years</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	-	-	-	2.000	-	2.000
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	-	-	-	2.000	-	2.000
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	-	-	-	<b>2.000</b>	-	<b>2.000</b>

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

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

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

<b>Cost Elements</b>	<b>Prior Years</b>			<b>FY 2018</b>			<b>FY 2019</b>			<b>FY 2020 Base</b>			<b>FY 2020 OCO</b>			<b>FY 2020 Total</b>		
	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)
Support - Program Management Cost																		
Contractor Management	-	-	-	-	-	-	-	-	-	-	-	2.000	-	-	-	-	-	2.000
<i>Subtotal: Support - Program Management Cost</i>	-	-	-	-	-	-	-	-	-	-	-	<b>2.000</b>	-	-	-	-	-	<b>2.000</b>
<b>Gross/Weapon System Cost</b>	-	-	-	-	-	-	-	-	-	-	-	<b>2.000</b>	-	-	-	-	-	<b>2.000</b>

**Remarks:**

\$2.000 million base procurement for Program Management is for the Program Management Office.

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 18	<b>P-1 Line Item Number / Title:</b> 9897K49000 / Assured Positioning, Navigation and Timing	<b>Item Number / Title [DODIC]:</b> K49030 / Mounted Hub A-PNT
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**ID Code** (A=Service Ready, B=Not Service Ready) : **MDAP/MAIS Code:**

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	-	-	-	29.950	6.339	36.289
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	-	-	-	29.950	6.339	36.289
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	-	-	-	<b>29.950</b>	<b>6.339</b>	<b>36.289</b>

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

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

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
<b>Flyaway Cost</b>																		
Recurring Cost																		
Mounted Enhanced DAGR Distributed Device (ED3) <sup>(f)</sup>	-	-	-	-	-	-	-	-	-	-	-	-	46.652	89	4.152	46.652	89	4.152
System Engineering Program Management	-	-	-	-	-	-	-	-	-	-	-	0.517	-	-	-	-	-	0.517
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	0.517	-	-	4.152	-	-	4.669
<i>Subtotal: Flyaway Cost</i>	-	-	-	-	-	-	-	-	-	-	-	0.517	-	-	4.152	-	-	4.669
<b>Hardware Cost</b>																		
Recurring Cost																		
Mounted A-PNT Systems <sup>(f)</sup>	-	-	-	-	-	-	-	-	-	28.761	184	5.292	-	-	-	28.761	184	5.292
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	5.292	-	-	-	-	-	5.292
Non Recurring Cost																		
System Platform Integration	-	-	-	-	-	-	-	-	-	-	-	15.102	-	-	-	-	-	15.102
<i>Subtotal: Non Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	15.102	-	-	-	-	-	15.102
<i>Subtotal: Hardware Cost</i>	-	-	-	-	-	-	-	-	-	-	-	20.394	-	-	-	-	-	20.394
<b>Logistics Cost</b>																		
Recurring Cost																		
Interim Contractor Logistic Support - ED3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.581	-	-	0.581

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>												<b>Date:</b> March 2019					
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 18						<b>P-1 Line Item Number / Title:</b> 9897K49000 / Assured Positioning, Navigation and Timing						<b>Item Number / Title [DODIC]:</b> K49030 / Mounted Hub A-PNT					
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :												<b>MDAP/MAIS Code:</b>					

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Interim Contractor Logistic Support - Mounted	-	-	-	-	-	-	-	-	-	-	-	3.486	-	-	-	-	-	3.486
Installation - ED3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.615	-	-	0.615
Spares - ED3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.415	-	-	0.415
Training - ED3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.058	-	-	0.058
Spares - Mounted	-	-	-	-	-	-	-	-	-	-	-	0.646	-	-	-	-	-	0.646
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	4.132	-	-	1.669	-	-	5.801
<i>Subtotal: Logistics Cost</i>	-	-	-	-	-	-	-	-	-	-	-	4.132	-	-	1.669	-	-	5.801
Support - System Engineering Cost																		
System Engineering	-	-	-	-	-	-	-	-	-	-	-	4.907	-	-	0.518	-	-	5.425
<i>Subtotal: Support - System Engineering Cost</i>	-	-	-	-	-	-	-	-	-	-	-	4.907	-	-	0.518	-	-	5.425
<b>Gross/Weapon System Cost</b>	-	-	-	-	-	-	-	-	-	-	-	29.950	-	-	6.339	-	-	36.289

**Remarks:**

System Platform Integration is required for 81 Platforms and 27 Client PMs.

\$4.907 million base procurement System Engineering cost includes Program Management costs.

Mounted A-PNT System unit cost on FK2 needs to be combined with the Anti-Jam Antenna unit cost on FK3 in order to obtain the full system unit cost.

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

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 18	<b>P-1 Line Item Number / Title:</b> 9897K49000 / Assured Positioning, Navigation and Timing	<b>Item Number / Title [DODIC]:</b> K49030 / Mounted Hub A-PNT
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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
Mounted Enhanced DAGR Distributed Device (ED3)	✓	2020	General Dynamic / APG, MD	SS / FFP	APG, MD	Jan 2020	Jul 2020	89	46.652	N		
Mounted A-PNT Systems <sup>(†)</sup>		2020	TBS / TBD	SS / TBD	TBD	Nov 2020	Feb 2021	184	28.761	N		

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

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<b>Exhibit P-21, Production Schedule:</b> PB 2020 Army	<b>Date:</b> March 2019
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<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 18	<b>P-1 Line Item Number / Title:</b> 9897K49000 / Assured Positioning, Navigation and Timing	<b>Item Number / Title [DODIC]:</b> K49030 / Mounted Hub A-PNT
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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
Mounted A-PNT Systems																															
	1	2020	ARMY	184	0	184													A	-	-	-	60	60	60	4		0			



**UNCLASSIFIED**

<b>Exhibit P-21, Production Schedule:</b> PB 2020 Army								<b>Date:</b> March 2019				
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 18				<b>P-1 Line Item Number / Title:</b> 9897K49000 / Assured Positioning, Navigation and Timing				<b>Item Number / Title [DODIC]:</b> K49030 / Mounted Hub A-PNT				
MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Month)			Procurement Leadtime (Months)							
		MSR For 2020	1-8-5 For 2020	MAX For 2020	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	TBS - TBD	184	184	184	0	0	0	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-5, Cost Analysis: PB 2020 Army** **Date:** March 2019

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 18	<b>P-1 Line Item Number / Title:</b> 9897K49000 / Assured Positioning, Navigation and Timing	<b>Item Number / Title [DODIC]:</b> K49040 / Anti-Jam Antenna A-PNT
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**ID Code** (A=Service Ready, B=Not Service Ready) : **MDAP/MAIS Code:**

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	-	-	-	5.144	-	5.144
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	-	-	-	5.144	-	5.144
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	-	-	-	<b>5.144</b>	-	<b>5.144</b>

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

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

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
<b>Hardware Cost</b>																		
Recurring Cost																		
Anti-Jam Antenna H/W <sup>(1)</sup>	-	-	-	-	-	-	-	-	-	12.565	184	2.312	-	-	-	12.565	184	2.312
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	2.312	-	-	-	-	-	2.312
Non Recurring Cost																		
System Platform Integration	-	-	-	-	-	-	-	-	-	-	-	1.237	-	-	-	-	-	1.237
<i>Subtotal: Non Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	1.237	-	-	-	-	-	1.237
<b>Subtotal: Hardware Cost</b>	-	-	-	-	-	-	-	-	-	-	-	<b>3.549</b>	-	-	-	-	-	<b>3.549</b>
<b>Logistics Cost</b>																		
Recurring Cost																		
Interim Logistics Support	-	-	-	-	-	-	-	-	-	-	-	0.615	-	-	-	-	-	0.615
Spares	-	-	-	-	-	-	-	-	-	-	-	0.114	-	-	-	-	-	0.114
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	0.729	-	-	-	-	-	0.729
<i>Subtotal: Logistics Cost</i>	-	-	-	-	-	-	-	-	-	-	-	0.729	-	-	-	-	-	0.729
<b>Support - System Engineering Cost</b>																		
System Engineering	-	-	-	-	-	-	-	-	-	-	-	0.866	-	-	-	-	-	0.866
<i>Subtotal: Support - System Engineering Cost</i>	-	-	-	-	-	-	-	-	-	-	-	0.866	-	-	-	-	-	0.866
<b>Gross/Weapon System Cost</b>	-	-	-	-	-	-	-	-	-	-	-	<b>5.144</b>	-	-	-	-	-	<b>5.144</b>

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 18	<b>P-1 Line Item Number / Title:</b> 9897K49000 / Assured Positioning, Navigation and Timing	<b>Item Number / Title [DODIC]:</b> K49040 / Anti-Jam Antenna A-PNT
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :		<b>MDAP/MAIS Code:</b>
<b>Remarks:</b> System Platform Integration is required for 81 Platforms and 27 Client PMs.  \$0.866 million base procurement System Engineering cost includes Program Management costs.  (t) indicates the presence of a P-5a		

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 18	<b>P-1 Line Item Number / Title:</b> 9897K49000 / Assured Positioning, Navigation and Timing	<b>Item Number / Title [DODIC]:</b> K49040 / Anti-Jam Antenna A-PNT
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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
Anti-Jam Antenna H/W		2020	TBD / TBD	SS / TBD	TBD	Nov 2020	Feb 2021	184	12.565	N		

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 18	<b>P-1 Line Item Number / Title:</b> 9897K49000 / Assured Positioning, Navigation and Timing	<b>Item Number / Title [DODIC]:</b> K49050 / Pseudolite Capability A-PNT

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	-	-	-	2.000	5.439	7.439
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	-	-	-	2.000	5.439	7.439
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	-	-	-	<b>2.000</b>	<b>5.439</b>	<b>7.439</b>

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

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

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total			
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	
<b>Hardware Cost</b>																			
Recurring Cost																			
Sensor Hardware (A/B Kits) <sup>(1)</sup>	-	-	-	-	-	-	-	-	-	-	-	-	650.000	5	3.250	650.000	5	3.250	
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	0.000	-	-	3.250	-	-	3.250	
Non Recurring Cost																			
System Integration Support for Sensor Hardware	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.250	-	-	0.250	
<i>Subtotal: Non Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	0.000	-	-	0.250	-	-	0.250	
<i>Subtotal: Hardware Cost</i>	-	-	-	-	-	-	-	-	-	-	-	0.000	-	-	3.500	-	-	3.500	
Support - Fielding Cost																			
Fielding	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.500	-	-	0.500	
<i>Subtotal: Support - Fielding Cost</i>	-	-	-	-	-	-	-	-	-	-	-	0.000	-	-	0.500	-	-	0.500	
Support - Initial Spares and Repair Parts Cost																			
Initial Spares and Repair Parts	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.300	-	-	0.300	
<i>Subtotal: Support - Initial Spares and Repair Parts Cost</i>	-	-	-	-	-	-	-	-	-	-	-	0.000	-	-	0.300	-	-	0.300	
Support - Program Management Cost																			
Contractor Management	-	-	-	-	-	-	-	-	-	-	-	-	1.744	-	-	0.841	-	-	2.585

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>												<b>Date:</b> March 2019					
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 18						<b>P-1 Line Item Number / Title:</b> 9897K49000 / Assured Positioning, Navigation and Timing						<b>Item Number / Title [DODIC]:</b> K49050 / Pseudolite Capability A-PNT					
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :												<b>MDAP/MAIS Code:</b>					

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Government Management	-	-	-	-	-	-	-	-	-	-	-	0.256	-	-	0.123	-	-	0.379
<i>Subtotal: Support - Program Management Cost</i>	-	-	-	-	-	-	-	-	-	-	-	<b>2.000</b>	-	-	<b>0.964</b>	-	-	<b>2.964</b>
Support - System Test and Evaluation Cost																		
Test and Evaluation Support	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.125	-	-	0.125
<i>Subtotal: Support - System Test and Evaluation Cost</i>	-	-	-	-	-	-	-	-	-	-	-	<b>0.000</b>	-	-	<b>0.125</b>	-	-	<b>0.125</b>
Support - Training Cost																		
Equipment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.050	-	-	0.050
<i>Subtotal: Support - Training Cost</i>	-	-	-	-	-	-	-	-	-	-	-	<b>0.000</b>	-	-	<b>0.050</b>	-	-	<b>0.050</b>
<b>Gross/Weapon System Cost</b>	-	-	-	-	-	-	-	-	-	-	-	<b>2.000</b>	-	-	<b>5.439</b>	-	-	<b>7.439</b>

**Remarks:**

\$2.000 million base procurement and \$0.964 million OCO procurement for Program Management costs is for the Program Management Office.

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

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 18	<b>P-1 Line Item Number / Title:</b> 9897K49000 / Assured Positioning, Navigation and Timing	<b>Item Number / Title [DODIC]:</b> K49050 / Pseudolite Capability A-PNT
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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
Sensor Hardware (A/B Kits)	✓	2020	TBS / TBD	SS / FFP	TBD	Jan 2020	Sep 2020	5	650.000	N		

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 18: Comm - Satellite Communications	<b>P-1 Line Item Number / Title:</b> 9910BC4002 / SMART-T (SPACE)
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ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	746.178	6.799	19.160	10.515	0.825	11.340	8.620	8.725	4.819	5.125	-	810.766
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	746.178	6.799	19.160	10.515	0.825	11.340	8.620	8.725	4.819	5.125	-	810.766
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>746.178</b>	<b>6.799</b>	<b>19.160</b>	<b>10.515</b>	<b>0.825</b>	<b>11.340</b>	<b>8.620</b>	<b>8.725</b>	<b>4.819</b>	<b>5.125</b>	<b>-</b>	<b>810.766</b>

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

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

**Description:**

The Secure, Mobile, Anti-Jam, Reliable, Tactical-Terminal (SMART-T) funding line supports the Army's Network Modernization Strategy Line of Effort #1, Unified Network.

SMART-T is the Army's only protected satellite terminal that provides worldwide beyond line of sight resilient communication for the current and future tactical communications network. The SMART-T provides a robust anti-jam, protected communications capability enabling uninterrupted voice and data communications against Electronic Warfare (EW) attacks or other contested environments, including nuclear scintillation. SMART-T is the Army's only large throughput satellite capability with low probability of interception and low probability of detection (LPI/LPD) to avoid being targeted for destruction, jamming or eavesdropping. The SMART-T system is integrated onto a High Mobility Multi-Purpose Wheeled Vehicle (HMMWV), operating in a standalone configuration.

New and emerging architectures levied in the Transmission Systems Capabilities Production document (CPD) necessitate a modernization of the SMART-T configuration. This modernization effort focuses on addressing parts obsolescence, while improving system interoperability; upgrading legacy serial connections to Ethernet IP connections, and implementation of adaptive algorithms which facilitate more efficient use of satellite bandwidth, ensuring improved throughput. Transmission CPD enhancements will include Ethernet Internet Protocol (IP) upgrades to improve system interoperability with Army's tactical network, and adaptive algorithms which adjust code rates based on measured link performance for Ethernet Repeater networks.

SMART-T terminals use the Advanced Extremely High Frequency (AEHF) satellite constellation, providing the US Army with our highest level of protected communications. Additionally, SMART-T provides fully interoperable communications with the AEHF and MILSTAR terminals of other services (Air Force, Navy, Marine Corps and other DoD agencies and activities). SMART-T is designated as a DoD Space Program.

The Approved Acquisition Objective (AAO) is 324 terminals plus 14 terminals procured for the DoD Special Users; Army Procurement Objective (APO) is 278.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	-	-	-	-	-	-	-	-
	Total Obligation Authority	5.047	12.160	9.765	0.825	10.590	8.460	6.369	2.039
ANG	Quantity	-	-	-	-	-	-	-	-



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<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2020 Army							<b>Date:</b> March 2019			
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 18: Comm - Satellite Communications					<b>P-1 Line Item Number / Title:</b> 9910BC4002 / SMART-T (SPACE)					
<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A			<b>Program Elements for Code B Items:</b> N/A			<b>Other Related Program Elements:</b> N/A				
<b>Line Item MDAP/MAIS Code:</b> N/A										

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
	Total Obligation Authority	1.502	6.000	0.750	-	0.750	0.080	1.963	2.780	2.920
AR	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	0.250	1.000	-	-	-	0.080	0.393	-	0.118
<b>Total:</b>	<b>Quantity</b>	-	-	-	-	-	-	-	-	-
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>6.799</b>	<b>19.160</b>	<b>10.515</b>	<b>0.825</b>	<b>11.340</b>	<b>8.620</b>	<b>8.725</b>	<b>4.819</b>	<b>5.125</b>

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<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 18: Comm - Satellite Communications		<b>P-1 Line Item Number / Title:</b> 9910BC4002 / SMART-T (SPACE)

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

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	BC4002 / SMART-T (SPACE)		A		- / 746.178	- / 6.799	- / 19.160	- / 10.515	- / 0.825	- / 11.340
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 746.178</b>	<b>- / 6.799</b>	<b>- / 19.160</b>	<b>- / 10.515</b>	<b>- / 0.825</b>	<b>- / 11.340</b>

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

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

**Justification:**

FY 2020 Base procurement dollars in the amount of \$10.515 million will be used to support System Software Upgrades at the schoolhouse (\$3.5 million), completion of non-recurring engineering (NRE) efforts for Ethernet Internet Protocol (IP) upgrades (\$1.08M), Systems Engineering support (\$1.5 million), and to begin Total Package Fielding (TPF) to SMART-T systems (\$2.75 million). Program Management (\$1.2 million) consists of Systems Engineering focused on development of a terminal intended to augment SMART-T capabilities, Acquisition Logistics Performance Scorecard (ALPS) Training Base support, and Travel; System Test & Evaluation (\$.485 million) is for two SatSim Terminals leased annually from MIT/Lincoln Labs; terminals are used for development, testing, and training efforts by the Program Office, Prime Contractor, and Software Engineering Center.

FY20 OCO dollars in the amount of \$.825 million is to support and field upgrades to systems deployed in support of the European Deterrence Initiative.

TPF includes performing a System Health Check prior to implementation of upgrades which ensure access to greater than five satellite communications capability (in conjunction with Air Force launch of more Advanced Extremely High Frequency (AEHF) satellites), and Ethernet IP upgrades, when they become available in FY22. TPF also includes robust AEHF system training, necessary due to increase in usage caused by increasing electronic warfare threats, and upgrades to Schoolhouse System Software to enable web-based on-line training. This is a modernization of existing systems; no new quantities will be procured.

SMART-T effectively transitioned to Sustainment under CECOM ILSC in 2QFY18; the Program Office continues Life Cycle Management. However, we continue to modernize terminals with Ethernet Internet Protocol (IP) upgrades.

In October 2018, a critical protected communications gap was identified. This gap is caused by the realized denigration of the 23-year old SMART-T AEHF terminal and the future availability of the Air Force's Protected Tactical Satellite (PTS), the next generation constellation supporting protected communications, replacing AEHF in FY2032. If a new protected terminal is not ready for deployment by end of FY2025, the field will begin to experience significantly degraded anti-jam SATCOM capability across the Army, allowing the enemy the ability to cause potentially catastrophic loss of situational awareness and command and control during critical battle movement.

In FY2020, delta development of an industry-based prototype will begin under the Protected SATCOM line (1203142A). The new terminal will augment existing capability, with the intent to backfill decreasing SMART-T numbers post FY2025, ensuring the Army's ability to meet increasing Electronic Warfare threat requirements. It will provide AEHF protected SATCOM capability in a modular, more transportable, vehicle agnostic form factor, providing greater flexibility on the battlefield; the terminal will be built with the intent to migrate from the AEHF constellation to the PTS constellation.

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

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 18	<b>P-1 Line Item Number / Title:</b> 9910BC4002 / SMART-T (SPACE)	<b>Item Number / Title [DODIC]:</b> BC4002 / SMART-T (SPACE)

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A	<b>MDAP/MAIS Code:</b>
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Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	746.178	6.799	19.160	10.515	0.825	11.340
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	746.178	6.799	19.160	10.515	0.825	11.340
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>746.178</b>	<b>6.799</b>	<b>19.160</b>	<b>10.515</b>	<b>0.825</b>	<b>11.340</b>

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

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

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
<b>Flyaway Cost</b>																		
Recurring Cost																		
EHF SMART-T Terminal Cost	888.198	247	219.385	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
AEHF Upgrade Mod Kits	637.085	247	157.360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
AEHF SMART-T Terminal Cost	1,769.667	39	69.017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Obsolescence	-	-	3.915	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Modularity/Army National Guard	-	-	4.400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Transition to Sustainment	-	-	3.417	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	<b>457.494</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Non Recurring Cost																		
Ethernet Repeater Solution	-	-	-	-	-	1.802	-	-	10.357	-	-	1.081	-	-	-	-	-	1.081
Schoolhouse Training System Upgrades	-	-	-	-	-	-	-	-	-	-	-	3.500	-	-	-	-	-	3.500
<i>Subtotal: Non Recurring Cost</i>	-	-	-	-	-	<b>1.802</b>	-	-	<b>10.357</b>	-	-	<b>4.581</b>	-	-	-	-	-	<b>4.581</b>
<b>Subtotal: Flyaway Cost</b>	-	-	<b>457.494</b>	-	-	<b>1.802</b>	-	-	<b>10.357</b>	-	-	<b>4.581</b>	-	-	-	-	-	<b>4.581</b>
<b>Software Cost</b>																		
Non Recurring Cost																		

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 18	<b>P-1 Line Item Number / Title:</b> 9910BC4002 / SMART-T (SPACE)	<b>Item Number / Title [DODIC]:</b> BC4002 / SMART-T (SPACE)

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Software Upgrades for SV6 and Beyond	-	-	-	-	-	-	-	-	2.000	-	-	-	-	-	-	-	-	-
<i>Subtotal: Non Recurring Cost</i>	-	-	-	-	-	-	-	-	2.000	-	-	-	-	-	-	-	-	-
<i>Subtotal: Software Cost</i>	-	-	-	-	-	-	-	-	2.000	-	-	-	-	-	-	-	-	-
<b>Support - Data Cost</b>																		
Management Data	-	-	1.833	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - Data Cost</i>	-	-	1.833	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Support - Fielding Cost</b>																		
Fielding	-	-	56.707	-	-	0.843	-	-	3.227	-	-	2.751	-	-	0.825	-	-	3.576
<i>Subtotal: Support - Fielding Cost</i>	-	-	56.707	-	-	0.843	-	-	3.227	-	-	2.751	-	-	0.825	-	-	3.576
<b>Support - Government Furnished Materials Cost</b>																		
Government Furnished Materials	-	-	49.173	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - Government Furnished Materials Cost</i>	-	-	49.173	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Support - Program Management Cost</b>																		
Government Management	-	-	83.137	-	-	1.121	-	-	1.327	-	-	1.195	-	-	-	-	-	1.195
<i>Subtotal: Support - Program Management Cost</i>	-	-	83.137	-	-	1.121	-	-	1.327	-	-	1.195	-	-	-	-	-	1.195
<b>Support - System Engineering Cost</b>																		
System Engineering	-	-	66.989	-	-	2.633	-	-	1.769	-	-	1.503	-	-	-	-	-	1.503
<i>Subtotal: Support - System Engineering Cost</i>	-	-	66.989	-	-	2.633	-	-	1.769	-	-	1.503	-	-	-	-	-	1.503
<b>Support - System Test and Evaluation Cost</b>																		
Operational Test and Evaluation	-	-	30.845	-	-	0.400	-	-	0.480	-	-	0.485	-	-	-	-	-	0.485
<i>Subtotal: Support - System Test and Evaluation Cost</i>	-	-	30.845	-	-	0.400	-	-	0.480	-	-	0.485	-	-	-	-	-	0.485
<b>Gross/Weapon System Cost</b>	-	-	746.178	-	-	6.799	-	-	19.160	-	-	10.515	-	-	0.825	-	-	11.340

**Remarks:**

FY20 Fielding (\$3.58M) includes \$2.75M to begin Total Package Fielding (TPF) efforts for Ethernet IP upgrades, and includes \$.825M OCO to support upgrades to systems deployed in support of the European Deterrence Initiative.

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 18	<b>P-1 Line Item Number / Title:</b> 9910BC4002 / SMART-T (SPACE)	<b>Item Number / Title [DODIC]:</b> BC4002 / SMART-T (SPACE)
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**ID Code** (A=Service Ready, B=Not Service Ready) : A **MDAP/MAIS Code:**

FY20 Schoolhouse Training System Upgrades includes \$3.5M to begin upgrading Computer Based Training System Software to enable web-based on-line training.  
 FY20 Systems Engineering of \$1.5M is for non-recurring engineering (NRE) efforts in preparation of Total Package Fielding (TPF).  
 FY20 Program Management Cost of \$1.2M is for Systems Engineering support (focused on development of augmented SMART-T capability), ALPS Training Base support, TDY, and government management.  
 FY20 Ethernet Repeater Solutions is \$1.08M for completion of NRE for Ethernet IP upgrades.  
 FY20 System Test & Evaluation includes \$.485M to fund two SatSim Terminals leased annually from MIT/Lincoln Labs.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	-	-	-	-	-
	Total Obligation Authority	5.047	12.160	9.765	0.825	10.590
ANG	Quantity	-	-	-	-	-
	Total Obligation Authority	1.502	6.000	0.750	-	0.750
AR	Quantity	-	-	-	-	-
	Total Obligation Authority	0.250	1.000	-	-	-
<b>Total:</b>	<b>Quantity</b>	-	-	-	-	-
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>6.799</b>	<b>19.160</b>	<b>10.515</b>	<b>0.825</b>	<b>11.340</b>

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 18: Comm - Satellite Communications	<b>P-1 Line Item Number / Title:</b> 9915BC4120 / Global Brdcst Svc - GBS
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ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	303.977	5.665	19.472	11.800	-	11.800	8.200	-	-	-	-	349.114
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	303.977	5.665	19.472	11.800	-	11.800	8.200	-	-	-	-	349.114
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>303.977</b>	<b>5.665</b>	<b>19.472</b>	<b>11.800</b>	<b>-</b>	<b>11.800</b>	<b>8.200</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>349.114</b>

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

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	-	35.406	129.813	-	-	-	-	-	-	-	-	1,126.174

**Description:**

The Global Broadcast Service (GBS) funding line supports the Army Network Modernization Strategy Line of Effort #1, Unified Network.

Global Broadcast Service (GBS) provides high-speed broadcast to receive only terminals of large-volume data and multimedia products including Unmanned Aerial Vehicles (UAV) and commercial video, imagery, intelligence, map data, weather, and biometric data. GBS is also used to deliver security and system software updates to other terminals in the Army Tactical Network by offloading of the Command and Control (C2) MILSATCOM bandwidth, reducing oversubscription on the Wideband Global SATCOM (WGS) constellation, providing deployed tactical operations centers (TOCs) and garrisoned forces worldwide greater bandwidth for two-way C2 traffic. The GBS system is being upgraded for increased cyber security.

GBS is a Joint Program and is designated as a Department of Defense Space System. The Air Force (USAF) is designated as the executive service for this Acquisition Category (ACAT) IC program. The Army GBS program is designated ACAT III. The Army supports the Joint Program Office (JPO) for the development and procurement of the Transportable Ground Receive Suite (TGRS). The TGRS consists of a Receive Broadcast Manager (RBM) and very-small-aperture satellite antenna. The TGRS is fielded to Battalion, Brigade Combat Teams, Divisions, Corps and Theater level units in Active, National Guard, and Reserve components.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	-	-	-	-	-	-	-	-
	Total Obligation Authority	2.000	12.141	7.800	-	7.800	5.200	-	-
ANG	Quantity	-	-	-	-	-	-	-	-
	Total Obligation Authority	2.665	4.582	3.000	-	3.000	2.000	-	-
AR	Quantity	-	-	-	-	-	-	-	-
	Total Obligation Authority	1.000	2.749	1.000	-	1.000	1.000	-	-
<b>Total:</b>	<b>Quantity</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 18: Comm - Satellite Communications	<b>P-1 Line Item Number / Title:</b> 9915BC4120 / Global Brdcst Svc - GBS
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Secondary Distribution	Total Obligation Authority	5.665	19.472	11.800	-	11.800	8.200	-	-	-

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**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 18: Comm - Satellite Communications	<b>P-1 Line Item Number / Title:</b> 9915BC4120 / Global Brdcst Svc - GBS
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ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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**Line Item MDAP/MAIS Code:** N/A

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	BC4120 / Global Brdcst Svc - GBS	P-5a	A		- / 303.977	- / 5.665	- / 19.472	- / 11.800	- / -	- / 11.800
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 303.977</b>	<b>- / 5.665</b>	<b>- / 19.472</b>	<b>- / 11.800</b>	<b>- / -</b>	<b>- / 11.800</b>

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

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

**Justification:**  
 FY 2020 Base funds in the amount of \$11.800M will be used to procure 26 AN/TSR-11s and field 75 AN/TSR-11s. Additionally, the program will continue to convert 279 previously fielded AN/TSR-8s to AN/TSR-11s.

Transportable Ground Receiver Suite (TGRS) unit costs increase from FY 2019 to FY 2020 as the result of reduced procurement thus not able to realize quantity price break.

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



**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>					<b>Date:</b> March 2019				
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 18			<b>P-1 Line Item Number / Title:</b> 9915BC4120 / Global Brdcst Svc - GBS			<b>Item Number / Title [DODIC]:</b> BC4120 / Global Brdcst Svc - GBS			
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A					<b>MDAP/MAIS Code:</b>				
<b>Resource Summary</b>			<b>Prior Years</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>	
Procurement Quantity (Units in Each)			-	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)			303.977	5.665	19.472	11.800	-	-	11.800
Less PY Advance Procurement (\$ in Millions)			-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)			303.977	5.665	19.472	11.800	-	-	11.800
Plus CY Advance Procurement (\$ in Millions)			-	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>			<b>303.977</b>	<b>5.665</b>	<b>19.472</b>	<b>11.800</b>	<b>-</b>	<b>-</b>	<b>11.800</b>
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>									
Initial Spares (\$ in Millions)			-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)			-	35.406	129.813	-	-	-	-

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Flyaway Cost																		
Recurring Cost																		
Tech Refresh (Laptops)	-	-	-	4.000	150	0.600	4.000	1,051	4.204	4.000	757	3.028	-	-	-	4.000	757	3.028
Other	-	-	9.441	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Transportable Grnd Rec Suite (AN/TSR-8)	139.508	710	99.051	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Joint IP Modem (JIPM) Upgrd Kit AN/TSR-8	27.156	979	26.586	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trans Grnd Rec Suite TGRS-11 For Testing	85.000	4	0.340	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Transportable Ground Receive Suite (TGRS) <sup>(†)</sup>	55.216	365	20.154	-	-	-	116.000	85	9.860	154.000	26	4.004	-	-	-	154.000	26	4.004
GFE	-	-	9.664	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TSBM JIPM Mini Hub	5,600.000	1	5.600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Theater Satellite Broadcast Mngr (TSBM)	3,380.000	3	10.140	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SHF Terminal (replaces TTI RF head)	2,218.000	2	4.436	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SHF Terminal GFE/Fielding/Training	-	-	1.027	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	<i>-</i>	<i>-</i>	<i>186.438</i>	<i>-</i>	<i>-</i>	<i>0.600</i>	<i>-</i>	<i>-</i>	<i>14.064</i>	<i>-</i>	<i>-</i>	<i>7.032</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>7.032</i>

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>													<b>Date:</b> March 2019					
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 18						<b>P-1 Line Item Number / Title:</b> 9915BC4120 / Global Brdcst Svc - GBS						<b>Item Number / Title [DODIC]:</b> BC4120 / Global Brdcst Svc - GBS						
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A									<b>MDAP/MAIS Code:</b>									
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
<b>Non Recurring Cost</b>																		
Test	-	-	6.776	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Non Recurring Cost</i>	-	-	6.776	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Flyaway Cost</i>	-	-	193.214	-	-	0.600	-	-	14.064	-	-	7.032	-	-	-	-	-	7.032
<b>Software Cost</b>																		
<b>Recurring Cost</b>																		
Software Procurement	-	-	-	-	-	-	7.000	85	0.595	7.000	26	0.182	-	-	-	7.000	26	0.182
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	0.595	-	-	0.182	-	-	-	-	-	0.182
<i>Subtotal: Software Cost</i>	-	-	-	-	-	-	-	-	0.595	-	-	0.182	-	-	-	-	-	0.182
<b>Support - Acceptance Testing Cost</b>																		
Acceptance Test	-	-	20.475	-	-	1.079	-	-	1.429	-	-	1.167	-	-	-	-	-	1.167
<i>Subtotal: Support - Acceptance Testing Cost</i>	-	-	20.475	-	-	1.079	-	-	1.429	-	-	1.167	-	-	-	-	-	1.167
<b>Support - Fielding Cost</b>																		
Fielding	-	-	49.117	-	-	2.589	-	-	2.592	-	-	2.650	-	-	-	-	-	2.650
<i>Subtotal: Support - Fielding Cost</i>	-	-	49.117	-	-	2.589	-	-	2.592	-	-	2.650	-	-	-	-	-	2.650
<b>Support - Operational/Site Activation Cost</b>																		
Sustainment/Interim Contractor Support	-	-	26.371	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - Operational/Site Activation Cost</i>	-	-	26.371	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Support - Program Management Cost</b>																		
Government Management	-	-	14.799	-	-	0.739	-	-	0.792	-	-	0.769	-	-	-	-	-	0.769
<i>Subtotal: Support - Program Management Cost</i>	-	-	14.799	-	-	0.739	-	-	0.792	-	-	0.769	-	-	-	-	-	0.769
<b>Support - System Engineering Cost</b>																		
System Engineering	-	-	-	-	-	0.658	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - System Engineering Cost</i>	-	-	-	-	-	0.658	-	-	-	-	-	-	-	-	-	-	-	-
<b>Gross/Weapon System Cost</b>	-	-	303.977	35.406	-	5.665	129.813	-	19.472	-	-	11.800	-	-	-	-	-	11.800

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 18	<b>P-1 Line Item Number / Title:</b> 9915BC4120 / Global Brdcst Svc - GBS	<b>Item Number / Title [DODIC]:</b> BC4120 / Global Brdcst Svc - GBS
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**ID Code** (A=Service Ready, B=Not Service Ready) : A **MDAP/MAIS Code:**

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	-	-	-	-	-
	Total Obligation Authority	2.000	12.141	7.800	-	7.800
ANG	Quantity	-	-	-	-	-
	Total Obligation Authority	2.665	4.582	3.000	-	3.000
AR	Quantity	-	-	-	-	-
	Total Obligation Authority	1.000	2.749	1.000	-	1.000
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	-	-	-	-	-
	<b>Total Obligation Authority</b>	<b>5.665</b>	<b>19.472</b>	<b>11.800</b>	-	<b>11.800</b>

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

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<b>Exhibit P-5a, Procurement History and Planning:</b> PB 2020 Army							<b>Date:</b> March 2019					
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 18			<b>P-1 Line Item Number / Title:</b> 9915BC4120 / Global Brdcst Svc - GBS				<b>Item Number / Title [DODIC]:</b> BC4120 / Global Brdcst Svc - GBS					
<b>Cost Elements</b>	<b>O C O</b>	<b>FY</b>	<b>Contractor and Location</b>	<b>Method/Type or Funding Vehicle</b>	<b>Location of PCO</b>	<b>Award Date</b>	<b>Date of First Delivery</b>	<b>Qty (Each)</b>	<b>Unit Cost (\$ K)</b>	<b>Specs Avail Now?</b>	<b>Date Revision Available</b>	<b>RFP Issue Date</b>
Transportable Ground Receive Suite (TGRS)		2019	TBD / TBD	C / FFP	Colorado Springs, Colorado	Mar 2019	Apr 2019	85	116.000	N		

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 18: Comm - Satellite Communications	<b>P-1 Line Item Number / Title:</b> 9922B08400 / ENROUTE MISSION COMMAND (EMC)
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	107.116	21.067	37.401	8.609	-	8.609	-	-	-	-	-	174.193
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	107.116	21.067	37.401	8.609	-	8.609	-	-	-	-	-	174.193
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>107.116</b>	<b>21.067</b>	<b>37.401</b>	<b>8.609</b>	<b>-</b>	<b>8.609</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>174.193</b>

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

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

**Description:**

Enroute Mission Command (EMC) supports the Army's Network Modernization Strategy Line of Effort (LOE) 1 - Unified Network.

EMC supports the Global Response Force (GRF) requirement to conduct Airborne forcible entry operations with the ability to conduct mission command, to include mission planning and rehearsal, while enroute on board US Air Force Air Mobility Command (AMC) aircraft. EMC modernizes enroute communications to enable broadband reach-back data capability utilizing military or commercial networks with adequate bandwidth to support required Mission Command and Intelligence applications.

The enduring requirement for EMC is documented in the Transmission Systems Capabilities Production Document (CPD), which was Joint Requirements Oversight Council (JROC) approved 18 Dec 2014.

**UNCLASSIFIED**

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

**Appropriation / Budget Activity / Budget Sub Activity:**  
 2035A: Other Procurement, Army / BA 02: Communications and Electronics  
 Equipment / BSA 18: Comm - Satellite Communications

**P-1 Line Item Number / Title:**  
 9922B08400 / ENROUTE MISSION COMMAND (EMC)

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

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

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	B00015 / Enroute Mission Command (EMC)				- / 107.116	- / 21.067	- / 37.401	- / 8.609	- / -	- / 8.609
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 107.116</b>	<b>- / 21.067</b>	<b>- / 37.401</b>	<b>- / 8.609</b>	<b>- / -</b>	<b>- / 8.609</b>

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

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

**Justification:**  
 FY 2020 Base dollars in the amount of \$8.609 million procures two (2) Ka Fixed Satellite Antenna (FISA) Modification Work Order (MWO) hardware, fielding, spares, training, bandwidth, software and program office support. In FY 2020 the program completes the procurement of 100% of the Ka MWO to upgrade the existing Ku FISA fleet of 35 C-17 aircraft.

The Ka MWO will enable access to a faster, more reliable and robust network. The Ka satellite service increases the coverage map providing true worldwide coverage instead of regional coverage. Ka will provide a guaranteed data rate and up to 4 times higher throughput which will better enable mission command and simultaneous use of more data-intensive services that commanders can use such as UAV video streaming for greater situational awareness of the drop zone. Market research indicates multiple DoD stakeholders can collectively achieve price breaks and lower future bandwidth costs by up to 20-30% over Ku. This MWO, in conjunction with other DoD stakeholders' efforts, will provide a larger available pool of aircraft available for the Army and others to utilize decreasing maintenance downtime or unavailability of aircraft.

Operational Needs Statement (ONS) 09-9319 was revalidated by the HQDA G-3 on 5 Nov 2014 to support fielding of the objective capability, which will support a full brigade lift of the Alpha echelon for a forced entry operation. (ONS) 09-9319 was validated by HQDA G3 in 5 Mar 2013. \$21.275 million was provided in September 2013 via an Above Threshold Reprogramming (ATR) on SSN BB8417 Modification of In-Service Equipment (TACSAT) in support of that ONS to provide an initial capability.

Full Operational Capability (FOC) for Ku satellite band was met in Sep 2017. Commensurate with rephasing of FY2017 OPA funding into FY2018/2019, program was restructured in Dec 2015. MDA addressed schedule issues (Oct 2016) by authorizing to field a Ku SATCOM band FISA Full Operational Capability (FOC) (4QFY17) and complete a Modification Word Order (MWO), adding Ka SATCOM band FISA capability, post Ku FISA FOC.

Initial Operational Capability was met in May 2015 with modification of five C-17s with satellite antennae and installation kits, and roll-on/roll-off, battalion level, Key Leader Enroute Node (KEN). FOC is 35 Ku FISA equipped C-17s, eight KENs, 24 company level Dependent Airborne Nodes (DAN), and a Command and Staff Palletized Airborne Node (CASPAN) airborne command post suite.

The enduring requirement for EMC is documented in the Transmission Systems Capabilities Production Document (CPD), DAMO, CIC 30 January 2015.

No EMC quantities are shown on the P-5 due to only procuring Modification Work Orders (MWO) in FY2018-20. No end items are procured.

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

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 18	<b>P-1 Line Item Number / Title:</b> 9922B08400 / ENROUTE MISSION COMMAND (EMC)	<b>Item Number / Title [DODIC]:</b> B00015 / Enroute Mission Command (EMC)

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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<b>Resource Summary</b>	<b>Prior Years</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Procurement Quantity (Units in Each)	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	107.116	21.067	37.401	8.609	-	8.609
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	107.116	21.067	37.401	8.609	-	8.609
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>107.116</b>	<b>21.067</b>	<b>37.401</b>	<b>8.609</b>	<b>-</b>	<b>8.609</b>

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

Initial Spares (\$ in Millions)	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	-	2,106.700	1,496.040	-	-	-

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Flyaway Cost																		
Recurring Cost																		
Non Recurring Engineering (NRE)	-	-	6.127	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
KuKa Fixed Installed Satellite Antenna (FISA)	-	-	18.820	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ku Fixed Installed Satellite Antenna (FISA)	837.000	30	25.110	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Key Leader En Route Node (KEN)	784.000	8	6.272	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dependent Airborne Node (DAN)	133.000	24	3.192	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MWO FISA (Ka)	-	-	0.455	-	-	11.913	-	-	26.743	-	-	2.042	-	-	-	-	-	2.042
MWO KEN (Ka)	-	-	-	-	-	4.260	-	-	2.029	-	-	-	-	-	-	-	-	-
Fielding/FSR	-	-	1.665	-	-	0.352	-	-	1.224	-	-	1.055	-	-	-	-	-	1.055
Spares	-	-	5.690	-	-	-	-	-	0.927	-	-	0.097	-	-	-	-	-	0.097
Training/Bandwidth	-	-	7.032	-	-	0.524	-	-	2.532	-	-	2.246	-	-	-	-	-	2.246
PDSS	-	-	6.447	-	-	1.305	-	-	1.179	-	-	0.983	-	-	-	-	-	0.983
Additional Hardware (Screens and Marquees)	-	-	20.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Subtotal: Recurring Cost</b>	<b>-</b>	<b>-</b>	<b>100.810</b>	<b>-</b>	<b>-</b>	<b>18.354</b>	<b>-</b>	<b>-</b>	<b>34.634</b>	<b>-</b>	<b>-</b>	<b>6.423</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>6.423</b>

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 18	<b>P-1 Line Item Number / Title:</b> 9922B08400 / ENROUTE MISSION COMMAND (EMC)	<b>Item Number / Title [DODIC]:</b> B00015 / Enroute Mission Command (EMC)
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :		<b>MDAP/MAIS Code:</b>

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
<i>Subtotal: Flyaway Cost</i>	-	-	<b>100.810</b>	-	-	<b>18.354</b>	-	-	<b>34.634</b>	-	-	<b>6.423</b>	-	-	-	-	-	<b>6.423</b>
<b>Checkout and Launch Cost</b>																		
Government Management	-	-	2.585	-	-	1.911	-	-	1.950	-	-	1.354	-	-	-	-	-	1.354
Contractor Management	-	-	3.721	-	-	0.802	-	-	0.817	-	-	0.832	-	-	-	-	-	0.832
<i>Subtotal: Checkout and Launch Cost</i>	-	-	<b>6.306</b>	-	-	<b>2.713</b>	-	-	<b>2.767</b>	-	-	<b>2.186</b>	-	-	-	-	-	<b>2.186</b>
<b>Gross/Weapon System Cost</b>	-	-	<b>107.116</b>	<b>2,106.700</b>	-	<b>21.067</b>	<b>1,496.040</b>	-	<b>37.401</b>	-	-	<b>8.609</b>	-	-	-	-	-	<b>8.609</b>



**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 18: Comm - Satellite Communications	<b>P-1 Line Item Number / Title:</b> 9923B09900 / Spectrum Microwave
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	6.346	5.147	-	-	-	-	-	-	-	-	-	11.493
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	6.346	5.147	-	-	-	-	-	-	-	-	-	11.493
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>6.346</b>	<b>5.147</b>	-	-	-	-	-	-	-	-	-	<b>11.493</b>

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

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

**Description:**

The 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 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	-	-	-	-	-	-	-	-
	Total Obligation Authority	5.147	-	-	-	-	-	-	-
<b>Total:</b> Secondary Distribution	Quantity	-	-	-	-	-	-	-	-
	Total Obligation Authority	<b>5.147</b>	-	-	-	-	-	-	-

**Justification:**  
Spectrum Microwave efforts transition all Army activities out of 1755 MHz and 1780-1850 MHz band and relocates the activities microwave links to 7/8 GHz to facilitate compression of other systems into 1780-1850 MHz bands.

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 20: Comm - Combat Support Comm	<b>P-1 Line Item Number / Title:</b> 0207K27910 / Mod-In-Service Profiler
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	1.902	0.070	-	-	-	-	-	-	-	-	-	1.972
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	1.902	0.070	-	-	-	-	-	-	-	-	-	1.972
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>1.902</b>	<b>0.070</b>	-	-	-	-	-	-	-	-	-	<b>1.972</b>

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

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

**Description:**

The Profiler Virtual Module (PVM) provides meteorological (MET) data that includes wind speed, wind direction, temperature, barometric pressure, and humidity information required for use in the Advanced Field Artillery Tactical Data System (AFATDS). The information is necessary for precise targeting and terminal guidance to Field Artillery assets with PVM improving the accuracy of predictive fires solutions and allows for first round effects on target and reduces the risk of fratricide. This capability increases the lethality of indirect fire systems such as the rocket launchers, self-propelled or towed howitzers, and mortars.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	0.070	-	-	-	-	-	-	-	-
<b>Total:</b>									
<b>Secondary Distribution</b>									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	0.070	-	-	-	-	-	-	-	-

**Justification:**

Program has no FY 2020 funding due to transition to sustainment.

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 24: Comm - C3 System	<b>P-1 Line Item Number / Title:</b> 8148BA8250 / Army Global Cmd & Control Sys (AGCCS)
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> 0303150A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	411.137	2.658	-	-	-	-	-	-	-	-	-	413.795
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	411.137	2.658	-	-	-	-	-	-	-	-	-	413.795
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>411.137</b>	<b>2.658</b>	-	-	-	-	-	-	-	-	-	<b>413.795</b>

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

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

**Description:**

Global Command and Control System-Army (GCCS-A): This project is the Army component of the Global Command and Control System (GCCS) Family of Systems (FoS). GCCS-A provides automated command and control tools, including Force readiness, planning and movement, and situational awareness, for Army Strategic and Operational Theater commanders to enhance warfighter capabilities throughout the spectrum of conflict during Joint and combined operations in support of National Security. GCCS-A dramatically improves the Army's ability to analyze courses of action, develop and manage Army forces and execute war plans. GCCS-A links the GCCS-Joint Common Operating Picture with the Army Mission Command systems. In accordance with Army Command Post Computing Environment and Joint Command and Control objectives, GCCS-A is being re-architected away from a scalable process architecture based server - thick client architecture to a virtualized server - web client architecture hosted on Battle Command Common Services / Tactical Server Infrastructure.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	2.658	-	-	-	-	-	-	-	-
<b>Total:</b>									
<b>Secondary Distribution</b>									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	2.658	-	-	-	-	-	-	-	-

**Justification:**

No funding is being requested for this line past FY18, as GCCS-A will be transitioning into sustainment in FY19.

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

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 24: Comm - C3 System	<b>P-1 Line Item Number / Title:</b> 8151B70000 / COE Tactical Server Infrastructure (TSI)
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> 0604818A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	-	-	20.500	77.533	-	77.533	94.972	97.150	116.234	104.616	Continuing	Continuing
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	-	-	20.500	77.533	-	77.533	94.972	97.150	116.234	104.616	Continuing	Continuing
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	-	-	<b>20.500</b>	<b>77.533</b>	-	<b>77.533</b>	<b>94.972</b>	<b>97.150</b>	<b>116.234</b>	<b>104.616</b>	<b>Continuing</b>	<b>Continuing</b>

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

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	-	-	47.018	103.102	-	103.102	110.690	109.280	128.294	128.837	Continuing	Continuing

**Description:**

The Common Operating Environment (COE) Tactical Server Infrastructure (TSI) program supports the Army Network Modernization Strategy Line of Effort 2: Common Operating Environment.

COE TSI will provide the hardware infrastructure to host capabilities such as the command post software infrastructure, movement and maneuver applications, tactical Defensive Cyber Operations (DCO) infrastructure tools and warfighting function applications. TSI infrastructure will standardize server configurations using Commercial-off-the-shelf (COTS) hardware and software. The TSI hardware will come in two hardware configurations: a TSI Large server that provides a reduced Size, Weight and Power (SWAP) than the currently fielded servers that will support Brigade and higher formations, and a TSI Small server that will support Battalion level and higher formations for disaster/early entry operations. TSI is intended to provide a common hosting platform for both mission command and intelligence systems and will extend to support the migration of future warfighting capabilities as well as future technological advances in computing.

This line also supports the Army Network Modernization Strategy Line of Effort 1B: Network Enabling Functions (CYBER).

Tactical DCO Infrastructure (TDI) is a tactical system (computing infrastructure) which resides within the Command Post, at Brigade through Corps, for both organic Cyber Network Defenders as well as remote access by Cyber Protection Teams (CPT) through the Local Area Network (LAN) to support defense of the Network (PEO C3T). The hardware and software capabilities enable Army Cyber defense forces to protect, search and discover, maneuver and engage, and mitigate and respond to enemy cyberspace operations. TDI will reside on TSI hardware.

	Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	-	9.220	57.351	-	57.351	74.790	76.728	90.234	85.616
ANG	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	-	7.191	12.573	-	12.573	12.573	12.573	15.000	13.000
AR	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	-	4.089	7.609	-	7.609	7.609	7.849	11.000	6.000
<b>Total:</b>	<b>Quantity</b>	-	-	-	-	-	-	-	-	-

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 24: Comm - C3 System	<b>P-1 Line Item Number / Title:</b> 8151B70000 / COE Tactical Server Infrastructure (TSI)
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> 0604818A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Secondary Distribution	Total Obligation Authority	-	20.500	77.533	-	77.533	94.972	97.150	116.234	104.616

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**UNCLASSIFIED**

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

**Appropriation / Budget Activity / Budget Sub Activity:**  
 2035A: Other Procurement, Army / BA 02: Communications and Electronics  
 Equipment / BSA 24: Comm - C3 System

**P-1 Line Item Number / Title:**  
 8151B70000 / COE Tactical Server Infrastructure (TSI)

**ID Code** (A=Service Ready, B=Not Service Ready): **Program Elements for Code B Items:** 0604818A **Other Related Program Elements:** N/A

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

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	B70005 / Tactical Server Infrastructure (TSI)	P-5a			- / -	- / -	- / 20.500	- / 77.533	- / -	- / 77.533
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				- / -	- / -	- / 20.500	- / 77.533	- / -	- / 77.533

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

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

**Justification:**  
 FY 2020 Base procurement funding of \$77.533 million supports the purchase of 205 TSI Large servers and 550 TSI Small servers to host Command Post Computing Environment (CPCE) core infrastructure software and warfighting function applications. Funding also procures TSI server software necessary for server operation, including Operating System software, virtual machine configuration software, firewall software, password management software and integration of TDI into TSI. Funding supports fielding and New Equipment Training (NET) of the hardware and software that brings the command and control, situational awareness, and executive decision making capabilities to the Warfighter. Requirements for the TSI are established in the AROC approved COE Information Systems Initial Capability Document (IS ICD) and the draft TSI Requirements Definition Package (RDP).

The TSI Basis of Issue Plan (BOIP) is currently in review; the quantities on the P-5 form represent the latest estimate.

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

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 24	<b>P-1 Line Item Number / Title:</b> 8151B70000 / COE Tactical Server Infrastructure (TSI)	<b>Item Number / Title [DODIC]:</b> B70005 / Tactical Server Infrastructure (TSI)

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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<b>Resource Summary</b>	<b>Prior Years</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Procurement Quantity (Units in Each)	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	-	-	20.500	77.533	-	77.533
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	-	-	20.500	77.533	-	77.533
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	-	-	<b>20.500</b>	<b>77.533</b>	-	<b>77.533</b>

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

Initial Spares (\$ in Millions)	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	-	-	47.018	103.102	-	103.102

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

<b>Cost Elements</b>	<b>Prior Years</b>			<b>FY 2018</b>			<b>FY 2019</b>			<b>FY 2020 Base</b>			<b>FY 2020 OCO</b>			<b>FY 2020 Total</b>		
	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>
<b>Hardware Cost</b>																		
Recurring Cost																		
Hardware TSI Large Server <sup>(f)</sup>	-	-	-	-	-	-	-	-	-	122.000	205	25.010	-	-	-	122.000	205	25.010
Hardware TSI Small Server (Laptop) <sup>(f)</sup>	-	-	-	-	-	-	10.000	116	1.160	10.000	550	5.500	-	-	-	10.000	550	5.500
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	1.160	-	-	30.510	-	-	-	-	-	30.510
<i>Subtotal: Hardware Cost</i>	-	-	-	-	-	-	-	-	1.160	-	-	30.510	-	-	-	-	-	30.510
<b>Software Cost</b>																		
Recurring Cost																		
TSI Large SW Licenses	-	-	-	-	-	-	-	-	-	124.000	205	25.420	-	-	-	124.000	205	25.420
TSI Small SW Licenses	-	-	-	-	-	-	7.000	116	0.812	7.000	550	3.850	-	-	-	7.000	550	3.850
Post Deployment Software Support	-	-	-	-	-	-	-	-	10.200	-	-	10.200	-	-	-	-	-	10.200
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	11.012	-	-	39.470	-	-	-	-	-	39.470
<i>Subtotal: Software Cost</i>	-	-	-	-	-	-	-	-	11.012	-	-	39.470	-	-	-	-	-	39.470
<b>Support - Fielding Cost</b>																		
Fielding	-	-	-	-	-	-	-	-	2.050	-	-	3.117	-	-	-	-	-	3.117
<i>Subtotal: Support - Fielding Cost</i>	-	-	-	-	-	-	-	-	2.050	-	-	3.117	-	-	-	-	-	3.117

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 24	<b>P-1 Line Item Number / Title:</b> 8151B70000 / COE Tactical Server Infrastructure (TSI)	<b>Item Number / Title [DODIC]:</b> B70005 / Tactical Server Infrastructure (TSI)

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Support - New Equipment Training (NET) Cost																		
Equipment	-	-	-	-	-	-	-	-	2.250	-	-	2.393	-	-	-	-	-	2.393
<i>Subtotal: Support - New Equipment Training (NET) Cost</i>	-	-	-	-	-	-	-	-	<b>2.250</b>	-	-	<b>2.393</b>	-	-	-	-	-	<b>2.393</b>
Support - Program Management Cost																		
Contractor Management	-	-	-	-	-	-	-	-	0.828	-	-	0.843	-	-	-	-	-	0.843
<i>Subtotal: Support - Program Management Cost</i>	-	-	-	-	-	-	-	-	<b>0.828</b>	-	-	<b>0.843</b>	-	-	-	-	-	<b>0.843</b>
Support - System Engineering Cost																		
System Engineering	-	-	-	-	-	-	-	-	3.200	-	-	1.200	-	-	-	-	-	1.200
<i>Subtotal: Support - System Engineering Cost</i>	-	-	-	-	-	-	-	-	<b>3.200</b>	-	-	<b>1.200</b>	-	-	-	-	-	<b>1.200</b>
<b>Gross/Weapon System Cost</b>	-	-	-	-	-	-	<b>47.018</b>	-	<b>20.500</b>	<b>103.102</b>	-	<b>77.533</b>	-	-	-	<b>103.102</b>	-	<b>77.533</b>

**Remarks:**

Note 1: The TSI Large hardware consists of three server assemblies for Brigade and higher formations, while the TSI Small is a laptop supporting Battalion level and higher formations.

Note 2: The TSI Basis of Issue Plan (BOIP) is currently in review, the quantities on the P-5 form represent the latest estimate.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	-	-	-	-	-
	Total Obligation Authority	-	9.220	57.351	-	57.351
ANG	Quantity	-	-	-	-	-
	Total Obligation Authority	-	7.191	12.573	-	12.573
AR	Quantity	-	-	-	-	-
	Total Obligation Authority	-	4.089	7.609	-	7.609
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	-	-	-	-	-
	<b>Total Obligation Authority</b>	-	<b>20.500</b>	<b>77.533</b>	-	<b>77.533</b>

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



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<b>Exhibit P-5a, Procurement History and Planning:</b> PB 2020 Army							<b>Date:</b> March 2019				
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 24			<b>P-1 Line Item Number / Title:</b> 8151B70000 / COE Tactical Server Infrastructure (TSI)				<b>Item Number / Title [DODIC]:</b> B70005 / Tactical Server Infrastructure (TSI)				

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
Hardward TSI Large Server		2020	CHS / Taunton, MA	C / IDIQ	Aberdeen Proving Ground, MD	Nov 2019	May 2020	205	122.000	N		
Hardware TSI Small Server (Laptop)		2019	CHS / Taunton, MA	C / IDIQ	Aberdeen Proving Ground, MD	Nov 2018	May 2019	116	10.000	N		
Hardware TSI Small Server (Laptop)		2020	CHS / Taunton, MA	C / IDIQ	Aberdeen Proving Ground, MD	Nov 2019	May 2020	550	10.000	N		

**Remarks:**  
Procured items are COTS/GOTS.

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<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2020 Army	<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 32: Comm - Combat Communications	<b>P-1 Line Item Number / Title:</b> 6458B95004 / Handheld Manpack Small Form Fit (HMS)

<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> 0604280A, 0605042A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	1,163	6,354	6,949	8,923	-	8,923	12,790	16,515	20,490	18,165	Continuing	Continuing
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	268.122	415.351	298.475	468.026	-	468.026	526.565	609.206	774.369	697.280	Continuing	Continuing
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	268.122	415.351	298.475	468.026	-	468.026	526.565	609.206	774.369	697.280	Continuing	Continuing
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>268.122</b>	<b>415.351</b>	<b>298.475</b>	<b>468.026</b>	<b>-</b>	<b>468.026</b>	<b>526.565</b>	<b>609.206</b>	<b>774.369</b>	<b>697.280</b>	<b>Continuing</b>	<b>Continuing</b>

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

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	230.543	65.368	42.952	52.452	-	52.452	41.170	36.888	37.793	38.386	Continuing	Continuing

**Description:**

The Handheld Manpack Small Form Fit (HMS) supports the Army Network Modernization Strategy Line of Effort 1, Unified Network:

The HMS radios are a key component of the Integrated Tactical Network which supports a converged Mission Command Network that operates seamlessly worldwide in any environment. These radios will perform under a standards-based network architecture that unifies enterprise and deployed network capabilities. The near-term goal of the HMS radios is to provide 'secure but unclassified' networking capabilities utilizing next generation tactical radios. The cited work is consistent with Strategic Planning Guidance and the Mission Command Network Modernization Implementation Plan.

**Current Description:**

The HMS radio program is a materiel solution providing software-defined radio systems that are tailorable and scalable to support the Chief of Staff of the Army's "fight tonight" strategy. HMS is an Acquisition Category IC program that encompasses specific requirements to support the U.S. Army, Air Force, Navy, Marine Corps and US Special Operations Command communications needs.

HMS provides voice and data communications to the tactical edge/most disadvantaged warfighter with an on-the-move, at-the-halt, and stationary Line of Sight (LOS) / Beyond Line of Sight (BLOS) capability for both dismounted personnel and platforms. HMS radio systems are software reprogrammable, networkable, multi-mode systems capable of simultaneous voice and data communications.

HMS encompasses the Handheld Radios (one-channel Rifleman Radio and two-channel Leader Radio), Manpack Radio (MP), and Small Form Fit (SFF) radios. HMS radios will provide voice and support for data services such as text, to Warfighters and tactical end user devices including handheld, embedded, and larger computing devices, as well as unmanned systems. The program office will continue with the ongoing competition to procure the newest generation of software defined radios capable of running the threshold waveforms, to include MUOS for MP, and will pursue alternative waveforms to reduce the complexity of Mobile AdHoc Networking waveforms, improve spectral efficiency, and seek Electronic Counter-Countermeasures improvements for operations in contested environment. HMS is structured as a single program of record.

The HMS Handheld Radios include the one-channel Rifleman Radio (RR) and two-channel Leader Radio (LR). The RR is a handheld radio that connects soldiers at the lowest echelon of the Army network. It is a National Security Agency (NSA) certified Type 1 radio used for transmission of up to SECRET information. The RR provides one-channel secure voice and data communications. It is the primary squad level communication system. The LR is a Multiband two-channel handheld radio to be used at the Team, Squad, and Platoon level. The LR will simultaneously support Single Channel Ground and Airborne Radio System (SINCGARS) voice interoperability and other advanced networking waveform communications, in one radio with both handheld and mounted configurations, for fixed and mobile sites. On 13 September

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 32: Comm - Combat Communications	<b>P-1 Line Item Number / Title:</b> 6458B95004 / Handheld Manpack Small Form Fit (HMS)
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> 0604280A, 0605042A
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**Line Item MDAP/MAIS Code:** N/A

2016 the Army Acquisition Executive (AAE) approved a decreased Basis of Issue (BOI) for the single channel RR, an increase to the BOI for the two channel LR and moving forward with acquisition activities for the two channel LR. Single channel RR procurement has been deferred.

The MP radio is a NSA certified Type 1 radio used for transmission of up to SECRET information. MP is capable of providing two simultaneous channels of secure voice and data communications using SINCGARS, Demand Assigned Multiple Access Satellite Communication, Mobile User Objective System (MUOS), and other advanced networking waveforms. The MP provides range extension and connects soldiers in the lower tier network to the mid-tier network. It is interoperable with legacy waveforms and capable of route and retransmission and cross-banding. The MP provides networking waveforms connectivity, Networked LOS / BLOS voice and data communications. The MP will serve as the vehicular and man-packable tactical LOS/BLOS radio.

HMS is currently executing a May 2014 approved Acquisition Strategy (AS) to procure Non-Developmental Items (NDI) through full and open competition open to all potential industry partners. An addendum to the AS was approved by the acting AAE on 8 March 2017, which incorporates the LR requirements. Two Firm-Fixed-Price (FFP) Indefinite Delivery Indefinite Quantity (IDIQ) contracts were awarded in support of this effort. The first contract was awarded on 29 April 2015 to procure Handheld radios. The initial Delivery Order on this contract was to procure RR to test at the HMS Customer Test. The second contract was awarded on 26 February 2016 and will procure NDI MP radios for use in a classified environment. On 18 September 2018, HMS on-ramped LR capabilities to the existing Handheld IDIQ contracts.

For MP, the Army will procure radios through a multiple step selection process:

- a. Awarded FFP Contracts to all qualified vendors based on technical acceptability and demonstrations (26 February 2016)
- b. Awarded initial delivery orders based on Qualification Test results (19 December 2016)
- c. Awarded second delivery orders based on Customer Test results (31 July 2017)
- d. Awarded LRIP delivery order (30 April 2018)
- e. Award delivery orders based on best value trade off construct (3QFY19 & 3QFY20)
- f. Achieve Full Rate Production (2QFY21)

For LR, the Army will procure radios through a multiple step selection process:

- a. Awarded FFP Contracts to all qualified vendors based on technical acceptability and demonstrations (18 September 2018)
- b. Awarded LRIP delivery orders to support SFAB and ITN fieldings/evaluations (18 September 2018)
- c. Award delivery orders based on best value trade off construct (3QFY19 & 3QFY20)

The current Handheld AAO (Army Acquisition Objective) is 193,279:

- 100,000 Leader Radios
- 93,279 Rifleman Radios

The current Manpack AAO is 65,622.

HMS received Congressional approval to execute \$94.680 million FY 2017 funding (B95007) to procure tactical radios and associated equipment to support Security Force Assistance Brigades (SFAB) fielding. The \$94.680M was authorized in two Above Threshold Reprogramming (ATR) actions (\$90.000M on ATR 17-27 PA and \$4.680M on ATR 18-05 PA) and will be executed from the HMS B95007 funding line.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	6,354	6,949	8,923	-	8,923	10,896	13,291	16,716	14,111
	Total Obligation Authority	415.351	298.475	468.026	-	468.026	455.464	519.103	646.717	548.280
ANG	Quantity	-	-	-	-	-	1,894	3,224	3,774	4,054
	Total Obligation Authority	-	-	-	-	-	71.101	90.103	127.652	149.000

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 32: Comm - Combat Communications	<b>P-1 Line Item Number / Title:</b> 6458B95004 / Handheld Manpack Small Form Fit (HMS)
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> 0604280A, 0605042A
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**Line Item MDAP/MAIS Code:** N/A

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
<b>Total:</b>	Quantity	6,354	6,949	8,923	-	8,923	12,790	16,515	20,490	18,165
<b>Secondary Distribution</b>	Total Obligation Authority	415.351	298.475	468.026	-	468.026	526.565	609.206	774.369	697.280

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

**Appropriation / Budget Activity / Budget Sub Activity:**  
 2035A: Other Procurement, Army / BA 02: Communications and Electronics  
 Equipment / BSA 32: Comm - Combat Communications

**P-1 Line Item Number / Title:**  
 6458B95004 / Handheld Manpack Small Form Fit (HMS)

**ID Code** (A=Service Ready, B=Not Service Ready): **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0604280A, 0605042A

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

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	B95006 / Handheld Radio	P-5a, P-21			961 / 43.734	4,096 / 186.649	4,990 / 79.802	4,973 / 118.275	- / -	4,973 / 118.275
P-5	B95007 / Manpack Radio	P-5a, P-21			202 / 224.388	2,258 / 228.702	1,959 / 218.673	3,950 / 349.751	- / -	3,950 / 349.751
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>1,163 / 268.122</b>	<b>6,354 / 415.351</b>	<b>6,949 / 298.475</b>	<b>8,923 / 468.026</b>	<b>- / -</b>	<b>8,923 / 468.026</b>

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

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

**Justification:**  
 FY 2020 Base procurement dollars in the amount of \$468.026 million support the procurement of:  
 - 4,973 LR, (of which 2,349 are Mounted LR) Non-Recurring Engineering (NRE), System Engineering and Program Management (SEPM), support equipment, fielding, and vehicle integration. (\$118.275 million)  
 - 3,950 MP Radios, NRE, SEPM, support equipment, fielding, and vehicle integration. (\$349.751 million)

In accordance with Section 1815 of the FY08 National Defense Authorization Act (P.L. 110-181), these items are necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities.

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 32	<b>P-1 Line Item Number / Title:</b> 6458B95004 / Handheld Manpack Small Form Fit (HMS)	<b>Item Number / Title [DODIC]:</b> B95006 / Handheld Radio

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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<b>Resource Summary</b>	<b>Prior Years</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Procurement Quantity ( <i>Units in Each</i> )	961	4,096	4,990	4,973	-	4,973
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	43.734	186.649	79.802	118.275	-	118.275
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	43.734	186.649	79.802	118.275	-	118.275
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>43.734</b>	<b>186.649</b>	<b>79.802</b>	<b>118.275</b>	<b>-</b>	<b>118.275</b>

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

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	45.509	45.569	15.992	23.783	-	23.783

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

<b>Cost Elements</b>	<b>Prior Years</b>			<b>FY 2018</b>			<b>FY 2019</b>			<b>FY 2020 Base</b>			<b>FY 2020 OCO</b>			<b>FY 2020 Total</b>		
	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)
<b>Hardware Cost</b>																		
<b>Recurring Cost</b>																		
Manufacturing - Leader Radio <sup>(f)</sup>	-	-	-	38.077	4,096	155.963	36.973	1,450	53.611	18.977	4,973	94.374	-	-	-	18.977	4,973	94.374
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	155.963	-	-	53.611	-	-	94.373	-	-	-	-	-	94.373
<b>Non Recurring Cost</b>																		
Hardware NRE	-	-	-	-	-	2.842	-	-	2.515	-	-	-	-	-	-	-	-	-
SFAB - Above Threshold Reprogramming (ATR) 2	-	-	15.229	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Non Recurring Cost</i>	-	-	15.229	-	-	2.842	-	-	2.515	-	-	-	-	-	-	-	-	-
<i>Subtotal: Hardware Cost</i>	-	-	15.229	-	-	158.805	-	-	56.126	-	-	94.373	-	-	-	-	-	94.373
<b>Support - Common Support Equipment Cost</b>																		
Support and Handling Equipment	-	-	12.046	-	-	15.700	-	-	5.000	-	-	6.275	-	-	-	-	-	6.275
<i>Subtotal: Support - Common Support Equipment Cost</i>	-	-	12.046	-	-	15.700	-	-	5.000	-	-	6.275	-	-	-	-	-	6.275
<b>Support - Data Cost</b>																		
Engineering Data	-	-	1.394	-	-	6.120	-	-	0.516	-	-	0.737	-	-	-	-	-	0.737
<i>Subtotal: Support - Data Cost</i>	-	-	1.394	-	-	6.120	-	-	0.516	-	-	0.737	-	-	-	-	-	0.737
<b>Support - Fielding Cost</b>																		

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 32	<b>P-1 Line Item Number / Title:</b> 6458B95004 / Handheld Manpack Small Form Fit (HMS)	<b>Item Number / Title [DODIC]:</b> B95006 / Handheld Radio

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Fielding	-	-	10.980	-	-	2.500	-	-	0.955	-	-	5.665	-	-	-	-	-	5.665
<i>Subtotal: Support - Fielding Cost</i>	-	-	<b>10.980</b>	-	-	<b>2.500</b>	-	-	<b>0.955</b>	-	-	<b>5.665</b>	-	-	-	-	-	<b>5.665</b>
Support - Operational/Site Activation Cost																		
System Assembly, Installation and Checkout on Site	-	-	-	-	-	-	-	-	-	-	-	2.240	-	-	-	-	-	2.240
<i>Subtotal: Support - Operational/Site Activation Cost</i>	-	-	-	-	-	-	-	-	-	-	-	<b>2.240</b>	-	-	-	-	-	<b>2.240</b>
Support - System Engineering Cost																		
System Engineering	-	-	1.473	-	-	3.524	-	-	1.405	-	-	5.276	-	-	-	-	-	5.276
<i>Subtotal: Support - System Engineering Cost</i>	-	-	<b>1.473</b>	-	-	<b>3.524</b>	-	-	<b>1.405</b>	-	-	<b>5.276</b>	-	-	-	-	-	<b>5.276</b>
Support - System Technical Support (STS) Cost																		
System Technical Support (STS)	-	-	2.612	-	-	-	-	-	15.800	-	-	3.709	-	-	-	-	-	3.709
<i>Subtotal: Support - System Technical Support (STS) Cost</i>	-	-	<b>2.612</b>	-	-	-	-	-	<b>15.800</b>	-	-	<b>3.709</b>	-	-	-	-	-	<b>3.709</b>
<b>Gross/Weapon System Cost</b>	<b>45.509</b>	<b>961</b>	<b>43.734</b>	<b>45.569</b>	<b>4,096</b>	<b>186.649</b>	<b>15.992</b>	<b>4,990</b>	<b>79.802</b>	<b>23.783</b>	<b>4,973</b>	<b>118.275</b>	-	-	-	<b>23.783</b>	<b>4,973</b>	<b>118.275</b>

**Remarks:**

Funding Realignments and Reprogramming:

FY2017 - An Above Threshold Reprogramming in the amount of \$15.229 million was approved to support SFAB.

FY2018 - An internal realignment in the amount of \$123.741 million is planned from Manpack Radio (B95007) to Handheld Radio (B95006) to support priority procurement and fielding, \$60.000 million of which was a Congressional plus up to support SFAB.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	4,096	4,990	4,973	-	4,973
	Total Obligation Authority	186.649	79.802	118.275	-	118.275
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	<b>4,096</b>	<b>4,990</b>	<b>4,973</b>	-	<b>4,973</b>
	<b>Total Obligation Authority</b>	<b>186.649</b>	<b>79.802</b>	<b>118.275</b>	-	<b>118.275</b>

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 32	<b>P-1 Line Item Number / Title:</b> 6458B95004 / Handheld Manpack Small Form Fit (HMS)	<b>Item Number / Title [DODIC]:</b> B95006 / Handheld Radio
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :		<b>MDAP/MAIS Code:</b>
<sup>(†)</sup> indicates the presence of a P-5a		



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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 32	<b>P-1 Line Item Number / Title:</b> 6458B95004 / Handheld Manpack Small Form Fit (HMS)	<b>Item Number / Title [DODIC]:</b> B95006 / Handheld Radio
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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
Manufacturing - Leader Radio <sup>(†)</sup>		2018	Harris Corp / New York	SS / FFP	APG, MD	Sep 2018	Mar 2019	1,688	26.865	Y	Jul 2018	Jul 2018
Manufacturing - Leader Radio <sup>(†)</sup>		2018	Thales Comm / Maryland	SS / FFP	APG, MD	Sep 2018	Mar 2019	2,408	26.865	Y	Jul 2018	Jul 2018
Manufacturing - Leader Radio <sup>(†)</sup>		2019	TBD / TBD	C / FFP	APG, MD	Jul 2019	Jan 2020	1,450	36.973	N	Jan 2019	Feb 2019
Manufacturing - Leader Radio <sup>(†)</sup>		2020	TBD / TBD	C / FFP	APG, MD	Apr 2020	Oct 2020	4,973	18.977	N	Nov 2019	Nov 2019

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

**Remarks:**

HMS contracts will be Firm Fixed Price (FFP) Indefinite Delivery Indefinite Quantity (IDIQ) for Full Rate Production (FRP).

Vendors for the Rifleman Radio (RR) IDIQ contract are Harris Radio Corp (Rochester, NY) and Thales Communications (Clarksburg, MD). The Army has made the decision to pursue a two-channel handheld Leader Radio (LR) to meet the developing needs of SFAB, ITN, Nett Warrior, and the Warfighter community. LR capabilities were on ramped to the existing Handheld IDIQ contracts on 18 September 2018. Quantities shown may be split if multiple vendors qualify for award. Requirements for the single channel RR have been deferred to a later date.



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

**Appropriation / Budget Activity / Budget Sub Activity:** 2035A / 02 / 32 **P-1 Line Item Number / Title:** 6458B95004 / Handheld Manpack Small Form Fit (HMS) **Item Number / Title [DODIC]:** B95006 / Handheld Radio

Cost Elements <i>(Units in Each)</i>				Fiscal Year 2020														Fiscal Year 2021										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 9	BAL D U E A S O F 1 O C T	Calendar Year 2020														Calendar Year 2021										
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N		J U L	A U G	S E P
Manufacturing - Leader Radio																															
	1	2018	ARMY	1,688	987	701	141	140	140	140	140																	0			
	2	2018	ARMY	2,408	1,407	1,001	201	200	200	200	200																	0			
	3	2019	ARMY	1,450	0	1,450	-	-	-	121	121	121	121	121	121	121	121	120	120									0			
	3	2020	ARMY	4,973	0	4,973						A	-	-	-	-	-	-	415	415	415	415	415	414	414	414	414	414	0		
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	

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<b>Exhibit P-21, Production Schedule:</b> PB 2020 Army	<b>Date:</b> March 2019
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<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 32	<b>P-1 Line Item Number / Title:</b> 6458B95004 / Handheld Manpack Small Form Fit (HMS)	<b>Item Number / Title [DODIC]:</b> B95006 / Handheld Radio
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MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Month)			Procurement Leadtime (Months)								
		MSR For 2020	1-8-5 For 2020	MAX For 2020	Initial				Reorder				
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	
1	Harris Corp - New York	100	300	900	0	0	0	0	0	0	0	0	0
2	Thales Comm - Maryland	100	150	450	0	0	0	0	0	0	0	0	0
3	TBD - TBD	200	300	900	0	0	0	0	0	0	0	0	0

**Remarks:**  
Based on the Army's requirements and the number of vendors, min/max production rates will be determined at that time. Current LR quantities reflect planned competition test 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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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 32	<b>P-1 Line Item Number / Title:</b> 6458B95004 / Handheld Manpack Small Form Fit (HMS)	<b>Item Number / Title [DODIC]:</b> B95007 / Manpack Radio

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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<b>Resource Summary</b>	<b>Prior Years</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Procurement Quantity ( <i>Units in Each</i> )	202	2,258	1,959	3,950	-	3,950
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	224.388	228.702	218.673	349.751	-	349.751
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	224.388	228.702	218.673	349.751	-	349.751
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>224.388</b>	<b>228.702</b>	<b>218.673</b>	<b>349.751</b>	<b>-</b>	<b>349.751</b>

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

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	1,110.832	101.285	111.625	88.545	-	88.545

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

<b>Cost Elements</b>	<b>Prior Years</b>			<b>FY 2018</b>			<b>FY 2019</b>			<b>FY 2020 Base</b>			<b>FY 2020 OCO</b>			<b>FY 2020 Total</b>		
	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)
<b>Flyaway Cost</b>																		
Recurring Cost																		
Recurring Manufacturing - Manpack <sup>(†)</sup>	138.614	202	28.000	78.051	2,258	176.239	62.467	1,720	107.444	60.711	3,950	239.807	-	-	-	60.711	3,950	239.807
<i>Subtotal: Recurring Cost</i>	-	-	28.000	-	-	176.239	-	-	107.443	-	-	239.808	-	-	-	-	-	239.808
Non Recurring Cost																		
Hardware NRE	-	-	0.250	-	-	3.139	-	-	28.739	-	-	35.000	-	-	-	-	-	35.000
SFAB / Internal Realignment	-	-	94.608	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ATR / BTR to External Organizations	-	-	16.998	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Non Recurring Cost</i>	-	-	111.856	-	-	3.139	-	-	28.739	-	-	35.000	-	-	-	-	-	35.000
<i>Subtotal: Flyaway Cost</i>	-	-	<b>139.856</b>	-	-	<b>179.378</b>	-	-	<b>136.182</b>	-	-	<b>274.808</b>	-	-	-	-	-	<b>274.808</b>
<b>Support - Common Support Equipment Cost</b>																		
Support and Handling Equipment	-	-	4.115	-	-	12.409	-	-	7.775	-	-	6.637	-	-	-	-	-	6.637
<i>Subtotal: Support - Common Support Equipment Cost</i>	-	-	<b>4.115</b>	-	-	<b>12.409</b>	-	-	<b>7.775</b>	-	-	<b>6.637</b>	-	-	-	-	-	<b>6.637</b>
<b>Support - Data Cost</b>																		
Engineering Data	-	-	12.181	-	-	0.463	-	-	1.107	-	-	1.248	-	-	-	-	-	1.248
<i>Subtotal: Support - Data Cost</i>	-	-	<b>12.181</b>	-	-	<b>0.463</b>	-	-	<b>1.107</b>	-	-	<b>1.248</b>	-	-	-	-	-	<b>1.248</b>

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 32	<b>P-1 Line Item Number / Title:</b> 6458B95004 / Handheld Manpack Small Form Fit (HMS)	<b>Item Number / Title [DODIC]:</b> B95007 / Manpack Radio

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
<b>Support - Engineering Change Proposals Cost</b>																		
Engineering Change Proposals	-	-	-	-	-	-	-	-	6.381	-	-	7.194	-	-	-	-	-	7.194
<i>Subtotal: Support - Engineering Change Proposals Cost</i>	-	-	-	-	-	-	-	-	<b>6.381</b>	-	-	<b>7.194</b>	-	-	-	-	-	<b>7.194</b>
<b>Support - Fielding Cost</b>																		
Fielding	-	-	3.605	-	-	0.820	-	-	3.198	-	-	18.607	-	-	-	-	-	18.607
<i>Subtotal: Support - Fielding Cost</i>	-	-	<b>3.605</b>	-	-	<b>0.820</b>	-	-	<b>3.198</b>	-	-	<b>18.607</b>	-	-	-	-	-	<b>18.607</b>
<b>Support - Operational/Site Activation Cost</b>																		
System Assembly, Installation and Checkout on Site	-	-	10.390	-	-	9.676	-	-	-	-	-	14.705	-	-	-	-	-	14.705
<i>Subtotal: Support - Operational/Site Activation Cost</i>	-	-	<b>10.390</b>	-	-	<b>9.676</b>	-	-	-	-	-	<b>14.705</b>	-	-	-	-	-	<b>14.705</b>
<b>Support - System Engineering Cost</b>																		
System Engineering	-	-	32.482	-	-	24.578	-	-	15.382	-	-	17.649	-	-	-	-	-	17.649
<i>Subtotal: Support - System Engineering Cost</i>	-	-	<b>32.482</b>	-	-	<b>24.578</b>	-	-	<b>15.382</b>	-	-	<b>17.649</b>	-	-	-	-	-	<b>17.649</b>
<b>Support - System Technical Support (STS) Cost</b>																		
System Technical Support (STS)	-	-	21.759	-	-	1.378	-	-	48.648	-	-	8.903	-	-	-	-	-	8.903
<i>Subtotal: Support - System Technical Support (STS) Cost</i>	-	-	<b>21.759</b>	-	-	<b>1.378</b>	-	-	<b>48.648</b>	-	-	<b>8.903</b>	-	-	-	-	-	<b>8.903</b>
<b>Gross/Weapon System Cost</b>	<b>1,110.832</b>	<b>202</b>	<b>224.388</b>	<b>101.285</b>	<b>2,258</b>	<b>228.702</b>	<b>111.625</b>	<b>1,959</b>	<b>218.673</b>	<b>88.545</b>	<b>3,950</b>	<b>349.751</b>	-	-	-	<b>88.545</b>	<b>3,950</b>	<b>349.751</b>

**Remarks:**

Funding Realignment and Reprogramming:

FY2017 - An Above Threshold Reprogramming (ATR) in the amount of \$94.680 million was approved to support SFAB and will be executed out of the Manpack Radio line (B95007). An additional \$16.998 million in ATR / Below Threshold Reprogramming was approved to support SFAB (\$8.326 million), PdM Maneuver (\$5.003 million), Indian Finance Act (\$3.149 million), and Army Strategic Management System (\$0.520 million).

FY2018 - An internal realignment in the amount of \$123.741 million was executed from Manpack Radio (B95007) to Handheld Radio (B95006) to support priority procurement and fielding, \$60.000 million of which was a Congressional plus up to support SFAB.

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 32	<b>P-1 Line Item Number / Title:</b> 6458B95004 / Handheld Manpack Small Form Fit (HMS)	<b>Item Number / Title [DODIC]:</b> B95007 / Manpack Radio
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**ID Code** (A=Service Ready, B=Not Service Ready) : **MDAP/MAIS Code:**

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	2,258	1,959	3,950	-	3,950
	Total Obligation Authority	228.702	218.673	349.751	-	349.751
<b>Total:</b>	<b>Quantity</b>	<b>2,258</b>	<b>1,959</b>	<b>3,950</b>	<b>-</b>	<b>3,950</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>228.702</b>	<b>218.673</b>	<b>349.751</b>	<b>-</b>	<b>349.751</b>

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

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 32	<b>P-1 Line Item Number / Title:</b> 6458B95004 / Handheld Manpack Small Form Fit (HMS)	<b>Item Number / Title [DODIC]:</b> B95007 / Manpack Radio
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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
Recurring Manufacturing - Manpack <sup>(†)</sup>		2018	Collins Aerospace / Iowa	C / FFP	APG, MD	Apr 2018	Sep 2018	1,129	60.420	Y	Apr 2018	Apr 2018
Recurring Manufacturing - Manpack <sup>(†)</sup>		2018	Harris Corp / New York	C / FFP	APG, MD	Apr 2018	Sep 2018	1,129	60.420	Y	Apr 2018	Apr 2018
Recurring Manufacturing - Manpack <sup>(†)</sup>		2019	TBD / TBD	C / FFP	APG, MD	Jul 2019	Jan 2020	1,720	62.467	N	Jan 2019	Feb 2019
Recurring Manufacturing - Manpack <sup>(†)</sup>		2020	TBD / TBD	C / FFP	APG, MD	Apr 2020	Oct 2020	3,950	60.711	N	Nov 2019	Nov 2019

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

**Remarks:**

HMS contracts will be Firm Fixed Price (FFP) Indefinite Delivery Indefinite Quantity (IDIQ) for Full Rate Production (FRP).

As of July 2018, vendors for the Manpack IDIQ contracts are Harris Radio Corp (Rochester, NY) and Rockwell Collins Inc. (Cedar Rapids, IA). Both vendors were awarded a delivery order on 30 April 2018. Future delivery order quantity split is notional and will be assessed as a best value tradeoff evaluation.





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

**Appropriation / Budget Activity / Budget Sub Activity:** 2035A / 02 / 32 **P-1 Line Item Number / Title:** 6458B95004 / Handheld Manpack Small Form Fit (HMS) **Item Number / Title [DODIC]:** B95007 / Manpack Radio

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			
Recurring Manufacturing - Manpack																																	
Prior Years Deliveries: 202																																	
	1	2018	ARMY	1,129	1,129	0																							0				
	2	2018	ARMY	1,129	1,129	0																							0				
	3	2019	ARMY	1,720	0	1,720	-	-	-	144	144	144	144	143	143	143	143	143	143	143									0				
	3	2020	ARMY	3,950	0	3,950																							0				

**UNCLASSIFIED**

<b>Exhibit P-21, Production Schedule:</b> PB 2020 Army	<b>Date:</b> March 2019
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<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 32	<b>P-1 Line Item Number / Title:</b> 6458B95004 / Handheld Manpack Small Form Fit (HMS)	<b>Item Number / Title [DODIC]:</b> B95007 / Manpack Radio
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MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Month)			Procurement Leadtime (Months)							
		MSR For 2020	1-8-5 For 2020	MAX For 2020	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	Collins Aerospace - Iowa	30	60	180	0	1,576	0	1,576	0	0	0	0
2	Harris Corp - New York	30	75	300	0	1,576	0	1,576	0	0	0	0
3	TBD - TBD	60	150	480	0	0	0	0	0	0	0	0

**Remarks:**  
The procurement of Manpack (MP) Radios in FY 2018 was awarded 30 April 2018 and procured 1,129 MP radios from each vendor (2,258 MP radios total) as well as ancillary equipment, vehicle mounts, and support services.

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

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 32: Comm - Combat Communications	<b>P-1 Line Item Number / Title:</b> 6948B22603 / Radio Terminal Set, MIDS LVT(2)
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** 554

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	121	109	15	214	-	214	55	3	2	38	-	557
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	116.494	11.160	4.641	23.778	0.350	24.128	8.419	2.964	2.230	15.000	-	185.036
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	116.494	11.160	4.641	23.778	0.350	24.128	8.419	2.964	2.230	15.000	-	185.036
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>116.494</b>	<b>11.160</b>	<b>4.641</b>	<b>23.778</b>	<b>0.350</b>	<b>24.128</b>	<b>8.419</b>	<b>2.964</b>	<b>2.230</b>	<b>15.000</b>	<b>-</b>	<b>185.036</b>

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

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	962.760	102.385	309.400	111.112	-	112.748	153.073	988.000	1,115.000	394.737	-	332.201

**Description:**

The Multifunctional Information Distribution System Low Volume Terminal (MIDS LVT) program supports the Army Network Modernization Strategy Line of Effort 1, Unified Network.

The MIDS LVT is DoD's primary Link 16 tactical data link network providing joint/allied interoperability, situational awareness and support to air and missile defense engagement operations at Division through Corps. The MIDS provides secure, jam resistant transmission and reception of Link 16 messages with near real-time distribution of air and missile tracks and Precise Participant Location and Identification location identification messages (PPLIs). The MIDS LVT Block Upgrade Two (BU2) effort supports National Security Agency (NSA) and Federal Aviation Administration (FAA) mandated cryptographic modernization and frequency remapping. This includes hardware and services procurements required to retrieve/re-issue the BU2 terminals to Army units and establish proper supportability in preparation for Transition to Sustainment.

The Army has procured 572 terminals through FY 2015. A new planned procurement for a modernized ground (Army) radio with concurrent multi-netting (CMN), concurrent contention receive (CCR) and enhanced throughput (ET) capabilities is planned for FY 2024. Planned fielding supports the purchase of 572 Block Upgrade 2 (BU2) upgrade kits in support of NSA and FAA mandates. Voice hardware purchases (cables and cards) support the LVT(2) to LVT(11) conversions required for the Integrated Air and Missile Defense Battle Command System's (IBCS) Link 16 voice requirement. Procurement quantities depicted above are for BU2 upgrade kits and additional terminal procurements for the Grow the Army Initiative.

Army MIDS is part of the Joint Navy-led MIDS program. The Army leverages Navy contracts to support Army MIDS LVT efforts and to procure Block Upgrade 2 (BU2) upgrade kits. The BU2 retrofit improves the capabilities and security of the MIDS LVT by incorporating the crypto-modernization and mandated frequency remapping to ensure compliance with National Security Agency and Federal Aviation Administration mandates. The BU2 kit replaces approximately five shop replaceable units within the radio.

FY 2020 Procurement dollars support the MIDS LVT(2) to MIDS LVT(11) upgrades used in the following systems: Air Defense Airspace Management (ADAM) Cell, Patriot, Terminal High Altitude Area Defense (THAAD), Forward Area Air Defense Command and Control (FAADC2), Joint Tactical Ground Station (JTAGS), and Integrated Air and IBCS. FY 2020 Procurement OCO dollars support the procurement of one (1) radio for the Army Prepositioned Stock.

The Low Volume Terminal (LVT) Cryptographic Module (LCM) is a subcomponent required to support the BU2 retrofit kit. The LCM is procured from ViaSat and is provided as Government Furnished Equipment to the vendors (ViaSat and DLS) to support the retrofits.

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<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 32: Comm - Combat Communications		<b>P-1 Line Item Number / Title:</b> 6948B22603 / Radio Terminal Set, MIDS LVT(2)
<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
<b>Line Item MDAP/MAIS Code:</b> 554		

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	89	13	157	-	157	7	3	2	29
	Total Obligation Authority	9.117	2.812	17.363	0.350	17.713	1.072	2.964	2.230	11.447
ANG	Quantity	20	2	57	-	57	43	-	-	9
	Total Obligation Authority	2.043	1.829	6.415	-	6.415	6.582	-	-	3.553
AR	Quantity	-	-	-	-	-	5	-	-	-
	Total Obligation Authority	-	-	-	-	-	0.765	-	-	-
<b>Total:</b>	<b>Quantity</b>	<b>109</b>	<b>15</b>	<b>214</b>	<b>-</b>	<b>214</b>	<b>55</b>	<b>3</b>	<b>2</b>	<b>38</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>11.160</b>	<b>4.641</b>	<b>23.778</b>	<b>0.350</b>	<b>24.128</b>	<b>8.419</b>	<b>2.964</b>	<b>2.230</b>	<b>15.000</b>

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 32: Comm - Combat Communications	<b>P-1 Line Item Number / Title:</b> 6948B22603 / Radio Terminal Set, MIDS LVT(2)
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** 554

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	B22603 / Radio Terminal Set, MIDS LVT(2)	P-5a, P-21			121 / 116.494	109 / 11.160	15 / 4.641	214 / 23.778	- / 0.350	214 / 24.128
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>121 / 116.494</b>	<b>109 / 11.160</b>	<b>15 / 4.641</b>	<b>214 / 23.778</b>	<b>- / 0.350</b>	<b>214 / 24.128</b>

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

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

**Justification:**

FY 2020 Base procurement dollars in the amount of \$23.778 million will procure 214 each BU2 retrofit kits, software support, logistics support and program management.

FY 2020 OCO procurement dollars in the amount of \$.350 million will procure 1 each LVT 2/11 radio to support Army Prepositioned Stock (APS).

Procurement quantities depicted above are for BU2 upgrade kits (FY 2020 - FY 2023) and a new modernized ground (Army) radio with concurrent multi-netting (CMN), concurrent contention receive (CCR) and enhanced throughput (ET) capabilities (FY 2024).

Note: The LCM is a low-cost (\$2,850.00) subcomponent that is not reflected on the P-40 form.

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 32	<b>P-1 Line Item Number / Title:</b> 6948B22603 / Radio Terminal Set, MIDS LVT(2)	<b>Item Number / Title [DODIC]:</b> B22603 / Radio Terminal Set, MIDS LVT(2)

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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Resource Summary		Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity (Units in Each)		121	109	15	214	-	214
Gross/Weapon System Cost (\$ in Millions)		116.494	11.160	4.641	23.778	0.350	24.128
Less PY Advance Procurement (\$ in Millions)		-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)		116.494	11.160	4.641	23.778	0.350	24.128
Plus CY Advance Procurement (\$ in Millions)		-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>		<b>116.494</b>	<b>11.160</b>	<b>4.641</b>	<b>23.778</b>	<b>0.350</b>	<b>24.128</b>

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

Initial Spares (\$ in Millions)	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	962.760	102.385	309.400	111.112	-	-	112.748

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Flyaway Cost																		
Recurring Cost																		
Other Hardware - BU2 <sup>(f)</sup>	45.820	222	10.172	80.000	109	8.720	100.000	10	1.000	100.000	214	21.400	-	-	-	100.000	214	21.400
Other Hardware - LCMs	4.272	250	1.068	2.340	100	0.234	2.851	67	0.191	-	-	-	-	-	-	-	-	-
Program Management Support	-	-	94.429	-	-	1.140	-	-	1.300	-	-	1.391	-	-	-	-	-	1.391
Software Support	-	-	8.053	-	-	0.150	-	-	0.240	-	-	0.400	-	-	-	-	-	0.400
Test	-	-	1.972	-	-	0.143	-	-	-	-	-	-	-	-	-	-	-	-
Logistics (Transition to Sustainment)	-	-	0.800	-	-	0.093	-	-	0.375	-	-	0.587	-	-	-	-	-	0.587
<i>Subtotal: Recurring Cost</i>	-	-	116.494	-	-	10.480	-	-	3.106	-	-	23.778	-	-	-	-	-	23.778
<i>Subtotal: Flyaway Cost</i>	-	-	116.494	-	-	10.480	-	-	3.106	-	-	23.778	-	-	-	-	-	23.778
Hardware Cost																		
Recurring Cost																		
Other Hardware - MIDS LVT(11)	-	-	-	-	-	0.680	-	-	1.535	-	-	-	350.000	1	0.350	350.000	1	0.350
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	0.680	-	-	1.535	-	-	0.000	-	-	0.350	-	-	0.350
<i>Subtotal: Hardware Cost</i>	-	-	-	-	-	0.680	-	-	1.535	-	-	0.000	-	-	0.350	-	-	0.350
<b>Gross/Weapon System Cost</b>	<b>962.760</b>	<b>121</b>	<b>116.494</b>	<b>102.385</b>	<b>109</b>	<b>11.160</b>	<b>309.400</b>	<b>15</b>	<b>4.641</b>	<b>111.112</b>	<b>214</b>	<b>23.778</b>	<b>-</b>	<b>-</b>	<b>0.350</b>	<b>112.748</b>	<b>214</b>	<b>24.128</b>

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 32	<b>P-1 Line Item Number / Title:</b> 6948B22603 / Radio Terminal Set, MIDS LVT(2)	<b>Item Number / Title [DODIC]:</b> B22603 / Radio Terminal Set, MIDS LVT(2)

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

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	89	13	157	-	157
	Total Obligation Authority	9.117	2.812	17.363	0.350	17.713
ANG	Quantity	20	2	57	-	57
	Total Obligation Authority	2.043	1.829	6.415	-	6.415
<b>Total:</b>	<b>Quantity</b>	<b>109</b>	<b>15</b>	<b>214</b>	<b>-</b>	<b>214</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>11.160</b>	<b>4.641</b>	<b>23.778</b>	<b>0.350</b>	<b>24.128</b>

(†) indicates the presence of a P-5a



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<b>Exhibit P-5a, Procurement History and Planning:</b> PB 2020 Army							<b>Date:</b> March 2019					
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 32			<b>P-1 Line Item Number / Title:</b> 6948B22603 / Radio Terminal Set, MIDS LVT(2)				<b>Item Number / Title [DODIC]:</b> B22603 / Radio Terminal Set, MIDS LVT(2)					

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
Other Hardware - BU2 <sup>(†)</sup>		2017	ViaSat (121) / Carlsbad, CA	C / FFP	SPAWAR, San Diego, CA	Nov 2017	Mar 2018	121	73.000	N		
Other Hardware - BU2 <sup>(†)</sup>		2018	ViaSat (109) / Carlsbad, CA	C / FFP	SPAWAR, San Diego, CA	May 2018	May 2019	109	80.000	N		
Other Hardware - BU2 <sup>(†)</sup>		2019	Viasat (15) / Carlsbad, CA	C / FFP	SPAWAR, San Diego, CA	Mar 2019	Mar 2020	10	100.000	N		
Other Hardware - BU2 <sup>(†)</sup>		2020	Viasat (214) / Carlsbad, CA	C / FFP	SPAWAR, San Diego, CA	Mar 2020	Mar 2021	214	100.000	N		

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

**Remarks:**  
 FY 2020 Total dollars in the amount of \$23.778 million will procure 214 each BU2 retrofit kits, software support, logistics support and program management.  
 FY 2020 Total dollars in the amount of \$.350 million will procure one (1) each LVT2/11 radio in support of Army Prepositioned Stock (APS).

**UNCLASSIFIED**

<b>Exhibit P-21, Production Schedule:</b> PB 2020 Army															<b>Date:</b> March 2019														
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 32										<b>P-1 Line Item Number / Title:</b> 6948B22603 / Radio Terminal Set, MIDS LVT(2)										<b>Item Number / Title [DODIC]:</b> B22603 / Radio Terminal Set, MIDS LVT(2)									

Cost Elements <i>(Units in Each)</i>					Fiscal Year 2018														Fiscal Year 2019														B A L A N C E		
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					
Other Hardware - BU2																																			
Prior Years Deliveries: 101																																			
	1	2017	ARMY	121	0	121		A	-	-	-	-	16	15	15	15	15	15	15	15									0						
	2	2018	ARMY	109	0	109									A	-	-	-	-	-	-	-	-	-	-	-	-	-	34						
	3	2019	ARMY	10	0	10																					A	-	10						
	4	2020	ARMY	214	0	214																						214							
								O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S				
								C	O	E	A	E	A	A	U	U	U	E	C	O	O	E	A	E	A	A	A	U	U	A	S				
								T	V	C	N	B	R	R	Y	N	L	G	P	T	V	C	N	B	R	R	Y	N	L	G	P				

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<b>Exhibit P-21, Production Schedule:</b> PB 2020 Army															<b>Date:</b> March 2019														
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 32										<b>P-1 Line Item Number / Title:</b> 6948B22603 / Radio Terminal Set, MIDS LVT(2)										<b>Item Number / Title [DODIC]:</b> B22603 / Radio Terminal Set, MIDS LVT(2)									

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					
Other Hardware - BU2																																			
Prior Years Deliveries: 101																																			
1		2017	ARMY	121	121	0																							0						
2		2018	ARMY	109	75	34	15	15	4																				0						
3		2019	ARMY	10	0	10	-	-	-	-	-	10																	0						
4		2020	ARMY	214	0	214						A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	20	20	20	20	20	20	20	74
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					

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<b>Exhibit P-21, Production Schedule:</b> PB 2020 Army															<b>Date:</b> March 2019														
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 32										<b>P-1 Line Item Number / Title:</b> 6948B22603 / Radio Terminal Set, MIDS LVT(2)										<b>Item Number / Title [DODIC]:</b> B22603 / Radio Terminal Set, MIDS LVT(2)									

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					
Other Hardware - BU2																																			
Prior Years Deliveries: 101																																			
	1	2017	ARMY	121	121	0																							0						
	2	2018	ARMY	109	109	0																							0						
	3	2019	ARMY	10	10	0																							0						
	4	2020	ARMY	214	140	74	20	20	20	14																			0						
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					

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<b>Exhibit P-21, Production Schedule:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 32		<b>P-1 Line Item Number / Title:</b> 6948B22603 / Radio Terminal Set, MIDS LVT(2)
		<b>Item Number / Title [DODIC]:</b> B22603 / Radio Terminal Set, MIDS LVT(2)

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Month)			Procurement Leadtime (Months)							
		MSR For 2020	1-8-5 For 2020	MAX For 2020	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	ViaSat (121) - Carlsbad, CA	7	30	56	0	0	11	11	0	0	0	0
2	ViaSat (109) - Carlsbad, CA	1	10	30	0	0	9	9	0	0	0	0
3	Viasat (15) - Carlsbad, CA	1	10	15	0	0	11	11	0	0	0	0
4	Viasat (214) - Carlsbad, CA	1	10	55	0	0	11	11	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 2020 Army **Date:** March 2019

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 32: Comm - Combat Communications	<b>P-1 Line Item Number / Title:</b> 8104BC3000 / TRACTOR DESK
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	95.884	2.041	2.187	-	-	-	-	-	-	-	-	100.112
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	95.884	2.041	2.187	-	-	-	-	-	-	-	-	100.112
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>95.884</b>	<b>2.041</b>	<b>2.187</b>	-	-	-	-	-	-	-	-	<b>100.112</b>

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

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

**Description:**

The details for this program are reported in accordance with Title 10, United States Code, Section 119(a)(1)."

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	2.041	2.187	-	-	-	-	-	-	-
<b>Total:</b>									
<b>Secondary Distribution</b>									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	2.041	2.187	-	-	-	-	-	-	-

**Justification:**

Justification:  
The details for this program are reported in accordance with Title 10, United States Code, Section 119(a)(1).

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 32: Comm - Combat Communications	<b>P-1 Line Item Number / Title:</b> 8128B03001 / Tractor Ride
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	2.334	42.144	22.601	-	-	-	-	-	-	-	-	67.079
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	2.334	42.144	22.601	-	-	-	-	-	-	-	-	67.079
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>2.334</b>	<b>42.144</b>	<b>22.601</b>	-	-	-	-	-	-	-	-	<b>67.079</b>

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

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

**Description:**

The details for this program are reported in accordance with Title 10, United States Code, Section 119(a)(1).

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	42.144	22.601	-	-	-	-	-	-	-
<b>Total:</b>									
<b>Secondary Distribution</b>									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	42.144	22.601	-	-	-	-	-	-	-

**Justification:**

The details for this program are reported in accordance with Title 10, United States Code, Section 119(a)(1).

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 32: Comm - Combat Communications	<b>P-1 Line Item Number / Title:</b> 8554B55501 / SPIDER APLA Remote Control Unit
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	144.676	0.996	-	-	-	-	-	-	-	-	-	145.672
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	144.676	0.996	-	-	-	-	-	-	-	-	-	145.672
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>144.676</b>	<b>0.996</b>	-	-	-	-	-	-	-	-	-	<b>145.672</b>

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

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

**Description:**

The Spider is a hand emplaced, remotely controlled, anti-personnel munition system that was designed to replace the capability of the persistent anti-personnel landmines banned from use after December 2010 per US Landmine policy. Spider, as a Man-in-the-Loop system, offers numerous capabilities for asymmetric warfare focusing on small unit force protection. The system is made up of four subsystems: Man-in-the-Loop (the human operator), Remote Control Station (the system command and control station), Repeater (a communication link to the munitions that provides extended range), and Munition Control Units (delivers anti-personnel effects). The Spider is designed to mitigate the indiscriminate initiation of the lethal mechanism. A soldier makes a conscious decision to engage a target with the lethal mechanism. Spider's sensor capabilities and controlled munitions provide needed force protection and battlefield shaping. Spider allows measured and graduated responses including sense only, non lethal, and lethal modes. Spider also supports net-centric operations by feeding situational awareness information (location and status) into the Battle Command System. The Spider system with its many desirable features makes it a versatile weapon system that has significant utility across the full spectrum of military operations and will support current and future operations. This item is Code A, approved for service use. Type Classification Standard and Full Material Release were achieved in July and September 2013 respectively. The Spider Army Acquisition Objective is 732 systems.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
AR	-	-	-	-	-	-	-	-	-
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	0.996	-	-	-	-	-	-	-	-
<b>Total:</b>	-	-	-	-	-	-	-	-	-
<b>Secondary Distribution</b>	<b>0.996</b>	-	-	-	-	-	-	-	-

**Justification:**

Program has no FY2020 requirements.

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



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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 32: Comm - Combat Communications	<b>P-1 Line Item Number / Title:</b> 8558B54020 / Spider Family of Networked Munitions Incr
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ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0604808A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	17.995	4.500	13.345	10.930	-	10.930	13.982	8.648	7.515	4.024	-	80.939
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	17.995	4.500	13.345	10.930	-	10.930	13.982	8.648	7.515	4.024	-	80.939
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>17.995</b>	<b>4.500</b>	<b>13.345</b>	<b>10.930</b>	<b>-</b>	<b>10.930</b>	<b>13.982</b>	<b>8.648</b>	<b>7.515</b>	<b>4.024</b>	<b>-</b>	<b>80.939</b>

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

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	281.172	-	83.406	112.680	-	112.680	68.877	108.100	174.767	-	-	125.099

**Description:**

M7 Spider is a hand emplaced, remotely controlled, Man-In-The-Loop (MITL) anti-personnel munition system that is currently being fielded. Spider Increment 1A (M7E1) utilizes an evolutionary acquisition approach which builds upon the baseline Spider Increment 1 system. Spider Increment 1A will 1) replace the Spider Increment 1 Remote Control Unit (RCU) with a new Networked Munitions Control Station that includes mapping capability, the ability to provide obstacle situational awareness to Joint Battle Command Platform (JBC-P) and new technologies, 2) control current Spider Anti-Personnel (AP) munitions and 3) demonstrate the initiation of legacy GOTS Anti-Vehicle (AV) (lethal) and AP (lethal and non-lethal) effects. All other M7 Spider Increment 1 components (i.e. Control Station Transceiver (CST), Munition Control Units (MCUs)) will remain as is to ensure backwards compatibility. The Spider system with its many desirable features makes it a versatile weapon system that has significant utility across the full spectrum of military operations and will support current and future operations. The Spider Increment 1A Army Procurement Objective is 705 systems and the overall Spider program has an Approved Acquisition Objective (AAO) of 705 systems. This item is Code A approved for service use.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	-	-	-	-	-	-	-	-
	Total Obligation Authority	4.500	11.877	6.995	-	6.995	2.964	-	1.962
ANG	Quantity	-	-	-	-	-	-	-	-
	Total Obligation Authority	-	1.468	3.935	-	3.935	9.578	8.648	2.062
AR	Quantity	-	-	-	-	-	-	-	-
	Total Obligation Authority	-	-	-	-	-	1.440	-	-
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
	<b>Total Obligation Authority</b>	<b>4.500</b>	<b>13.345</b>	<b>10.930</b>	<b>-</b>	<b>10.930</b>	<b>13.982</b>	<b>8.648</b>	<b>4.024</b>

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 32: Comm - Combat Communications	<b>P-1 Line Item Number / Title:</b> 8558B54020 / Spider Family of Networked Munitions Incr
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> 0604808A
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**Line Item MDAP/MAIS Code:** N/A

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	B54020 / Spider Family of Networked Munitions Incr	P-5a	A		- / 17.995	- / 4.500	- / 13.345	- / 10.930	- / -	- / 10.930
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 17.995</b>	<b>- / 4.500</b>	<b>- / 13.345</b>	<b>- / 10.930</b>	<b>- / -</b>	<b>- / 10.930</b>

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

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

**Justification:**

FY 2020 Base procurement dollars in the amount of \$10.930 million supports the procurement of 60 Spider Increment 1A systems.

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.

Prior year quantities were 100, fielding 94 Spider Systems and 6 were for testing. There is no FY 2018 procurement.

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 32	<b>P-1 Line Item Number / Title:</b> 8558B54020 / Spider Family of Networked Munitions Incr	<b>Item Number / Title [DODIC]:</b> B54020 / Spider Family of Networked Munitions Incr

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A	<b>MDAP/MAIS Code:</b>
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Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	17.995	4.500	13.345	10.930	-	10.930
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	17.995	4.500	13.345	10.930	-	10.930
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>17.995</b>	<b>4.500</b>	<b>13.345</b>	<b>10.930</b>	<b>-</b>	<b>10.930</b>

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

Initial Spares (\$ in Millions)	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	281.172	-	83.406	112.680	-	112.680

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
<b>Flyaway Cost</b>																		
Non Recurring Cost																		
Northrup Gruman Production Support and Engineering Change Orders (ECO)	-	-	0.654	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Production Engineering Change Orders (ECO)	-	-	-	-	-	-	-	-	-	-	-	1.560	-	-	-	-	-	1.560
<i>Subtotal: Non Recurring Cost</i>	-	-	<i>0.654</i>	-	-	-	-	-	-	-	-	<i>1.560</i>	-	-	-	-	-	<i>1.560</i>
<i>Subtotal: Flyaway Cost</i>	-	-	<i>0.654</i>	-	-	-	-	-	-	-	-	<i>1.560</i>	-	-	-	-	-	<i>1.560</i>
<b>Hardware Cost</b>																		
Recurring Cost																		
Spider System <sup>(†)</sup>	75.170	100	7.517	-	-	-	47.800	160	7.648	59.817	60	3.589	-	-	-	59.817	60	3.589
Initial Issue Spares	40.545	11	0.446	-	-	-	-	-	-	-	-	0.896	-	-	-	-	-	0.896
Production Verification Test (PVT), Lot Acceptance Test (LAT), First Article Acceptance Test (FAAT)	-	-	4.784	-	-	-	-	-	0.365	-	-	0.330	-	-	-	-	-	0.330
Government Manufacturing (NATICK)	-	-	0.103	-	-	-	0.750	160	0.120	-	-	0.110	-	-	-	-	-	0.110

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 32		<b>P-1 Line Item Number / Title:</b> 8558B54020 / Spider Family of Networked Munitions Incr
		<b>Item Number / Title [DODIC]:</b> B54020 / Spider Family of Networked Munitions Incr
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A		<b>MDAP/MAIS Code:</b>

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
<i>Subtotal: Recurring Cost</i>	-	-	12.850	-	-	-	-	-	8.133	-	-	4.925	-	-	-	-	-	4.925
Non Recurring Cost																		
DLA Spider Demo	-	-	-	-	-	0.133	-	-	-	-	-	-	-	-	-	-	-	-
Spider Parts	-	-	-	-	-	1.246	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Non Recurring Cost</i>	-	-	-	-	-	1.379	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Hardware Cost</i>	-	-	12.850	-	-	1.379	-	-	8.133	-	-	4.925	-	-	-	-	-	4.925
Software Cost																		
Recurring Cost																		
Green Hill Software	-	-	0.055	-	-	0.055	-	-	0.057	-	-	0.059	-	-	-	-	-	0.059
<i>Subtotal: Recurring Cost</i>	-	-	0.055	-	-	0.055	-	-	0.057	-	-	0.059	-	-	-	-	-	0.059
<i>Subtotal: Software Cost</i>	-	-	0.055	-	-	0.055	-	-	0.057	-	-	0.059	-	-	-	-	-	0.059
Logistics Cost																		
Recurring Cost																		
Contractor Logistics Support	-	-	0.401	-	-	0.084	-	-	0.591	-	-	0.820	-	-	-	-	-	0.820
TACOM ILSC	-	-	0.154	-	-	0.151	-	-	0.200	-	-	0.224	-	-	-	-	-	0.224
TACOM Materiel Fielding & Training	-	-	-	-	-	-	-	-	0.040	-	-	0.237	-	-	-	-	-	0.237
Depot Support	-	-	-	-	-	-	-	-	0.075	-	-	0.075	-	-	-	-	-	0.075
New Equipment Training (NET)	-	-	-	-	-	-	-	-	0.960	-	-	0.372	-	-	-	-	-	0.372
Millenium Contract	-	-	-	-	-	-	-	-	-	-	-	0.040	-	-	-	-	-	0.040
Fibertek Contract	-	-	-	-	-	0.031	-	-	-	-	-	0.033	-	-	-	-	-	0.033
Yuma Proving Grounds	-	-	-	-	-	0.115	-	-	-	-	-	-	-	-	-	-	-	-
TAC Code	-	-	-	-	-	-	-	-	-	-	-	0.015	-	-	-	-	-	0.015
<i>Subtotal: Recurring Cost</i>	-	-	0.555	-	-	0.381	-	-	1.866	-	-	1.816	-	-	-	-	-	1.816
<i>Subtotal: Logistics Cost</i>	-	-	0.555	-	-	0.381	-	-	1.866	-	-	1.816	-	-	-	-	-	1.816
Support - Production Engineering Cost																		
Production Engineering	-	-	2.995	-	-	2.417	-	-	2.003	-	-	1.697	-	-	-	-	-	1.697
<i>Subtotal: Support - Production Engineering Cost</i>	-	-	2.995	-	-	2.417	-	-	2.003	-	-	1.697	-	-	-	-	-	1.697
Support - Program Management Cost																		
Government Management	-	-	0.886	-	-	0.162	-	-	0.917	-	-	0.542	-	-	-	-	-	0.542

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 32	<b>P-1 Line Item Number / Title:</b> 8558B54020 / Spider Family of Networked Munitions Incr	<b>Item Number / Title [DODIC]:</b> B54020 / Spider Family of Networked Munitions Incr
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A		<b>MDAP/MAIS Code:</b>

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
<i>Subtotal: Support - Program Management Cost</i>	-	-	0.886	-	-	0.162	-	-	0.917	-	-	0.542	-	-	-	-	-	0.542
<i>Support - Study &amp; Analysis Cost</i>																		
Study & Analysis	-	-	-	-	-	0.106	-	-	0.369	-	-	0.331	-	-	-	-	-	0.331
<i>Subtotal: Support - Study &amp; Analysis Cost</i>	-	-	-	-	-	0.106	-	-	0.369	-	-	0.331	-	-	-	-	-	0.331
<b>Gross/Weapon System Cost</b>	281.172	-	17.995	-	-	4.500	83.406	-	13.345	112.680	-	10.930	-	-	-	112.680	-	10.930

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	-	-	-	-	-
	Total Obligation Authority	4.500	11.877	6.995	-	6.995
ANG	Quantity	-	-	-	-	-
	Total Obligation Authority	-	1.468	3.935	-	3.935
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	-	-	-	-	-
	<b>Total Obligation Authority</b>	4.500	13.345	10.930	-	10.930

(†) indicates the presence of a P-5a

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<b>Exhibit P-5a, Procurement History and Planning:</b> PB 2020 Army							<b>Date:</b> March 2019				
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 32			<b>P-1 Line Item Number / Title:</b> 8558B54020 / Spider Family of Networked Munitions Incr				<b>Item Number / Title [DODIC]:</b> B54020 / Spider Family of Networked Munitions Incr				

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
Spider System		2016	Northrop Grumman / Redondo Beach	SS / FFP	Picatinny Arsenal, NJ	Oct 2017	Jun 2018	36	75.170	Y		
Spider System		2017	Northrop Grumman / Redondo Beach	SS / FFP	Picatinny Arsenal, NJ	Oct 2017	Jun 2018	64	75.170	Y		
Spider System		2019	TBS / TBS	C / FFP	Picatinny Arsenal, NJ	Mar 2019	Mar 2020	160	47.800	Y		
Spider System		2020	TBS / TBS	C / FFP	Picatinny Arsenal, NJ	Mar 2020	Mar 2021	60	59.817	Y		

**Remarks:**  
 FY 2016 and FY 2017 Low-Rate Initial Production (LRIP) was let on Engineering & Manufacturing Development (EMD) contract option with Northrop Grumman 1st Quarter FY 2018.  
 FY 2019 Full Rate Production (FRP) is scheduled for 2nd Quarter FY 2019.

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 32: Comm - Combat Communications	<b>P-1 Line Item Number / Title:</b> 8562B55510 / Tactical Communications And Protective System
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	2,110	1,520	6,950	-	-	-	-	-	-	-	-	10,580
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	96.693	4.411	10.368	-	-	-	-	-	-	-	-	111.472
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	96.693	4.411	10.368	-	-	-	-	-	-	-	-	111.472
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>96.693</b>	<b>4.411</b>	<b>10.368</b>	-	-	-	-	-	-	-	-	<b>111.472</b>

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

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	45.826	2.902	1.492	-	-	-	-	-	-	-	-	10.536

**Description:**

The Tactical Communications and Protective System (TCAPS) provides Soldiers with advanced active hearing protection that simultaneously protects Soldiers' hearing (from harmful Impulse and Steady-State Noises), while enabling situational awareness (e.g., enhanced ability to detect sounds) and mission command (e.g., voice communications over a tactical radio). TCAPS enhances survivability and situational awareness by protecting Soldiers from noise induced hearing loss. Soldiers wearing TCAPS are provided the capability to amplify faint sounds that under normal circumstance would not be audible or intelligible with the naked ear, as well as the ability to detect the direction of the sound, while wearing a hearing protection device.

TCAPS employs Commercial-Off-The-Shelf (COTS) solutions that are evaluated on a periodic basis, in order to validate performance requirements and Soldier acceptance. The best commercial solution(s) evaluated are transitioned into sustainment and fielding. TCAPS hearing protection contributes to the reduction of post-service disability compensation and limits lost in-service time related to hearing injuries. To accommodate existing situations for Soldiers not assigned a tactical radio, the TCAPS Program includes a TCAPS-Lite variant that provides hearing protection and situational awareness similar to that of a TCAPS.

TCAPS Approved Acquisition Objective is 111,347.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	1,520	6,950	-	-	-	-	-	-
	Total Obligation Authority	4.411	10.368	-	-	-	-	-	-
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	<b>1,520</b>	<b>6,950</b>	-	-	-	-	-	-
	<b>Total Obligation Authority</b>	<b>4.411</b>	<b>10.368</b>	-	-	-	-	-	-

**Justification:**

Program has no FY2020 funding request.

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<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 32: Comm - Combat Communications		<b>P-1 Line Item Number / Title:</b> 8562B55510 / Tactical Communications And Protective System
<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
<b>Line Item MDAP/MAIS Code:</b> N/A		
<p>"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 2020 Army **Date:** March 2019

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 32: Comm - Combat Communications	<b>P-1 Line Item Number / Title:</b> 8563B58601 / Unified Command Suite
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	61.594	15.275	16.270	9.291	-	9.291	7.448	-	-	-	-	109.878
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	61.594	15.275	16.270	9.291	-	9.291	7.448	-	-	-	-	109.878
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>61.594</b>	<b>15.275</b>	<b>16.270</b>	<b>9.291</b>	<b>-</b>	<b>9.291</b>	<b>7.448</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>109.878</b>

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

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

**Description:**

The Unified Command Suite (UCS) supports the Army's Modernization Strategy Line of Effort (LOE) 4 - Command Post. Title 10 USC 12310, (1999) established the Weapons of Mass Destruction Civil Support Teams (WMD-CST) and on 17 August 2006, the Joint Requirements Oversight Council (JROC) approved the Unified Command Suite (UCS) Capability Production Document (CPD) as a Program of Record (PoR). Since then the National Defense Authorization Act (NDAA) of 2013 expanded the number of WMD-CST's from 55 to 57 units.

The UCS is a fully integrated mobile communications platform that is self-sufficient and highly interoperable by integrating commercial off the shelf (COTS) and government off the shelf (GOTS) military communications hardware. UCS provides communications interoperability with Federal, State, Local and Military Emergency Response elements at incident scenes. UCS provides reach back capability which allows Incident Commanders the ability to assess an incident scene, advise responders, and facilitate access to Department of Defense information. UCS provides critical Key Performance Parameter directed reach back communications for Analytical Laboratory Systems (ALS) and other Civil Support Team (CST) systems.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	1.831	1.500	-	-	-	-	-	-	-
ANG									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	13.444	14.770	9.291	-	9.291	7.448	-	-	-
<b>Total: Secondary Distribution</b>									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	<b>15.275</b>	<b>16.270</b>	<b>9.291</b>	<b>-</b>	<b>9.291</b>	<b>7.448</b>	<b>-</b>	<b>-</b>	<b>-</b>

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 32: Comm - Combat Communications	<b>P-1 Line Item Number / Title:</b> 8563B58601 / Unified Command Suite
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	B58601 / Unified Command Suite				- / 61.594	- / 15.275	- / 16.270	- / 9.291	- / -	- / 9.291
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 61.594</b>	<b>- / 15.275</b>	<b>- / 16.270</b>	<b>- / 9.291</b>	<b>- / -</b>	<b>- / 9.291</b>

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

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

**Justification:**  
 FY 2020 Base funding in the amount of \$9.291 million will continue to modernize, upgrade, and procure components for the Unified Command Suite (UCS) for the National Guard Bureau Weapons of Mass Destruction Civil Support Teams (WMD-CST). FY2020 funding will continue upgrading the Land Mobile Radios (LMR) and Satellite Communications (SATCOM). FY2020 funds will also support Radio Interconnection and Server Modernization efforts.

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 32	<b>P-1 Line Item Number / Title:</b> 8563B58601 / Unified Command Suite	<b>Item Number / Title [DODIC]:</b> B58601 / Unified Command Suite

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	61.594	15.275	16.270	9.291	-	9.291
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	61.594	15.275	16.270	9.291	-	9.291
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>61.594</b>	<b>15.275</b>	<b>16.270</b>	<b>9.291</b>	<b>-</b>	<b>9.291</b>

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

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

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
<b>Flyaway Cost</b>																		
Recurring Cost																		
Program Office Support	-	-	2.497	-	-	0.375	-	-	-	-	-	-	-	-	-	-	-	-
Fielding	-	-	26.214	-	-	4.436	-	-	-	-	-	-	-	-	-	-	-	-
New Equipment Training	-	-	0.468	-	-	0.044	-	-	-	-	-	-	-	-	-	-	-	-
Hardware	376.919	86	32.415	162.813	64	10.420	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	61.594	-	-	15.275	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Flyaway Cost</i>	-	-	<b>61.594</b>	-	-	<b>15.275</b>	-	-	-	-	-	-	-	-	-	-	-	-

<b>Hardware Cost</b>																		
Recurring Cost																		
Recurring Manufacturing - VTC / BGAN	-	-	-	-	-	-	21.609	64	1.383	-	-	-	-	-	-	-	-	-
Recurring Manufacturing - SATCOM / LMR's	-	-	-	-	-	-	231.658	38	8.803	236.923	13	3.080	-	-	-	236.923	13	3.080
Recurring Manufacturing - Server Modernization / Radio Interconnection	-	-	-	-	-	-	-	-	-	186.400	10	1.864	-	-	-	186.400	10	1.864
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	10.186	-	-	4.944	-	-	-	-	-	4.944
Non Recurring Cost																		

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 32	<b>P-1 Line Item Number / Title:</b> 8563B58601 / Unified Command Suite	<b>Item Number / Title [DODIC]:</b> B58601 / Unified Command Suite

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Non-Recurring Engineering - VTC / BGAN	-	-	-	-	-	-	12.781	64	0.818	-	-	-	-	-	-	-	-	-
<i>Subtotal: Non Recurring Cost</i>	-	-	-	-	-	-	-	-	0.818	-	-	-	-	-	-	-	-	-
<i>Subtotal: Hardware Cost</i>	-	-	-	-	-	-	-	-	11.004	-	-	4.944	-	-	-	-	-	4.944
<b>Support - Engineering Change Proposals Cost</b>																		
Engineering Change Proposals	-	-	-	-	-	-	-	-	1.576	-	-	1.092	-	-	-	-	-	1.092
<i>Subtotal: Support - Engineering Change Proposals Cost</i>	-	-	-	-	-	-	-	-	1.576	-	-	1.092	-	-	-	-	-	1.092
<b>Support - Government Furnished Materials Cost</b>																		
Government Furnished Materials	-	-	-	-	-	-	3.797	64	0.243	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - Government Furnished Materials Cost</i>	-	-	-	-	-	-	-	-	0.243	-	-	-	-	-	-	-	-	-
<b>Support - Initial Spares and Repair Parts Cost</b>																		
Initial Spares and Repair Parts	-	-	-	-	-	-	-	-	0.312	-	-	0.264	-	-	-	-	-	0.264
<i>Subtotal: Support - Initial Spares and Repair Parts Cost</i>	-	-	-	-	-	-	-	-	0.312	-	-	0.264	-	-	-	-	-	0.264
<b>Support - Program Management Cost</b>																		
Government Management	-	-	-	-	-	-	-	-	2.536	-	-	2.096	-	-	-	-	-	2.096
<i>Subtotal: Support - Program Management Cost</i>	-	-	-	-	-	-	-	-	2.536	-	-	2.096	-	-	-	-	-	2.096
<b>Support - Quality Assurance Cost</b>																		
Quality Assurance	-	-	-	-	-	-	-	-	0.052	-	-	0.028	-	-	-	-	-	0.028
<i>Subtotal: Support - Quality Assurance Cost</i>	-	-	-	-	-	-	-	-	0.052	-	-	0.028	-	-	-	-	-	0.028
<b>Support - System Test and Evaluation Cost</b>																		
Test and Evaluation Support	-	-	-	-	-	-	-	-	0.418	-	-	0.778	-	-	-	-	-	0.778
<i>Subtotal: Support - System Test and Evaluation Cost</i>	-	-	-	-	-	-	-	-	0.418	-	-	0.778	-	-	-	-	-	0.778
<b>Support - Training Cost</b>																		
Equipment	-	-	-	-	-	-	-	-	0.129	-	-	0.089	-	-	-	-	-	0.089

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>												<b>Date:</b> March 2019					
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 32						<b>P-1 Line Item Number / Title:</b> 8563B58601 / Unified Command Suite						<b>Item Number / Title [DODIC]:</b> B58601 / Unified Command Suite					
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :												<b>MDAP/MAIS Code:</b>					

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
<i>Subtotal: Support - Training Cost</i>	-	-	-	-	-	-	-	-	0.129	-	-	0.089	-	-	-	-	-	0.089
<b>Gross/Weapon System Cost</b>	-	-	61.594	-	-	15.275	-	-	16.270	-	-	9.291	-	-	-	-	-	9.291

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	-	-	-	-	-
	Total Obligation Authority	1.831	1.500	-	-	-
ANG	Quantity	-	-	-	-	-
	Total Obligation Authority	13.444	14.770	9.291	-	9.291
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	-	-	-	-	-
	<b>Total Obligation Authority</b>	15.275	16.270	9.291	-	9.291

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 32: Comm - Combat Communications	<b>P-1 Line Item Number / Title:</b> 9164BU8100 / COTS Communications Equipment
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	-	-	85.835	55.630	20.400	76.030	103.544	106.307	113.718	112.258	-	597.692
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	-	-	85.835	55.630	20.400	76.030	103.544	106.307	113.718	112.258	-	597.692
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	-	-	<b>85.835</b>	<b>55.630</b>	<b>20.400</b>	<b>76.030</b>	<b>103.544</b>	<b>106.307</b>	<b>113.718</b>	<b>112.258</b>	-	<b>597.692</b>

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

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	-	-	115.060	147.169	-	201.138	86.143	85.387	87.813	94.334	-	98.694

**Description:**

The COTS program supports the Army Network Modernization Strategy Line of Effort 1, Unified Network.

COTS Communications Equipment procures non-developmental items and services in support of the Army's Network Modernization Strategy by providing interoperability and continuity through the procurement of tactical communication enhancement equipment, ancillaries, and related services. The Integrated Tactical Network (ITN) family of radios fills critical communications gaps and allows the Army to pivot strategically and adjust agilely to changes in combatant environments. It includes but is not limited to: High Frequency (HF) radios, Link-16 handheld radios, line-of-sight (LOS)/BLOS radios, satellite radios, foliage-dense environment radios, and subterranean radios. These items will provide software-defined communication systems and operational utility and adaptability through simplified and protected communications. Procurements will include technical characteristics of Low Probability Intercept (LPI) and Low Probability Deception (LPD).

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	-	-	-	-	-	-	-	-
	Total Obligation Authority	-	85.835	45.630	20.400	66.030	93.544	94.757	84.803
ANG	Quantity	-	-	-	-	-	-	-	-
	Total Obligation Authority	-	-	10.000	-	10.000	10.000	11.550	28.915
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	-	-	-	-	-	-	-	-
	<b>Total Obligation Authority</b>	-	<b>85.835</b>	<b>55.630</b>	<b>20.400</b>	<b>76.030</b>	<b>103.544</b>	<b>106.307</b>	<b>113.718</b>

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 32: Comm - Combat Communications	<b>P-1 Line Item Number / Title:</b> 9164BU8100 / COTS Communications Equipment
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	B98105 / COTS Communication Products with Accessories	P-5a, P-21			- / -	- / -	- / 85.835	- / 55.630	- / 20.400	- / 76.030
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / -</b>	<b>- / -</b>	<b>- / 85.835</b>	<b>- / 55.630</b>	<b>- / 20.400</b>	<b>- / 76.030</b>

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

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

**Justification:**  
 FY2020 procurement dollars in the amount of \$55.630 million procures non-developmental items and services in support of the Army's Network Modernization Strategy by providing interoperability and continuity through the procurement of tactical communication enhancement equipment, ancillaries, and related services. The Integrated Tactical Network (ITN) family of radios fills critical communications gaps and allows the Army to pivot strategically and adjust agilely to changes in combatant environments. It includes but is not limited to: High Frequency (HF)radios, Link-16 handheld radios, line-of-sight (LOS)/BLOS radios, satellite radios, foliage-dense environment radios, and subterranean radios. These items will provide software-defined communication systems and operational utility and adaptability through simplified and protected communications. Procurements will include technical characteristics of Low Probability Intercept (LPI) and Low Probability Deception (LPD).

FY2020 OCO procurement dollars in the amount of \$20.400 million support procurement of non-developmental items from the family of Next Generation High Frequency (HF) beyond line of sight (BLOS) communication systems and supports the Army's Network Modernization Strategy by providing interoperability and continuity through the procurement of tactical communication enhancement equipment, ancillaries, and related services.

Requirement is documented in HF Army Acquisition Objective (AAO) dated 21 Aug 2008 and the Revised Required Operation Capability (ROC) for the Improved HF Radio (IHFR) System, USATRADOC ACN 62949 dated 4 Jan 1982.

In accordance with Section 1815 of the FY 2008 National Defense Authorization Act (P.L. 110-118), this item is necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities.

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>											<b>Date:</b> March 2019							
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 32						<b>P-1 Line Item Number / Title:</b> 9164BU8100 / COTS Communications Equipment						<b>Item Number / Title [DODIC]:</b> B98105 / COTS Communication Products with Accessories						
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :											<b>MDAP/MAIS Code:</b>							
<b>Resource Summary</b>				<b>Prior Years</b>		<b>FY 2018</b>			<b>FY 2019</b>			<b>FY 2020 Base</b>			<b>FY 2020 OCO</b>		<b>FY 2020 Total</b>	
Procurement Quantity (Units in Each)				-		-			-			-			-		-	
Gross/Weapon System Cost (\$ in Millions)				-		-			85.835			55.630			20.400		76.030	
Less PY Advance Procurement (\$ in Millions)				-		-			-			-			-		-	
Net Procurement (P-1) (\$ in Millions)				-		-			85.835			55.630			20.400		76.030	
Plus CY Advance Procurement (\$ in Millions)				-		-			-			-			-		-	
<b>Total Obligation Authority (\$ in Millions)</b>				-		-			<b>85.835</b>			<b>55.630</b>			<b>20.400</b>		<b>76.030</b>	
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>																		
Initial Spares (\$ in Millions)				-		-			-			-			-		-	
Gross/Weapon System Unit Cost (\$ in Thousands)				-		-			115.060			147.169			-		201.138	

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
<b>Hardware Cost</b>																		
<b>Recurring Cost</b>																		
Next Gen HF Vehicle System <sup>(†)</sup>	-	-	-	-	-	-	98.757	226	22.319	80.535	99	7.973	99.029	206	20.400	93.026	305	28.373
ITN System of Radios <sup>(†)</sup>	-	-	-	-	-	-	-	-	-	45.573	279	12.715	-	-	-	45.573	279	12.715
Voice/Data Gateways	-	-	-	-	-	-	-	-	-	-	-	16.899	-	-	-	-	-	16.899
Ancillaries, Enhancements, and Related Services	-	-	-	-	-	-	-	-	-	-	-	4.000	-	-	-	-	-	4.000
Next Gen HF Vehicle System - Global Response Force <sup>(†)</sup>	-	-	-	-	-	-	98.760	129	12.740	-	-	-	-	-	-	-	-	-
Next Gen HF Vehicle System - FOCUS Readiness <sup>(†)</sup>	-	-	-	-	-	-	98.745	165	16.293	-	-	-	-	-	-	-	-	-
Next Gen HF TOC System <sup>(†)</sup>	-	-	-	-	-	-	119.000	5	0.595	-	-	-	-	-	-	-	-	-
Next Gen HF TOC System - OCONUS European Response Initiative <sup>(†)</sup>	-	-	-	-	-	-	98.760	221	21.826	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	73.773	-	-	41.587	-	-	20.400	-	-	61.987
<i>Subtotal: Hardware Cost</i>	-	-	-	-	-	-	-	-	73.773	-	-	41.587	-	-	20.400	-	-	61.987



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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 32	<b>P-1 Line Item Number / Title:</b> 9164BU8100 / COTS Communications Equipment	<b>Item Number / Title [DODIC]:</b> B98105 / COTS Communication Products with Accessories

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Logistics Cost																		
Recurring Cost																		
Sustainment Logistics	-	-	-	-	-	-	-	-	1.129	-	-	1.723	-	-	-	-	-	1.723
FSR	-	-	-	-	-	-	-	-	0.650	-	-	1.210	-	-	-	-	-	1.210
Safety and Platform Integration	-	-	-	-	-	-	-	-	5.500	-	-	5.540	-	-	-	-	-	5.540
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	7.279	-	-	8.473	-	-	-	-	-	8.473
<i>Subtotal: Logistics Cost</i>	-	-	-	-	-	-	-	-	7.279	-	-	8.473	-	-	-	-	-	8.473
Support - Fielding Cost																		
Fielding	-	-	-	-	-	-	-	-	1.650	-	-	2.100	-	-	-	-	-	2.100
<i>Subtotal: Support - Fielding Cost</i>	-	-	-	-	-	-	-	-	1.650	-	-	2.100	-	-	-	-	-	2.100
Support - Program Management Cost																		
Government Management	-	-	-	-	-	-	-	-	1.000	-	-	1.200	-	-	-	-	-	1.200
<i>Subtotal: Support - Program Management Cost</i>	-	-	-	-	-	-	-	-	1.000	-	-	1.200	-	-	-	-	-	1.200
Support - System Engineering Cost																		
System Engineering	-	-	-	-	-	-	-	-	1.583	-	-	1.620	-	-	-	-	-	1.620
<i>Subtotal: Support - System Engineering Cost</i>	-	-	-	-	-	-	-	-	1.583	-	-	1.620	-	-	-	-	-	1.620
Support - Training Cost																		
Equipment	-	-	-	-	-	-	-	-	0.550	-	-	0.650	-	-	-	-	-	0.650
<i>Subtotal: Support - Training Cost</i>	-	-	-	-	-	-	-	-	0.550	-	-	0.650	-	-	-	-	-	0.650
<b>Gross/Weapon System Cost</b>	-	-	-	-	-	-	115.060	-	85.835	147.169	-	55.630	-	-	20.400	201.138	-	76.030

**Remarks:**  
 ITN System of Radios - This family of radios fills in critical communications gaps in the Integrated Tactical Network (ITN) and allows the Army to pivot strategically and adjust agilely to changes in combatant environments. It includes but is not limited to: high frequency (HF) radios, Link-16 handheld radios, line-of-sight (LOS)/beyond-line-of sight (BLOS) radios, satellite radios, foliage-dense environment radios, and subterranean radios.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	-	-	-	-	-

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<b>Exhibit P-5, Cost Analysis:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 32	<b>P-1 Line Item Number / Title:</b> 9164BU8100 / COTS Communications Equipment	<b>Item Number / Title [DODIC]:</b> B98105 / COTS Communication Products with Accessories

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

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
	Total Obligation Authority	-	85.835	45.630	20.400	66.030
ANG	Quantity	-	-	-	-	-
	Total Obligation Authority	-	-	10.000	-	10.000
<b>Total:</b>	<b>Quantity</b>	-	-	-	-	-
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	-	85.835	55.630	20.400	76.030

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

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<b>Exhibit P-5a, Procurement History and Planning:</b> PB 2020 Army							<b>Date:</b> March 2019				
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 32			<b>P-1 Line Item Number / Title:</b> 9164BU8100 / COTS Communications Equipment				<b>Item Number / Title [DODIC]:</b> B98105 / COTS Communication Products with Accessories				

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
Next Gen HF Vehicle System <sup>(†)</sup>		2019	TBD - Next Gen HF - TBD* / TBD	C / FFP	TBD	Mar 2019	Jun 2019	226	98.757	Y		
Next Gen HF Vehicle System <sup>(†)</sup>		2020	TBD - Next Gen HF - TBD* / TBD	C / FFP	TBD	Mar 2020	Jun 2020	305	93.026	Y		
ITN System of Radios <sup>(†)</sup>		2020	TBD - ITN System of Radios / TBD	C / FFP	TBD	Mar 2020	Jun 2020	279	45.573	Y		
Next Gen HF Vehicle System - Global Response Force		2019	TBD - Next Gen HF - TBD* / TBD	C / FFP	TBD	Mar 2019	Jun 2019	129	98.760	Y		
Next Gen HF Vehicle System - FOCUS Readiness		2019	TBD - Next Gen HF - TBD* / TBD	C / FFP	TBD	Mar 2019	Jun 2019	165	98.745	Y		
Next Gen HF TOC System		2019	TBD - Next Gen HF - TBD* / TBD	C / FFP	TBD	Mar 2019	Jun 2019	5	119.000	Y		
Next Gen HF TOC System - OCONUS European Response Initiative		2019	TBD - Next Gen HF - TBD* / TBD	C / FFP	TBD	Mar 2019	Jun 2019	221	98.760	Y		

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

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<b>Exhibit P-21, Production Schedule:</b> PB 2020 Army															<b>Date:</b> March 2019														
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 32										<b>P-1 Line Item Number / Title:</b> 9164BU8100 / COTS Communications Equipment										<b>Item Number / Title [DODIC]:</b> B98105 / COTS Communication Products with Accessories									

Cost Elements <i>(Units in Each)</i>						Fiscal Year 2019												Fiscal Year 2020												B A L A N C E	
O C 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
Next Gen HF Vehicle System																															
	1	2019	ARMY	226	0	226																									
	1	2020	ARMY	305	0	305																								205	
ITN System of Radios																															
	2	2020	ARMY	279	0	279																								0	
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	

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<b>Exhibit P-21, Production Schedule:</b> PB 2020 Army															<b>Date:</b> March 2019														
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 32										<b>P-1 Line Item Number / Title:</b> 9164BU8100 / COTS Communications Equipment										<b>Item Number / Title [DODIC]:</b> B98105 / COTS Communication Products with Accessories									

Cost Elements <i>(Units in Each)</i>						Fiscal Year 2021														Fiscal Year 2022														BALANCE		
O C 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						
Next Gen HF Vehicle System																																				
	1	2019	ARMY	226	226	0																														0
	1	2020	ARMY	305	100	205	25	25	25	25	25	25	25	30																						0
ITN System of Radios																																				
	2	2020	ARMY	279	279	0																														0
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P						

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<b>Exhibit P-21, Production Schedule:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 32		<b>P-1 Line Item Number / Title:</b> 9164BU8100 / COTS Communications Equipment
<b>Item Number / Title [DODIC]:</b> B98105 / COTS Communication Products with Accessories		

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Month)			Procurement Leadtime (Months)								
		MSR For 2020	1-8-5 For 2020	MAX For 2020	Initial				Reorder				
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	
1	TBD - Next Gen HF - TBD* - TBD	10	100	200	0	0	0	0	0	0	0	0	0
2	TBD - ITN System of Radios - TBD	10	100	200	0	0	0	0	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 2020 Army **Date:** March 2019

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 32: Comm - Combat Communications	<b>P-1 Line Item Number / Title:</b> 9885MA8000 / Family of Med Comm for Combat Casualty Care
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	2,235	121	1,597	4,016	-	4,016	4,987	431	50	-	-	13,437
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	540.458	15.964	22.226	16.590	1.231	17.821	19.563	11.831	7.480	5.251	-	640.594
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	540.458	15.964	22.226	16.590	1.231	17.821	19.563	11.831	7.480	5.251	-	640.594
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>540.458</b>	<b>15.964</b>	<b>22.226</b>	<b>16.590</b>	<b>1.231</b>	<b>17.821</b>	<b>19.563</b>	<b>11.831</b>	<b>7.480</b>	<b>5.251</b>	<b>-</b>	<b>640.594</b>

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

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	241.816	131.934	13.917	4.131	-	4.438	3.923	27.450	149.600	-	-	47.674

**Description:**

The Medical Communications for Combat Casualty Care (MC4) system interfaces Force Health Protection and medical surveillance information with Army Mission Command information technology systems. The system captures and provides data for future medical care and medical record retention for all Service members. The MC4 system fulfills the requirements highlighted in United States Code: Title 10, Subtitle A, Part II, Chapter 55, Section 1074f, mandating the proper documentation of deployed Service members' medical treatment to include associated medical surveillance, enabling each soldier to have a comprehensive, life-long medical record of all illnesses and injuries. The collection and analysis of medical data provided by the MC4 system provides and enhances medical situational awareness for mission commanders. The MC4 program is currently in full fielding of integrated Information Management/Information Technology (IM/IT) equipment together with current electronic health record software. The MC4 system is comprised of seven subsystem Line Item Numbers (LINs) and is fielded to all Army units with medical assets. The mix of LINs fielded to any unit is directly related to the unit's medical function and will differ dependent on the type of unit. The system is fielded and trained to units as they prepare for deployment or other priority missions. The medical events captured by the MC4 system will provide the Soldiers' electronic health record as well as data to databases and systems that enable commanders to: identify population health trends and outbreaks; reallocate human and materiel resources based on needs; determine if locations are the source of illnesses or injuries; and make better tactical and medical decisions that impact the mission and Soldiers' health.

In prior years, MC4 has procured and fielded equipment aligned with the incremental development of the jointly developed Theater Medical Information Program-Joint (TMIP-J) electronic health record software. As software increments of the TMIP-J version of electronic health record capability have evolved to a final objective state (available in FY18), MC4 hardware has been replaced and upgraded to support the capability provided by the upgraded software increments and releases. New hardware will be fielded to deploying forces, as required, to maintain the electronic health record capability. The Army Acquisition Objective (AAO as of "AAO POM 2024 Report") includes all seven MC4 LINs to be fielded which will operate the final version of the TMIP-J software and totals 43,581 LIN quantities of the MC4 system.

Approval of Joint Theater Medical Information Requirements (TMIR) Information Systems Initial Capabilities Document (IS-ICD) (FY16), Joint Theater Medical Information Requirements (TMIR) Information Systems Capability Development Document (IS-CDD) (FY17), and Army staffing of Adoption package for the TMIR IS-ICD (ongoing) for a modernized electronic health record system created a requirement for the modernization of the electronic health system. Equipment procured and fielded in FY 2020 will be assessed for applicability to future electronic health records requirements as they become known.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army									
Quantity	1	689	1,967	-	1,967	2,444	211	24	-
Total Obligation Authority	0.118	9.557	8.137	1.231	9.368	10.222	5.803	3.669	2.575

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<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2020 Army							<b>Date:</b> March 2019		
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 32: Comm - Combat Communications					<b>P-1 Line Item Number / Title:</b> 9885MA8000 / Family of Med Comm for Combat Casualty Care				
<b>ID Code</b> (A=Service Ready, B=Not Service Ready):			<b>Program Elements for Code B Items:</b> N/A			<b>Other Related Program Elements:</b> N/A			
<b>Line Item MDAP/MAIS Code:</b> N/A									

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
ANG	Quantity	84	680	1,446	-	1,446	1,795	155	18	-
	Total Obligation Authority	11.356	9.779	6.044	-	6.044	6.679	4.310	2.725	1.913
AR	Quantity	36	228	603	-	603	748	65	8	-
	Total Obligation Authority	4.490	2.890	2.409	-	2.409	2.662	1.718	1.086	0.763
<b>Total:</b>	<b>Quantity</b>	<b>121</b>	<b>1,597</b>	<b>4,016</b>	<b>-</b>	<b>4,016</b>	<b>4,987</b>	<b>431</b>	<b>50</b>	<b>-</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>15.964</b>	<b>22.226</b>	<b>16.590</b>	<b>1.231</b>	<b>17.821</b>	<b>19.563</b>	<b>11.831</b>	<b>7.480</b>	<b>5.251</b>



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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 32: Comm - Combat Communications	<b>P-1 Line Item Number / Title:</b> 9885MA8000 / Family of Med Comm for Combat Casualty Care
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	MA8046 / Medical Comm For CBT Casualty Care (MC4)	P-5a			2,235 / 540.458	121 / 15.964	1,597 / 22.226	4,016 / 16.590	- / 1.231	4,016 / 17.821
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>2,235 / 540.458</b>	<b>121 / 15.964</b>	<b>1,597 / 22.226</b>	<b>4,016 / 16.590</b>	<b>- / 1.231</b>	<b>4,016 / 17.821</b>

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

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

**Justification:**  
 FY 2020 Base procurement dollars in the amount of \$16.590 million procures 4,016 end components of the MC4 system for upgraded systems and new equipment fielding and provides new equipment training (NET) as needed for 22 Active units (5 Area Support Medical Companies, 1 Blood Support Detachment, 1 Combat Aviation Brigade HQ, 1 Combat Support Battalion, 1 Combat Stress Control Detachment, 3 Engineer Companies, 2 Ground Ambulance Companies, 1 General Support Aviation Brigade HQ, 1 Medical Brigade HQ, 1 Medical Logistics Company, 1 Multi-Functional Medical Battalion, 1 Military Police Battalion, 1 Preventive Medicine Detachment, 2 Veterinarian Detachments); 9 National Guard units (4 Area Support Medical Companies, 1 Brigade Support Battalion, 2 Engineer Companies, 1 Maneuver Enhancement Brigade HQ, 1 Military Police Battalion); and 7 Army Reserve units (3 Area Support Medical Companies, 1 Minimal Care Detachment, 1 Combat Support Battalion, 1 Engineer Company, 1 Maneuver Enhancement Brigade HQ). Funding also provides contracted support to the program office management and supports production engineering, cybersecurity compliance, hardware procurement, fielding and new equipment training for new systems and capability. New hardware will be fielded to all deploying forces with mission requirements, to maintain the electronic health record capability.

In addition, FY2020 OCO procurement dollars in the amount of \$1.231 million procures 655 end components of the MC4 system for upgraded equipment/systems reset from battle loss in current theater of operations. Units supported include 54 Army medical units across 18 Forward Operating Bases in Afghanistan, to include one Army medical hospital.

PMO Fielding Management civilian salaries from FY19 forward are now funded directly in OMA.

Unit cost depends on the particular equipment LIN that is procured. The program procures seven (7) LINs with significant range in unit cost, resulting in differing unit cost year over year, depending on the quantity of each LIN procured.

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

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 32	<b>P-1 Line Item Number / Title:</b> 9885MA8000 / Family of Med Comm for Combat Casualty Care	<b>Item Number / Title [DODIC]:</b> MA8046 / Medical Comm For CBT Casualty Care (MC4)

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :				<b>MDAP/MAIS Code:</b>					
<b>Resource Summary</b>				<b>Prior Years</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Procurement Quantity (Units in Each)				2,235	121	1,597	4,016	-	4,016
Gross/Weapon System Cost (\$ in Millions)				540.458	15.964	22.226	16.590	1.231	17.821
Less PY Advance Procurement (\$ in Millions)				-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)				540.458	15.964	22.226	16.590	1.231	17.821
Plus CY Advance Procurement (\$ in Millions)				-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>				<b>540.458</b>	<b>15.964</b>	<b>22.226</b>	<b>16.590</b>	<b>1.231</b>	<b>17.821</b>
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>									
Initial Spares (\$ in Millions)				-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)				241.816	131.934	13.917	4.131	-	4.438

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Flyaway Cost																		
Recurring Cost																		
PMO Fielding Management	4,942.455	11	54.367	6,457.000	1	6.457	-	-	-	-	-	-	-	-	-	-	-	-
PMO Management Support <sup>(†)</sup>	1,194.091	11	13.135	1,419.000	1	1.419	3,318.000	1	3.318	2,730.000	1	2.730	-	-	-	2,730.000	1	2.730
Production Engineering <sup>(†)</sup>	4,774.091	11	52.515	3,123.000	1	3.123	5,274.000	1	5.274	3,509.000	1	3.509	-	-	-	3,509.000	1	3.509
<i>Subtotal: Recurring Cost</i>	-	-	120.017	-	-	10.999	-	-	8.592	-	-	6.239	-	-	-	-	-	6.239
<i>Subtotal: Flyaway Cost</i>	-	-	120.017	-	-	10.999	-	-	8.592	-	-	6.239	-	-	-	-	-	6.239
Hardware Cost																		
Recurring Cost																		
Medical Information Systems Equipment <sup>(†)</sup>	4.201	75,777	318.343	2.107	121	0.255	-	-	-	-	-	-	-	-	-	-	-	-
Medical Information Systems Equipment LIN C27503 AN/TYQ 105 <sup>(†)</sup>	-	-	-	-	-	-	-	-	-	1.000	2,125	2.125	-	-	-	1.000	2,125	2.125
Medical Information Systems Equipment LIN C18345 AN/TYQ 106v1 <sup>(†)</sup>	-	-	-	-	-	-	1.800	825	1.485	1.577	673	1.061	1.577	343	0.541	1.577	1,016	1.602
Medical Information Systems Equipment	-	-	-	-	-	-	2.945	487	1.434	2.599	521	1.354	2.009	220	0.442	2.424	741	1.796

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>												<b>Date:</b> March 2019					
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 32						<b>P-1 Line Item Number / Title:</b> 9885MA8000 / Family of Med Comm for Combat Casualty Care						<b>Item Number / Title [DODIC]:</b> MA8046 / Medical Comm For CBT Casualty Care (MC4)					
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :												<b>MDAP/MAIS Code:</b>					

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
LIN C18277 AN/TYQ 107v1 <sup>(†)</sup>																		
Medical Information Systems Equipment LIN C18209 AN/TYQ 107v2 <sup>(†)</sup>	-	-	-	-	-	-	2.648	125	0.331	2.600	45	0.117	1.844	45	0.083	2.222	90	0.200
Medical Information Systems Equipment LIN C41358 AN/TYQ 108v1 <sup>(†)</sup>	-	-	-	-	-	-	40.080	25	1.002	-	-	-	10.000	4	0.040	10.000	4	0.040
Medical Information Systems Equipment LIN C27571 AN/TYQ 108v2 <sup>(†)</sup>	-	-	-	-	-	-	43.440	25	1.086	-	-	-	10.000	4	0.040	10.000	4	0.040
Medical Information Systems Equipment LIN C27639 AN/TYQ 108v3 (Small) <sup>(†)</sup>	-	-	-	-	-	-	4.636	110	0.510	4.592	49	0.225	2.179	39	0.085	3.523	88	0.310
<i>Subtotal: Recurring Cost</i>	-	-	318.339	-	-	0.255	-	-	5.848	-	-	4.882	-	-	1.231	-	-	6.113
<i>Subtotal: Hardware Cost</i>	-	-	318.339	-	-	0.255	-	-	5.848	-	-	4.882	-	-	1.231	-	-	6.113
<b>Package Fielding Cost</b>																		
<b>Recurring Cost</b>																		
Field equipment / conduct New Equip Train <sup>(†)</sup>	9,282.000	11	102.102	4,710.000	1	4.710	7,786.000	1	7.786	5,469.000	1	5.469	-	-	-	5,469.000	1	5.469
<i>Subtotal: Recurring Cost</i>	-	-	102.102	-	-	4.710	-	-	7.786	-	-	5.469	-	-	-	-	-	5.469
<i>Subtotal: Package Fielding Cost</i>	-	-	102.102	-	-	4.710	-	-	7.786	-	-	5.469	-	-	-	-	-	5.469
<b>Gross/Weapon System Cost</b>	<b>241.816</b>	<b>2,235</b>	<b>540.458</b>	<b>131.934</b>	<b>121</b>	<b>15.964</b>	<b>13.917</b>	<b>1,597</b>	<b>22.226</b>	<b>4.131</b>	<b>4,016</b>	<b>16.590</b>	<b>-</b>	<b>-</b>	<b>1.231</b>	<b>4.438</b>	<b>4,016</b>	<b>17.821</b>

**Remarks:**

- 1) Cost element breakout -
  - a) Flyaway recurring PMO Fielding Management FY18 and Prior included program Government Civilians. In FY19, this funding requirement moved to OMA APE 435107000
  - b) Flyaway recurring PMO Management Support includes contractor program management support and program office costs
  - c) Flyaway recurring Production Engineering is contractor effort to produce a fieldable product, to include cybersecurity compliance, engineering changes, hardware evaluations, and other system engineering
  - d) Hardware recurring Medical Information Systems Equipment FY18 and Prior included a quantity and cost summation of the 7 equipment Line Item Numbers (LINs) associated with the MC4 Program. From FY19 forward, hardware quantity and cost is shown at the individual LIN level vice the aggregated level. Quantities are estimated to support projected Army unit mission Modified Table Of Equipment (MTOE) requirements.

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 32	<b>P-1 Line Item Number / Title:</b> 9885MA8000 / Family of Med Comm for Combat Casualty Care	<b>Item Number / Title [DODIC]:</b> MA8046 / Medical Comm For CBT Casualty Care (MC4)

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

e) Package Fielding Recurring includes contractor effort to field the 7 LINs and provide new equipment training to units with missions requiring the MC4 system to electronically capture health records for deployed Soldiers.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	1	689	1,967	-	1,967
	Total Obligation Authority	0.118	9.557	8.137	1.231	9.368
ANG	Quantity	84	680	1,446	-	1,446
	Total Obligation Authority	11.356	9.779	6.044	-	6.044
AR	Quantity	36	228	603	-	603
	Total Obligation Authority	4.490	2.890	2.409	-	2.409
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	<b>121</b>	<b>1,597</b>	<b>4,016</b>	<b>-</b>	<b>4,016</b>
	<b>Total Obligation Authority</b>	<b>15.964</b>	<b>22.226</b>	<b>16.590</b>	<b>1.231</b>	<b>17.821</b>

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

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Exhibit P-5a, Procurement History and Planning: PB 2020 Army								Date: March 2019				
Appropriation / Budget Activity / Budget Sub Activity: 2035A / 02 / 32			P-1 Line Item Number / Title: 9885MA8000 / Family of Med Comm for Combat Casualty Care					Item Number / Title [DODIC]: MA8046 / Medical Comm For CBT Casualty Care (MC4)				
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
PMO Management Support		2018	Octo Consulting / Tysons Corner, VA	C / CPFF	ACC-RI	Jul 2018	Aug 2018	1	1,419.000	N		
PMO Management Support		2019	TBS / TBS	C / CPFF	ACC-RI	Jul 2019	Aug 2019	1	3,318.000	N		Apr 2019
PMO Management Support		2020	TBS / TBS	C / CPFF	ACC-RI	Jul 2020	Aug 2020	1	2,730.000	N		
Production Engineering		2018	CACI / Reston, VA	C / FP	GSA	Dec 2017	Jan 2018	1	3,123.000	N		
Production Engineering		2019	CACI / Reston, VA	C / FP	GSA	Dec 2018	Jan 2019	1	5,274.000	N		
Production Engineering		2020	TBS / TBS	C / FP	GSA	Dec 2019	Jan 2020	1	3,509.000	N		
Medical Information Systems Equipment		2016	VAR / VAR	C / FP	ACC-RI	Aug 2016	Nov 2016	1,627	2.680	N		
Medical Information Systems Equipment		2017	VAR / VAR	C / FP	ACC-RI	Jun 2017	Aug 2017	3,011	0.770	N	Apr 2017	
Medical Information Systems Equipment		2018	VAR / VAR	C / FP	ACC-RI	Feb 2018	Apr 2018	121	2.107	N	Dec 2017	Jan 2018
Medical Information Systems Equipment LIN C27503 AN/TYQ 105		2020	TBS / TBS	C / FP	ACC-RI	Jan 2020	Apr 2020	2,125	1.000	N		
Medical Information Systems Equipment LIN C18345 AN/TYQ 106v1		2019	TBS / TBS	C / FP	ACC-RI	Dec 2018	Apr 2019	825	1.800	N		Nov 2018
Medical Information Systems Equipment LIN C18345 AN/TYQ 106v1		2020	TBS / TBS	C / FP	ACC-RI	Jan 2020	Apr 2020	1,016	1.577	N		Nov 2019
Medical Information Systems Equipment LIN C18277 AN/TYQ 107v1		2019	TBS / TBS	C / FP	ACC-RI	Nov 2018	Feb 2019	487	2.945	N	Feb 2019	Oct 2018
Medical Information Systems Equipment LIN C18277 AN/TYQ 107v1		2020	TBS / TBS	C / FP	ACC-RI	Jan 2020	Apr 2020	741	2.424	N		Nov 2019
Medical Information Systems Equipment LIN C18209 AN/TYQ 107v2		2019	TBS / TBS	C / FP	ACC-RI	Dec 2018	Apr 2019	125	2.648	N		Nov 2018
Medical Information Systems Equipment LIN C18209 AN/TYQ 107v2		2020	TBS / TBS	C / FP	ACC-RI	Jan 2020	Apr 2020	90	2.222	N		Nov 2019
Medical Information Systems Equipment LIN C41358 AN/TYQ 108v1		2019	TBS / TBS	C / FP	ACC-RI	Jan 2019	Apr 2019	25	40.080	N		Nov 2018
Medical Information Systems Equipment LIN C41358 AN/TYQ 108v1	✓	2020	TBS / TBS	C / FP	ACC-RI	Mar 2020	Jun 2020	4	10.000	N		Jan 2020

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<b>Exhibit P-5a, Procurement History and Planning: PB 2020 Army</b>								<b>Date:</b> March 2019				
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 32			<b>P-1 Line Item Number / Title:</b> 9885MA8000 / Family of Med Comm for Combat Casualty Care					<b>Item Number / Title [DODIC]:</b> MA8046 / Medical Comm For CBT Casualty Care (MC4)				
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
Medical Information Systems Equipment LIN C27571 AN/TYQ 108v2		2019	TBS / TBS	C / FP	ACC-RI	Jan 2019	Apr 2019	25	43.440	N		Nov 2018
Medical Information Systems Equipment LIN C27571 AN/TYQ 108v2	✓	2020	TBS / TBS	C / FP	ACC-RI	Mar 2020	Jun 2020	4	10.000	N		Jan 2020
Medical Information Systems Equipment LIN C27639 AN/TYQ 108v3 (Small)		2019	TBS / TBS	C / FP	ACC-RI	Dec 2018	Apr 2019	110	4.636	N		Nov 2018
Medical Information Systems Equipment LIN C27639 AN/TYQ 108v3 (Small)		2020	TBS / TBS	C / FP	ACC-RI	Jan 2020	Apr 2020	88	3.523	N		Nov 2019
Field equipment /conduct New Equip Train		2018	CACI / Reston, VA	C / FP	GSA	Dec 2017	Jan 2018	1	4,710.000	N		
Field equipment /conduct New Equip Train		2019	CACI / Reston, VA	C / FP	GSA	Dec 2018	Jan 2019	1	7,786.000	N		
Field equipment /conduct New Equip Train		2020	TBS / TBS	C / FP	GSA	Dec 2019	Jan 2020	1	5,469.000	N		

**Remarks:**  
 Equipment (TBS-To Be Selected) is COTS and is procured for various of the 7 MC4 Line Item Numbers (LINs) depending on specific configurations of operational units to be fielded. Equipment vendors are selected by Army Contracting Command, Rock Island (ACC-RI). New contracts are projected to be competitively awarded in FY19 and FY20, vendors are unknown at this time.

Unit cost for Equipment shown in FY16, FY17 and FY18 is an average unit cost. The MC4 system consists of 7 Line Item Numbers (LINs) and the mix of LINs fielded is dependent on the specific unit type. The quantity procured in any year is the summation of the LINs expected to be procured and fielded each year. Cost for each of the 7 LINs differs and the unit cost is developed as the average unit cost for that year based on the mix of LINs to be procured.

Starting in FY19, equipment and unit cost has been detailed to the specific LIN level.

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 32: Comm - Combat Communications	<b>P-1 Line Item Number / Title:</b> 9887B88810 / Army Communications & Electronics
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	-	-	-	43.457	-	43.457	22.138	21.518	21.864	22.404	-	131.381
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	-	-	-	43.457	-	43.457	22.138	21.518	21.864	22.404	-	131.381
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	-	-	-	<b>43.457</b>	-	<b>43.457</b>	<b>22.138</b>	<b>21.518</b>	<b>21.864</b>	<b>22.404</b>	-	<b>131.381</b>

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

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

**Description:**

The Communications & Electronic Equipment budget line funds procurement of communications and electronic equipment and other support equipment used in select programs. It also includes all cost integral and necessary to deliver useful end items intended for operational use within the communications and electronics, information dominance and multi-domain battlespace environment.

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 32: Comm - Combat Communications	<b>P-1 Line Item Number / Title:</b> 9887B88810 / Army Communications & Electronics
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	B88820 / Army Communications A				- / -	- / -	- / -	- / 43.457	- / -	- / 43.457
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				- / -	- / -	- / -	- / 43.457	- / -	- / 43.457

\*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 Communications & Electronic Equipment budget line funds procurement of communications and electronic equipment and other support equipment used in select programs. It also included all cost integral and necessary to deliver useful end items intended for operational use within the communications and electronics, information dominance and multi-domain battlespace environment.



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

**Appropriation / Budget Activity / Budget Sub Activity:** 2035A / 02 / 32 **P-1 Line Item Number / Title:** 9887B88810 / Army Communications & Electronics **Aggregated Items Title:** Various

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
<b>Army Communications A</b>																				
B88820 / Army Communications A			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	43.457
<b>Subtotal: Army Communications A</b>			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<b>43.457</b>
<b>Total</b>			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<b>43.457</b>

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

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 36: Comm - Intelligence Comm	<b>P-1 Line Item Number / Title:</b> 0250BK5284 / CI Automation Architecture (MIP)
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	82.714	17.873	19.540	10.470	6.200	16.670	15.887	16.245	16.499	18.327	-	203.755
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	82.714	17.873	19.540	10.470	6.200	16.670	15.887	16.245	16.499	18.327	-	203.755
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>82.714</b>	<b>17.873</b>	<b>19.540</b>	<b>10.470</b>	<b>6.200</b>	<b>16.670</b>	<b>15.887</b>	<b>16.245</b>	<b>16.499</b>	<b>18.327</b>	<b>-</b>	<b>203.755</b>

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

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

**Description:**

This program provides the Army, as a member of the Department of Defense (DoD) Counterintelligence (CI) community, with advanced CI operational equipment to enhance its ability to contour the global threat through significant improvements in information sharing, common situational awareness, and knowledge management in a joint operational environment.

Joint Task Force Guantanamo (JTF-GTMO) Intel IT Systems provide critical intelligence capabilities in support of ongoing detainee operations, military commissions and detainee assessments as directed by OSD. In accordance with directives by OSD and DoD General Counsel on GTMO detainee records, JTF-GTMO is mandated to preserve all detainee relevant data. These systems were originally installed in a contingency nature with the intent of operating.

The improvement of the Processing, Exploitation, and Dissemination (PED) infrastructure in Fort Shafter, Hawaii is required to support the extension of ongoing Airborne Intelligence, Surveillance, and Reconnaissance (AISR) operations and the increase of Beyond Line of Site (BLOS) operations in the Pacific theater. The Distributed PED (DPED) Site at Fort Gordon, Georgia, meets INSCOM 2020-2025 roadmap capabilities by providing a unified Multi-Component, Service and Agency Enterprise capable of Federated production in support of Army and Joint requirements. Furthermore, the DPED Site provides the Intelligence Analyst with the ability to access mission data and control Aerial Platform Sensors from any worldwide location as well as the ability to move information and intelligence data to other locations as needed for PED production that supports decisive Intelligence actions. The Global Force Management Allocation Plan (GFMAP) drives the requirement to establish the Pacific PED Service Center at Fort Shafter, Hawaii. This effort provides the required access to Aerial Platform Sensors from the unique Pacific theater networks including DoDIIS CF, Greyrock, CENTRIXS-K, and CENTRIXS-J. Analysts at any PED Reach Center can access the Pacific theater networks via the Pacific PED Service Center, reducing the need to install the Pacific networks at multiple locations. Establishing the Pacific PED Service Center allows any PED Reach Center to conduct PED on the Guardrail, ARL, and Gray Eagle platforms in PACOM AOR.

Sensitive Compartmented Information Facility - Information Technology (SCIF-IT) provides maintenance, manning, and sustainment in support of the Joint Worldwide Information Communications System (JWICS) Top Secret network services for the entire Army. In addition, the project supports Collateral (Secret and below) network services in the Army's military intelligence IT domains.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	17.873	19.540	10.470	6.200	16.670	15.887	16.245	16.499	18.327

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<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2020 Army							<b>Date:</b> March 2019		
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 36: Comm - Intelligence Comm					<b>P-1 Line Item Number / Title:</b> 0250BK5284 / CI Automation Architecture (MIP)				
<b>ID Code</b> (A=Service Ready, B=Not Service Ready):			<b>Program Elements for Code B Items:</b> N/A			<b>Other Related Program Elements:</b> N/A			
<b>Line Item MDAP/MAIS Code:</b> N/A									

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
<b>Total:</b>	<b>Quantity</b>	-	-	-	-	-	-	-	-	-
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	17.873	19.540	10.470	6.200	16.670	15.887	16.245	16.499	18.327

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 36: Comm - Intelligence Comm	<b>P-1 Line Item Number / Title:</b> 0250BK5284 / CI Automation Architecture (MIP)
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	BK5284 / CI Automation Architecture (MIP)	P-5a			- / 82.714	- / 17.873	- / 19.540	- / 10.470	- / 6.200	- / 16.670
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 82.714</b>	<b>- / 17.873</b>	<b>- / 19.540</b>	<b>- / 10.470</b>	<b>- / 6.200</b>	<b>- / 16.670</b>

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

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

**Justification:**

FY2020 Base funding in the amount of \$0.458 million procures the Department of Defense Intelligence Information System (DODIIS) - compliant CI and Human Intelligence (HUMINT) material solutions to support implementation of case management, threat management information systems, and information processing systems at Service, Major Command (MACOM) and user level Army Intelligence sites. Funding also provides specialized equipment necessary to support worldwide CI operations and investigation missions.

FY2020 Base funding in the amount of \$10.012 million procures Army Intelligence-Related Information Technology Systems and Networks. This effort will provide life-cycle replacement for critical information technology systems to include Joint Worldwide Intelligence Communications Systems (JWICS) required to support global Army intelligence operations.

FY2020 OCO funding in the amount of \$3.500 million procures hardware and software to perform system life cycle replacement and upgrades in support of JTF-GTMO to ensure the continued preservation of detainee data and implement a disaster recovery plan to prevent data degradation or loss to ensure compliance with OSD and DoD GEN COUNSEL directives (the legacy Intelligence IT system currently in use at JTF-GTMO is approaching the end of its life cycle). Additionally, the required upgrades would replace legacy systems with technology which are in compliance with current DoD Information Systems Accreditation requirements. Delays to this action poses significant risks to the ongoing detainee operation at JTF-GTMO and the potential loss of critical detainee data.

FY2020 OCO funding in the amount of \$2.700 million procures Pacific Processing, Exploitation and Dissemination (PED) Service Center required to improve the current infrastructure at the ground station for all the satellite downlinks being provided to the Fort Gordon DPED Site from ongoing Pacific theater AISR missions. The need to access ongoing operations requires the implementation of a PED Service Center at Fort Shafter to allow Intelligence Analysts access to BLOS operations.

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 36	<b>P-1 Line Item Number / Title:</b> 0250BK5284 / CI Automation Architecture (MIP)	<b>Item Number / Title [DODIC]:</b> BK5284 / CI Automation Architecture (MIP)

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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<b>Resource Summary</b>	<b>Prior Years</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Procurement Quantity (Units in Each)	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	82.714	17.873	19.540	10.470	6.200	16.670
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	82.714	17.873	19.540	10.470	6.200	16.670
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>82.714</b>	<b>17.873</b>	<b>19.540</b>	<b>10.470</b>	<b>6.200</b>	<b>16.670</b>

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

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

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

<b>Cost Elements</b>	<b>Prior Years</b>			<b>FY 2018</b>			<b>FY 2019</b>			<b>FY 2020 Base</b>			<b>FY 2020 OCO</b>			<b>FY 2020 Total</b>		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
<b>Hardware Cost</b>																		
<b>Recurring Cost</b>																		
CERP Servers <sup>(†)</sup>	651.000	1	0.651	66.896	67	4.482	67.429	70	4.720	-	-	-	-	-	-	-	-	-
CERP Storage <sup>(†)</sup>	195.000	1	0.195	58.304	23	1.341	60.652	23	1.395	-	-	-	-	-	-	-	-	-
CERP Routers <sup>(†)</sup>	399.000	1	0.399	57.292	48	2.750	58.568	44	2.577	-	-	-	-	-	-	-	-	-
CERP Switches <sup>(†)</sup>	71,419.000	1	71.419	21.933	45	0.987	22.298	47	1.048	-	-	-	-	-	-	-	-	-
Non-MTOE Automation Equipment	10,050.000	1	10.050	-	-	8.313	9,800.000	1	9.800	10,470.000	1	10.470	-	-	6.200	16,670.000	1	16.670
<i>Subtotal: Recurring Cost</i>	-	-	<b>82.714</b>	-	-	17.873	-	-	19.540	-	-	10.470	-	-	6.200	-	-	16.670
<i>Subtotal: Hardware Cost</i>	-	-	<b>82.714</b>	-	-	17.873	-	-	19.540	-	-	10.470	-	-	6.200	-	-	16.670
<b>Gross/Weapon System Cost</b>	-	-	<b>82.714</b>	-	-	17.873	-	-	19.540	-	-	10.470	-	-	6.200	-	-	16.670

<b>Secondary Distribution</b>		<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Army	Quantity	-	-	-	-	-
	Total Obligation Authority	17.873	19.540	10.470	6.200	16.670
<b>Total:</b>	Quantity	-	-	-	-	-
<b>Secondary Distribution</b>	Total Obligation Authority	17.873	19.540	10.470	6.200	16.670

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<b>Exhibit P-5, Cost Analysis:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 36	<b>P-1 Line Item Number / Title:</b> 0250BK5284 / CI Automation Architecture (MIP)	<b>Item Number / Title [DODIC]:</b> BK5284 / CI Automation Architecture (MIP)
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>	

(†) indicates the presence of a P-5a

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<b>Exhibit P-5a, Procurement History and Planning:</b> PB 2020 Army								<b>Date:</b> March 2019				
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 36			<b>P-1 Line Item Number / Title:</b> 0250BK5284 / CI Automation Architecture (MIP)					<b>Item Number / Title [DODIC]:</b> BK5284 / CI Automation Architecture (MIP)				

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
CERP Servers		2018	TBD / TBD	C / FFP	TBD	May 2018	Jun 2018	67	66.900	N		
CERP Servers		2019	TBD / TBD	C / FFP	TBD	May 2019	Jun 2019	70	67.430	N		
CERP Storage		2018	TBD / TBD	C / FFP	TBD	May 2018	Jun 2018	23	58.300	N		
CERP Storage		2019	TBD / TBD	C / FFP	TBD	May 2019	Jun 2019	23	60.650	N		
CERP Routers		2018	TBD / TBD	C / FFP	TBD	May 2018	Jun 2018	48	57.290	N		
CERP Routers		2019	TBD / TBD	C / FFP	TBD	May 2019	Jun 2019	44	58.570	N		
CERP Switches		2018	TBD / TBD	C / FFP	TBD	May 2018	Jun 2018	45	21.930	N		
CERP Switches		2019	TBD / TBD	C / FFP	TBD	May 2019	Jun 2019	47	22.300	N		

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 36: Comm - Intelligence Comm	<b>P-1 Line Item Number / Title:</b> 0256K61010 / Defense Military Deception Initiative
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	-	4.830	2.667	3.704	-	3.704	5.630	5.704	-	-	-	22.535
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	-	4.830	2.667	3.704	-	3.704	5.630	5.704	-	-	-	22.535
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	-	<b>4.830</b>	<b>2.667</b>	<b>3.704</b>	-	<b>3.704</b>	<b>5.630</b>	<b>5.704</b>	-	-	-	<b>22.535</b>

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

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

**Description:**

The Defense Military Deception Initiative (DMDI) program integrates Procurement prototypes with Component programs for acquisition, sustainment and maintenance.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	-	-	-	-	-	-	-	-
	Total Obligation Authority	4.830	2.667	3.704	-	3.704	5.630	5.704	-
<b>Total:</b> Secondary Distribution	Quantity	-	-	-	-	-	-	-	-
	Total Obligation Authority	<b>4.830</b>	<b>2.667</b>	<b>3.704</b>	-	<b>3.704</b>	<b>5.630</b>	<b>5.704</b>	-

**Justification:**

FY 2020 funding in the amount of \$3.704 million supports integrating DMDI prototype efforts to support force protection, signature management, and system survivability related to critical mission threads and key weapon systems. This includes responding to a validated FY18 HQDA Operational Needs Statement (ONS). Funding includes supporting capability and capacity to meet strategic guidance in support of the National Defense Strategy.

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



**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 64: Information Security	<b>P-1 Line Item Number / Title:</b> 0121BA1300 / FAMILY OF BIOMETRICS
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> 0607665A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	110.441	-	8.319	1.000	-	1.000	-	-	-	-	-	119.760
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	110.441	-	8.319	1.000	-	1.000	-	-	-	-	-	119.760
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>110.441</b>	<b>-</b>	<b>8.319</b>	<b>1.000</b>	<b>-</b>	<b>1.000</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>119.760</b>

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

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

**Description:**

Biometrics Enabling Capability (BEC) Increment 0, also known as DoD Automated Biometrics Identification System (ABIS), is an information technology system supporting identity superiority by providing the critical core capability for Warfighters to identify known or suspected terrorists and third country nationals in the course of military operations. BEC Increment 0 is a Program of Record and DoD's only authoritative biometric repository (DoD ABIS), providing 24/7 operational support for the Warfighter and interagency partners to decide and act in near-real time with timely identification and identity verification of known or suspected terrorist across full range of military operations and preventing terrorist operations. DoD ABIS enables DOD, Interagency and International Partners to effectively impede adversary's ability to conceal their identity and intentions. DoD ABIS supports all three objectives of the National Defense Strategy to increase lethality, enhance International Cooperation and improve business practices.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	-	8.319	1.000	-	1.000	-	-	-	-
<b>Total:</b>									
<b>Secondary Distribution</b>									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	-	8.319	1.000	-	1.000	-	-	-	-

**Justification:**

FY 2020 OPA funding in the amount of \$1.000 million supports the procurement of hardware necessary to complete the decommissioning of the end of life system components of DoD ABIS v1.2 as the system transitions to the Service Life Extension Program (DoD ABIS v1.3) in accordance with Risk Management Framework (RMF) requirements.

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

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 64: Information Security	<b>P-1 Line Item Number / Title:</b> 0122TA0600 / Information System Security Program-ISSP
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> 0303140A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	1,549.578	-	2.000	3.600	-	3.600	4.600	4.600	2.800	2.800	-	1,569.978
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	1,549.578	-	2.000	3.600	-	3.600	4.600	4.600	2.800	2.800	-	1,569.978
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>1,549.578</b>	<b>-</b>	<b>2.000</b>	<b>3.600</b>	<b>-</b>	<b>3.600</b>	<b>4.600</b>	<b>4.600</b>	<b>2.800</b>	<b>2.800</b>	<b>-</b>	<b>1,569.978</b>

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

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

**Description:**

The Information Systems Security Program funding line supports the Army's Network Modernization Strategy Line of Effort (LOE) #1, Unified Network.

The Information Systems Security Program Application (ISSPA) is a centralized enterprise collection tool used to support the Army's Communication Security (COMSEC) modernization initiative to support the total force. The ISSPA is the only means to collect COMSEC requirements, procure and field solutions, key management capabilities and Information Assurance (IA) Cyber tools to secure the Department of Defense Information Network (DoDIN) against growing Cyber threats. The ISSPA supports the identification and allocation of new and emerging COMSEC capabilities required to protect Army's architectures and to replace current and legacy cryptographic systems with technologically advanced (network centric/DoDIN compliant) devices. These actions ensure Army keeps pace with the Chairman of the Joint Chiefs of Staff and Joint Requirements Oversight Council directed cryptographic modernization, advanced key management and network centric performance capability mandates.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	-	-	-	-	-	-	-	-
	Total Obligation Authority	-	2.000	3.600	-	3.600	4.600	4.600	2.800
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
	<b>Total Obligation Authority</b>	<b>-</b>	<b>2.000</b>	<b>3.600</b>	<b>-</b>	<b>3.600</b>	<b>4.600</b>	<b>4.600</b>	<b>2.800</b>

**Justification:**

FY 2020 Base procurement dollars in the amount of \$3.600 million support automated capability to conduct COMSEC modernization oversight, perform requirements validation, review and validate Command Plans, respond to operational mission needs, and make recommendations regarding prioritization of COMSEC requirements. Additionally, funds support COMSEC acquisition functions enabling Army to equip the force with critical cryptographic solutions and services during peacetime, wartime, and contingency operations.

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 64: Information Security	<b>P-1 Line Item Number / Title:</b> 0125B96000 / Communications Security (COMSEC)
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> 0303140A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	10,851	10,828	11,935	24,754	-	24,754	21,163	6,685	4,964	4,402	-	95,582
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	262.143	104.484	65.580	160.899	-	160.899	126.025	107.831	129.139	138.733	-	1,094.834
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	262.143	104.484	65.580	160.899	-	160.899	126.025	107.831	129.139	138.733	-	1,094.834
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>262.143</b>	<b>104.484</b>	<b>65.580</b>	<b>160.899</b>	<b>-</b>	<b>160.899</b>	<b>126.025</b>	<b>107.831</b>	<b>129.139</b>	<b>138.733</b>	<b>-</b>	<b>1,094.834</b>

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

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	24.158	9.649	5.495	6.500	-	6.500	5.955	16.130	26.015	31.516	-	11.454

**Description:**

The Communication Security (COMSEC) funding line supports the Army's Network Modernization Strategy Line of Effort (LOE) 1 Network Enablers Functions.

The Army's Mission Command Network Modernization Implementation Plan states that LOE 1 to be a Unified Network which includes the attributes of being, "Protected, Resilient, Survivable". COMSEC is the Army's implementation of NSA protections to achieve LOE 1.

The COMSEC program consists of three sub-programs: Cryptographic Systems (CS), Army Key Management Infrastructure (AKMI), and Embedded Cryptographic Modernization Initiative (ECMI).

Project B96002: The CS Program procures and fields COMSEC solutions to secure the Army's tactical and enterprise classified networks, to provide intuitive / less complex and more cost efficient sustained COMSEC equipment. New and emerging architectures, cease key dates, emerging threats, and Department of Defense (DoD)/Army policy are driving the need to replace currently fielded legacy systems with technologically advanced (network centric/Global Information Grid (GIG) compliant) devices that incorporate Chairman of the Joint Chiefs of Staff (CJCS) and Joint Requirements Oversight Council (JROC) directed cryptographic standardization, advanced key management performance capabilities. This program enables DoD to equip the force with more common and interoperable joint and coalition critical cryptographic solutions and services during peacetime, wartime, and contingency operations. The program consists of three product families: In-Line Network Encryptors (INE), Link/Trunk Encryption Family (LEF), and Secure Voice (SV). Unit cost increase from FY19 to FY20 is due to DoD networks continual increase in requirement for additional bandwidth and throughput. The expanding of new networks and the growth in data needs (as described in LOE 1. Converged Network) has mandated the requirement for more capable and faster encryptors.

Project B96004: The AKMI is the Army's implementation of the NSA KMI ACAT IAM program. AKMI supports DoD GIG Net Centric and Crypto Modernization Initiatives and supports emerging requirements transitioned from the Army Key Management System (AKMS). KMI automates the functions of COMSEC electronic key management, control, planning, and distribution and provides an integrated, operational environment that brings essential key management functions in-band. KMI provides an Over the Network Keying (OTNK) solution to support emerging cryptographically modernized systems and supports the Army's ability to communicate and distribute data on the Army's tactical and strategic networks by limiting adversarial access to, and reducing the vulnerability of, Army Command, Control, Communications, Computers, Intelligence (C4I) systems. AKMI will continue to support non-modernized network legacy equipment until they can be upgraded to operate seamlessly within the AKMI architecture. and allow the Army to manage, control, plan, and distribute electronic key for the ~1.5M CS End Cryptographic Units (ECU)s necessary to communicate and distribute data on the Army's tactical through strategic networks. The AKMI System of Systems (SoS) includes the Management Client (MGC) Nodes, Automated Communications Engineering Software (ACES) and Next Generation Load Device (NGLD) Family. Each component of the AKMI SoS is in a different phase of the acquisition cycle. Some components of the AKMI SoS will be retained and adapted from the legacy AKMS SoS while others will be developed, procured and fielded to meet AKMI requirements. Increase in hardware cost from FY19 to FY20 is to procure additional Fill Devices, and mitigate parts obsolescence previously managed by NSA.

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<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 64: Information Security		<b>P-1 Line Item Number / Title:</b> 0125B96000 / Communications Security (COMSEC)
<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> 0303140A
<b>Line Item MDAP/MAIS Code:</b> N/A		

Project B96006: The ECMI procures/retrofits and fields COMSEC embedded within Army radios to ensure communications remain secure by operating with modern cryptographic algorithms and keys, in compliance with Cease Key dates documented in the Chairman of the Joint Chiefs of Staff instruction (CJCSI) 6510. ECMI will provide Warfighters with continued secure communications (i.e., encrypted data and voice), by modernizing Army tactical radios allowing them to utilize cryptographic capabilities by implementing modern algorithms and keys. Failure to comply will result in vulnerabilities to classified data transmissions, or an inability to communicate at classified levels. FY2020, no funding is required for this effort. ECMI Program was cancelled in FY2018. FY2019 funding to be returned.

The Approved Acquisition Objective (AAO) for AKMI is 855 MGCs and 174,522 for AKMS (Fill Devices); Crypto Systems is 271,945 (Encryption Devices).

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	8,119	8,951	18,565	-	18,565	15,873	5,015	3,723	3,303
	Total Obligation Authority	89.415	52.778	128.890	-	128.890	101.698	98.667	120.125	128.718
ANG	Quantity	1,626	1,791	3,714	-	3,714	3,175	1,004	744	659
	Total Obligation Authority	9.039	7.675	19.206	-	19.206	14.632	5.499	5.408	6.009
AR	Quantity	1,083	1,193	2,475	-	2,475	2,115	666	497	440
	Total Obligation Authority	6.030	5.127	12.803	-	12.803	9.695	3.665	3.606	4.006
<b>Total:</b>	<b>Quantity</b>	<b>10,828</b>	<b>11,935</b>	<b>24,754</b>	<b>-</b>	<b>24,754</b>	<b>21,163</b>	<b>6,685</b>	<b>4,964</b>	<b>4,402</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>104.484</b>	<b>65.580</b>	<b>160.899</b>	<b>-</b>	<b>160.899</b>	<b>126.025</b>	<b>107.831</b>	<b>129.139</b>	<b>138.733</b>

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<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 64: Information Security		<b>P-1 Line Item Number / Title:</b> 0125B96000 / Communications Security (COMSEC)
<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> 0303140A

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	B96002 / CRYPTOGRAPHIC SYSTEMS (CRYPTO SYS)	P-5a	A		5,763 / 105.383	3,298 / 47.536	1,355 / 26.350	6,596 / 72.457	- / -	6,596 / 72.457
P-5	B96004 / KEY MANAGEMENT INFRASTRUCTURE	P-5a, P-21			5,088 / 153.746	7,530 / 56.948	10,580 / 35.710	18,158 / 88.442	- / -	18,158 / 88.442
P-5	B96006 / Embedded Cryptographic Modernization				- / 3.014	- / -	- / 3.520	- / -	- / -	- / -
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>10,851 / 262.143</b>	<b>10,828 / 104.484</b>	<b>11,935 / 65.580</b>	<b>24,754 / 160.899</b>	<b>- / -</b>	<b>24,754 / 160.899</b>

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.  
 Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.

**Justification:**  
 In FY 2020, the COMSEC funding of \$160.899 million supports the below sub-programs.

CS: FY 2020 base procurement dollars in the amount of \$72.457 million will be primarily utilized to procure modern In-Line Network Encryption (INE) and Secure Voice (SV) devices and support fielding.

AKMI: FY 2020 base procurement dollars in the amount of \$88.442 million supports the procurement, fielding, depot support and New Equipment Training (NET) for KMI MGCs, NGLD fill devices, and ACES laptops. It also provides associated government and contractor engineering support, Post Production Deployment Software Support (PPDSS), system technical and software support of the AKMI SoS components. The PPDSS contract supports AKMI SoS components, operational support for deployed and sustaining forces, technical engineering & support, associated government and contractor engineering support, and the development and updating of Web based training for AKMI components to augment in-class delta and sustainment training. The PPDSS effort is an OPA requirement because of the new capabilities that are required to be implemented into the Key Management infrastructure (KMI) products based on the evolution of the KMI and to address parts obsolescence. The changes in capability do not allow the operational support to be transitioned to sustainment. The PPDSS contract for all key management products has been optimized and requirements continuously assessed to ensure that it is fiscally sound. Funding enables modifications in the AKMI SoS to enable KMI standards compliance and to support legacy and emerging ECUs ability to communicate within the KMI architecture. The PPDSS contract for all key management products has been optimized and requirements continuously assessed to ensure that it is fiscally sound. Support for the AKMI SoS is critical until KMI is fully operational and fielded. The current SKL fleet will require support through at least 2028. Modernization of fill devices and emerging radio planning and configuration requirements are supported through this funding line.

ECMI: In FY2020, no funding is required for this effort. The Army has cancelled the ECMI program in FY2018. FY2019 funding to be returned.

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 64		<b>P-1 Line Item Number / Title:</b> 0125B96000 / Communications Security (COMSEC)
		<b>Item Number / Title [DODIC]:</b> B96002 / CRYPTOGRAPHIC SYSTEMS (CRYPTO SYS)

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A	<b>MDAP/MAIS Code:</b>
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Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity (Units in Each)	5,763	3,298	1,355	6,596	-	6,596
Gross/Weapon System Cost (\$ in Millions)	105.383	47.536	26.350	72.457	-	72.457
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	105.383	47.536	26.350	72.457	-	72.457
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>105.383</b>	<b>47.536</b>	<b>26.350</b>	<b>72.457</b>	<b>-</b>	<b>72.457</b>

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

Initial Spares (\$ in Millions)	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	18.286	14.414	19.446	10.985	-	10.985

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
<b>Hardware Cost</b>																		
Recurring Cost																		
IN-LINE NETWORK ENCRYPTORS (INE) <sup>(†)</sup>	8.766	6,249	54.778	4.157	4,036	16.778	10.603	1,130	11.981	19.061	1,796	34.234	-	-	-	19.061	1,796	34.234
SECURE VOICE <sup>(†)</sup>	5.814	2,195	12.762	6.513	2,100	13.677	2.592	525	1.361	4.421	4,800	21.219	-	-	-	4.421	4,800	21.219
<i>Subtotal: Recurring Cost</i>	-	-	67.540	-	-	30.455	-	-	13.342	-	-	55.454	-	-	-	-	-	55.454
<i>Subtotal: Hardware Cost</i>	-	-	67.540	-	-	30.455	-	-	13.342	-	-	55.454	-	-	-	-	-	55.454
<b>Package Fielding Cost</b>																		
Recurring Cost																		
ARMY-WIDE CRYPTO NETWORK STANDARDIZATION	-	-	5.825	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PRODUCT SUPPORT/FIELDING	-	-	15.466	-	-	6.536	-	-	5.503	-	-	8.043	-	-	-	-	-	8.043
<i>Subtotal: Recurring Cost</i>	-	-	21.291	-	-	6.536	-	-	5.503	-	-	8.043	-	-	-	-	-	8.043
<i>Subtotal: Package Fielding Cost</i>	-	-	21.291	-	-	6.536	-	-	5.503	-	-	8.043	-	-	-	-	-	8.043
<b>Support - Program Management Cost</b>																		
Contractor Management	-	-	2.979	-	-	0.608	-	-	2.641	-	-	2.694	-	-	-	-	-	2.694
<i>Subtotal: Support - Program Management Cost</i>	-	-	2.979	-	-	0.608	-	-	2.641	-	-	2.694	-	-	-	-	-	2.694
<b>Support - System Engineering Cost</b>																		

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 64	<b>P-1 Line Item Number / Title:</b> 0125B96000 / Communications Security (COMSEC)	<b>Item Number / Title [DODIC]:</b> B96002 / CRYPTOGRAPHIC SYSTEMS (CRYPTO SYS)
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A		<b>MDAP/MAIS Code:</b>

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
System Engineering	-	-	5.884	-	-	6.375	-	-	1.232	-	-	1.563	-	-	-	-	-	1.563
<i>Subtotal: Support - System Engineering Cost</i>	-	-	<b>5.884</b>	-	-	<b>6.375</b>	-	-	<b>1.232</b>	-	-	<b>1.563</b>	-	-	-	-	-	<b>1.563</b>
Support - Training Cost																		
Equipment	-	-	7.690	-	-	3.562	-	-	3.633	-	-	4.705	-	-	-	-	-	4.705
<i>Subtotal: Support - Training Cost</i>	-	-	<b>7.690</b>	-	-	<b>3.562</b>	-	-	<b>3.633</b>	-	-	<b>4.705</b>	-	-	-	-	-	<b>4.705</b>
<b>Gross/Weapon System Cost</b>	<b>18.286</b>	<b>5,763</b>	<b>105.383</b>	<b>14.414</b>	<b>3,298</b>	<b>47.536</b>	<b>19.446</b>	<b>1,355</b>	<b>26.350</b>	<b>10.985</b>	<b>6,596</b>	<b>72.457</b>	-	-	-	<b>10.985</b>	<b>6,596</b>	<b>72.457</b>

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	2,472	1,015	4,947	-	4,947
	Total Obligation Authority	39.394	23.104	56.137	-	56.137
ANG	Quantity	496	204	990	-	990
	Total Obligation Authority	4.883	1.942	9.792	-	9.792
AR	Quantity	330	136	659	-	659
	Total Obligation Authority	3.259	1.304	6.528	-	6.528
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	<b>3,298</b>	<b>1,355</b>	<b>6,596</b>	-	<b>6,596</b>
	<b>Total Obligation Authority</b>	<b>47.536</b>	<b>26.350</b>	<b>72.457</b>	-	<b>72.457</b>

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

**UNCLASSIFIED**

<b>Exhibit P-5a, Procurement History and Planning:</b> PB 2020 Army								<b>Date:</b> March 2019				
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 64			<b>P-1 Line Item Number / Title:</b> 0125B96000 / Communications Security (COMSEC)					<b>Item Number / Title [DODIC]:</b> B96002 / CRYPTOGRAPHIC SYSTEMS (CRYPTO SYS)				
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
IN-LINE NETWORK ENCRYPTORS (INE)		2018	NSA / FORT MEADE	C / IDIQ	NSA, Fort Meade, MD	Jan 2018	Jan 2019	4,036	4.157	Y		
IN-LINE NETWORK ENCRYPTORS (INE)		2019	NSA / FORT MEADE	C / IDIQ	NSA, Fort Meade, MD	Jan 2019	Jan 2020	1,130	10.603	Y		
IN-LINE NETWORK ENCRYPTORS (INE)		2020	NSA / FORT MEADE	C / IDIQ	NSA, Fort Meade, MD	Jan 2020	Jan 2021	1,796	19.061	Y		
SECURE VOICE		2018	NSA / FORT MEADE	C / IDIQ	NSA, Fort Meade, MD	Jan 2018	Jan 2019	2,100	6.513	Y		
SECURE VOICE		2019	NSA / FORT MEADE	C / IDIQ	NSA, Fort Meade, MD	Jan 2019	Jan 2020	525	2.592	Y		
SECURE VOICE		2020	NSA / FORT MEADE	C / IDIQ	NSA, Fort Meade, MD	Jan 2020	Jan 2021	4,800	4.421	Y		

**Remarks:**  
The items procured are COTS or GOTS.



**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 64		<b>P-1 Line Item Number / Title:</b> 0125B96000 / Communications Security (COMSEC)
		<b>Item Number / Title [DODIC]:</b> B96004 / KEY MANAGEMENT INFRASTRUCTURE

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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Resource Summary		Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity (Units in Each)		5,088	7,530	10,580	18,158	-	18,158
Gross/Weapon System Cost (\$ in Millions)		153.746	56.948	35.710	88.442	-	88.442
Less PY Advance Procurement (\$ in Millions)		-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)		153.746	56.948	35.710	88.442	-	88.442
Plus CY Advance Procurement (\$ in Millions)		-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>		<b>153.746</b>	<b>56.948</b>	<b>35.710</b>	<b>88.442</b>	<b>-</b>	<b>88.442</b>

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

Initial Spares (\$ in Millions)		-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)		30.217	7.563	3.375	4.871	-	4.871

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
<b>Hardware Cost</b>																		
Recurring Cost																		
MGC Procurement	18.314	379	6.941	-	-	-	18.133	150	2.720	18.131	175	3.173	-	-	-	18.131	175	3.173
ACES Procurement	2.525	988	2.495	2.958	360	1.065	2.541	634	1.611	-	-	-	-	-	-	-	-	-
Fill Device Procurements <sup>(t)</sup>	2.702	18,400	49.715	3.357	7,000	23.500	3.300	3,130	10.329	3.300	16,730	55.209	-	-	-	3.300	16,730	55.209
NGLD S	-	-	-	-	-	-	2.000	217	0.434	2.000	1,253	2.506	-	-	-	2.000	1,253	2.506
Engineering Recurring	-	-	34.231	-	-	6.860	-	-	3.100	-	-	4.170	-	-	-	-	-	4.170
<i>Subtotal: Recurring Cost</i>	-	-	<b>93.384</b>	-	-	<b>31.424</b>	-	-	<b>18.194</b>	-	-	<b>65.058</b>	-	-	-	-	-	<b>65.058</b>
<b>Subtotal: Hardware Cost</b>	-	-	<b>93.384</b>	-	-	<b>31.424</b>	-	-	<b>18.194</b>	-	-	<b>65.058</b>	-	-	-	-	-	<b>65.058</b>
<b>Software Cost</b>																		
Recurring Cost																		
Post Deployment Software Support/NET	-	-	21.778	-	-	11.382	-	-	7.800	-	-	10.282	-	-	-	-	-	10.282
<i>Subtotal: Recurring Cost</i>	-	-	<b>21.778</b>	-	-	<b>11.382</b>	-	-	<b>7.800</b>	-	-	<b>10.282</b>	-	-	-	-	-	<b>10.282</b>
<b>Subtotal: Software Cost</b>	-	-	<b>21.778</b>	-	-	<b>11.382</b>	-	-	<b>7.800</b>	-	-	<b>10.282</b>	-	-	-	-	-	<b>10.282</b>
<b>Package Fielding Cost</b>																		
Recurring Cost																		
Fielding	-	-	4.546	-	-	0.969	-	-	0.980	-	-	1.009	-	-	-	-	-	1.009
<i>Subtotal: Recurring Cost</i>	-	-	<b>4.546</b>	-	-	<b>0.969</b>	-	-	<b>0.980</b>	-	-	<b>1.009</b>	-	-	-	-	-	<b>1.009</b>
<b>Subtotal: Package Fielding Cost</b>	-	-	<b>4.546</b>	-	-	<b>0.969</b>	-	-	<b>0.980</b>	-	-	<b>1.009</b>	-	-	-	-	-	<b>1.009</b>

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 64	<b>P-1 Line Item Number / Title:</b> 0125B96000 / Communications Security (COMSEC)	<b>Item Number / Title [DODIC]:</b> B96004 / KEY MANAGEMENT INFRASTRUCTURE

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
<b>Logistics Cost</b>																		
Recurring Cost																		
Depot Support	-	-	2.728	-	-	1.850	-	-	0.935	-	-	1.930	-	-	-	-	-	1.930
<i>Subtotal: Recurring Cost</i>	-	-	2.728	-	-	1.850	-	-	0.935	-	-	1.930	-	-	-	-	-	1.930
<i>Subtotal: Logistics Cost</i>	-	-	2.728	-	-	1.850	-	-	0.935	-	-	1.930	-	-	-	-	-	1.930
<b>Support - Program Management Cost</b>																		
Contractor Management	-	-	13.589	-	-	3.215	-	-	3.225	-	-	3.352	-	-	-	-	-	3.352
<i>Subtotal: Support - Program Management Cost</i>	-	-	13.589	-	-	3.215	-	-	3.225	-	-	3.352	-	-	-	-	-	3.352
<b>Support - System Engineering Cost</b>																		
System Engineering	-	-	14.435	-	-	7.015	-	-	4.125	-	-	6.305	-	-	-	-	-	6.305
<i>Subtotal: Support - System Engineering Cost</i>	-	-	14.435	-	-	7.015	-	-	4.125	-	-	6.305	-	-	-	-	-	6.305
<b>Support - System Test and Evaluation Cost</b>																		
Test and Evaluation Support	-	-	-	-	-	0.736	-	-	0.170	-	-	0.185	-	-	-	-	-	0.185
<i>Subtotal: Support - System Test and Evaluation Cost</i>	-	-	-	-	-	0.736	-	-	0.170	-	-	0.185	-	-	-	-	-	0.185
<b>Support - Training Cost</b>																		
Services	-	-	3.293	-	-	0.357	-	-	0.281	-	-	0.321	-	-	-	-	-	0.321
<i>Subtotal: Support - Training Cost</i>	-	-	3.293	-	-	0.357	-	-	0.281	-	-	0.321	-	-	-	-	-	0.321
<b>Gross/Weapon System Cost</b>	<b>30.217</b>	<b>5,088</b>	<b>153.746</b>	<b>7.563</b>	<b>7,530</b>	<b>56.948</b>	<b>3.375</b>	<b>10,580</b>	<b>35.710</b>	<b>4.871</b>	<b>18,158</b>	<b>88.442</b>	-	-	<b>4.871</b>	<b>18,158</b>	<b>88.442</b>	

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	5,647	7,936	13,618	-	13,618
	Total Obligation Authority	50.021	26.154	72.753	-	72.753
ANG	Quantity	1,130	1,587	2,724	-	2,724
	Total Obligation Authority	4.156	5.733	9.414	-	9.414
AR	Quantity	753	1,057	1,816	-	1,816
	Total Obligation Authority	2.771	3.823	6.275	-	6.275
<b>Total:</b>	<b>Quantity</b>	<b>7,530</b>	<b>10,580</b>	<b>18,158</b>	-	<b>18,158</b>

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<b>Exhibit P-5, Cost Analysis:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 64	<b>P-1 Line Item Number / Title:</b> 0125B96000 / Communications Security (COMSEC)	<b>Item Number / Title [DODIC]:</b> B96004 / KEY MANAGEMENT INFRASTRUCTURE

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Secondary Distribution	Total Obligation Authority	56.948	35.710	88.442	-	88.442

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

**UNCLASSIFIED**

<b>Exhibit P-5a, Procurement History and Planning:</b> PB 2020 Army							<b>Date:</b> March 2019				
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 64			<b>P-1 Line Item Number / Title:</b> 0125B96000 / Communications Security (COMSEC)				<b>Item Number / Title [DODIC]:</b> B96004 / KEY MANAGEMENT INFRASTRUCTURE				

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
Fill Device Procurements <sup>(†)</sup>		2016	SNC / SPARK	C / IDIQ	Spark, NV	Feb 2016	Nov 2016	7,150	2.530	Y		
Fill Device Procurements <sup>(†)</sup>		2017	SNC / SPARK	C / IDIQ	Spark, NV	Jul 2017	Apr 2018	4,100	3.390	Y		
Fill Device Procurements <sup>(†)</sup>		2018	SNC / SPARK	C / IDDQ	Spark, NV	Feb 2018	Nov 2018	7,000	3.357	Y		
Fill Device Procurements <sup>(†)</sup>		2019	SNC / SPARK	C / IDDQ	Spark, NV	Feb 2019	Feb 2020	3,130	3.300	Y		
Fill Device Procurements <sup>(†)</sup>		2020	SNC / SPARK	C / IDDQ	Spark, NV	Feb 2020	Nov 2020	16,730	3.300	Y		

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

**Remarks:**  
The items - ACES & MGCs procurements are COTS or GOTS.



**UNCLASSIFIED**

<b>Exhibit P-21, Production Schedule:</b> PB 2020 Army															<b>Date:</b> March 2019														
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 64										<b>P-1 Line Item Number / Title:</b> 0125B96000 / Communications Security (COMSEC)										<b>Item Number / Title [DODIC]:</b> B96004 / KEY MANAGEMENT INFRASTRUCTURE									

Cost Elements <i>(Units in Thousands)</i>						Fiscal Year 2018													Fiscal Year 2019													B A L A N C E
O C C O #	M F R 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 7	B A L 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			
Fill Device Procurements																																
Prior Years Deliveries: 7150																																
1	2016	ARMY	7.150	7.150	.000																								.000			
1	2017	ARMY	4.100	.000	4.100	-	-	-	-	-	-	2.000	2.000	.100															.000			
1	2018	ARMY	7.000	.000	7.000					A	-	-	-	-	-	-	-	2.000	2.000	2.000	1.000								.000			
1	2019	ARMY	3.130	.000	3.130																					A	-	-	-	3.130		
1	2020	ARMY	16.730	.000	16.730																								16.730			

**UNCLASSIFIED**

<b>Exhibit P-21, Production Schedule:</b> PB 2020 Army															<b>Date:</b> March 2019														
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 64										<b>P-1 Line Item Number / Title:</b> 0125B96000 / Communications Security (COMSEC)										<b>Item Number / Title [DODIC]:</b> B96004 / KEY MANAGEMENT INFRASTRUCTURE									

Cost Elements <i>(Units in Thousands)</i>					Fiscal Year 2020													Fiscal Year 2021													B A L A N C E		
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			
Fill Device Procurements																																	
Prior Years Deliveries: 7150																																	
	1	2016	ARMY	7.150	7.150	.000																								.000			
	1	2017	ARMY	4.100	4.100	.000																								.000			
	1	2018	ARMY	7.000	7.000	.000																								.000			
	1	2019	ARMY	3.130	.000	3.130	-	-	-	-	2.000	1.130																		.000			
	1	2020	ARMY	16.730	.000	16.730					A	-	-	-	-	-	-	-	-	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	.730		.000			
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P			

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<b>Exhibit P-21, Production Schedule:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 64		<b>P-1 Line Item Number / Title:</b> 0125B96000 / Communications Security (COMSEC)
<b>Item Number / Title [DODIC]:</b> B96004 / KEY MANAGEMENT INFRASTRUCTURE		

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Month)			Procurement Leadtime (Months)							
		MSR For 2020	1-8-5 For 2020	MAX For 2020	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	SNC - SPARK	2,000	2,000	10,000	0	0	0	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).



**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 64	<b>P-1 Line Item Number / Title:</b> 0125B96000 / Communications Security (COMSEC)	<b>Item Number / Title [DODIC]:</b> B96006 / Embedded Cryptographic Modernization

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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<b>Resource Summary</b>	<b>Prior Years</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	3.014	-	3.520	-	-	-
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	3.014	-	3.520	-	-	-
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>3.014</b>	<b>-</b>	<b>3.520</b>	<b>-</b>	<b>-</b>	<b>-</b>

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

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

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

<b>Cost Elements</b>	<b>Prior Years</b>			<b>FY 2018</b>			<b>FY 2019</b>			<b>FY 2020 Base</b>			<b>FY 2020 OCO</b>			<b>FY 2020 Total</b>		
	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)
Support - System Engineering Cost																		
System Engineering	-	-	3.014	-	-	-	-	-	3.520	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - System Engineering Cost</i>	-	-	<b>3.014</b>	-	-	-	-	-	<b>3.520</b>	-	-	-	-	-	-	-	-	-
<b>Gross/Weapon System Cost</b>	-	-	<b>3.014</b>	-	-	-	-	-	<b>3.520</b>	-	-	-	-	-	-	-	-	-

<b>Secondary Distribution</b>		<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Army	Quantity	-	-	-	-	-
	Total Obligation Authority	-	3.520	-	-	-
<b>Total: Secondary Distribution</b>	Quantity	-	-	-	-	-
	Total Obligation Authority	-	3.520	-	-	-

**UNCLASSIFIED**

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

**Appropriation / Budget Activity / Budget Sub Activity:**  
2035A: Other Procurement, Army / BA 02: Communications and Electronics  
Equipment / BSA 64: Information Security

**P-1 Line Item Number / Title:**  
0128B63000 / Defensive CYBER Operations

**ID Code** (A=Service Ready, B=Not Service Ready): **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0605041A

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

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	19.329	53.436	51.343	61.962	-	61.962	69.655	95.504	104.568	114.000	-	569.797
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	19.329	53.436	51.343	61.962	-	61.962	69.655	95.504	104.568	114.000	-	569.797
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>19.329</b>	<b>53.436</b>	<b>51.343</b>	<b>61.962</b>	-	<b>61.962</b>	<b>69.655</b>	<b>95.504</b>	<b>104.568</b>	<b>114.000</b>	-	<b>569.797</b>

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

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

**Description:**

Defensive Cyber Operations (DCO) falls within Line of Effort (LOE) 1 of the Network Modernization Strategy framework, which incorporates cyber capabilities that support the employment of the network as a weapon system.

The budget line item includes funding for the ARCYBER Rapid Cyber Prototyping (RCP) in FY20.

Insider Threat Program - User Activity Monitoring (UAM) SSN B89000 funding will be moved under DCO in FY21. The budget line item includes funding for UAM in FY19-20.

All information technology (IT) procurement consists of commercial off-the-shelf (COTS) solutions. Quantities and unit costs vary by system configuration and site.

DCO programs will be leveraged to procure solutions for and provide training to Cyber Mission Forces (CMF) and other cyberspace defenders meant to actively predict and conduct counter-reconnaissance (search and discover) against advanced cyberspace threats (to include insider threats) and vulnerabilities that do not trigger or generate warnings using routine detection measures. Conduct mission assurance actions that dynamically re-establish, re-secure, re-route, reconstitute, or isolate degraded or compromised mission relevant terrain in cyberspace. Conduct site exploitation and forensic analysis to determine technical and operational impacts of intrusions; and evaluate the defensive posture of a designated network using vulnerability assessment methods and threat emulation in order to recommend or direct changes to ensure operational readiness.

FY20 Defensive Cyber Operations consists of the following critical solutions:

-Cyberspace Analytics (CA): An information technology cyberspace threat and vulnerability hunting capability that will allow the CMF to ingest multitudes of data sources, correlate that data, perform analysis and then turn that data into visual information in order to detect and illuminate adversaries and vulnerabilities.

-DCO Tools Suite: A flexible and dynamic set of commercial off the shelf (COTS), government off the shelf (GOTS), and developed software based suite of warfighting capabilities that enable CMF and local defenders to perform DCO and cyberspace security missions. DCO Tools also consists of software, data, and applications that support or directly cause effects through the execution of CMF and cyberspace workforce tasks.

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 64: Information Security	<b>P-1 Line Item Number / Title:</b> 0128B63000 / Defensive CYBER Operations
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> 0605041A
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**Line Item MDAP/MAIS Code:** N/A

- Garrison DCO Platform (GDP): Pre-Positioned infrastructure (compute and storage capabilities) equipment that enables Cyber Protection Teams (CPTs) to remote into the target DODIN environments and conduct defensive cyberspace operations missions.
- Deployable DCO System (DDS): A deployable (fly away) kit, with dedicated compute and storage for austere environments that do have prepositioned infrastructure or locations for which prepositioned DCO resources do not provide adequate capacity. The DDS allows global cyberspace defenders (e.g. CPTs) the ability to jump into a network, physically, onsite and gain a position of advantage to augmenting organic local and/or regional cyberspace defenders.
- Forensics and Malware Analysis (F&MA): Warfighting capability adhering to the global standard in digital investigation technology for global or regional cyberspace defenders who need to conduct efficient, forensically-sound, data collection and examination either remotely or locally using a repeatable and defensible process. Forensics gives cyberspace defenders the ability to triage by quickly viewing and searching potential evidence in order to determine whether further examination is warranted.
- Mission Planning (MP): An application-based, scalable warfighting capability for Army DCO mission command and planning at the global, regional, and local levels. MP enables integration, coordination, and synchronization of supported and supporting cyberspace defenders.
- Cyber Armory: Serves as the authoritative source for capabilities within the approved operational baseline. Armory maintains the operational baseline IAW DCO Life Cycle Support Strategy. Additionally, Armory provides opportunities for warfighters to provide feedback for optimization of tools and provides the centralized location for warfighters to receive mission focused training. The Armory is the primary focus area for DCO mission supported logistics and sustainment. Armory issues equipment, stores equipment and data, handles transportation of equipment, and provides local mission focused training.
- User Activity Monitoring (UAM): The primary capability within the Army's overall insider threat detection (InT) program. UAM is a software-based, scalable solution that proactively identifies and mitigates internal risks associated with the theft and misuse of critical, mission essential data. UAM utilizes full-spectrum solutions to assess, deter, deny, defend, defeat, and evolve against the insider threat hub.
- ARCYBER Rapid Cyber Prototyping (RCP): Rapidly procures cyber capabilities identified by the CMF in order to counter advanced, persistent, and sophisticated cyber threats. These capabilities include: emerging threat, advanced sensor, change detection, advanced supervisory control and data acquisition (SCADA).

<b>Secondary Distribution</b>		<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	53.436	51.343	61.962	-	61.962	69.655	95.504	104.568	114.000
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	-	-	-	-	-	-	-	-	-
	<b>Total Obligation Authority</b>	<b>53.436</b>	<b>51.343</b>	<b>61.962</b>	-	<b>61.962</b>	<b>69.655</b>	<b>95.504</b>	<b>104.568</b>	<b>114.000</b>

**UNCLASSIFIED**

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

**Appropriation / Budget Activity / Budget Sub Activity:**  
2035A: Other Procurement, Army / BA 02: Communications and Electronics  
Equipment / BSA 64: Information Security

**P-1 Line Item Number / Title:**  
0128B63000 / Defensive CYBER Operations

**ID Code** (A=Service Ready, B=Not Service Ready): **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0605041A

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

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	B63103 / DEFENSIVE CYBER TOOLS	P-5a			- / 19.329	- / 53.436	- / 51.343	- / 61.962	- / -	- / 61.962
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 19.329</b>	<b>- / 53.436</b>	<b>- / 51.343</b>	<b>- / 61.962</b>	<b>- / -</b>	<b>- / 61.962</b>

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

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

**Justification:**

B63103/Defensive Cyber Tools:

FY 2020 Base procurement dollars in the amount of \$61.962 million supports the procurement, fielding, and training of solutions that fill capability gaps as outlined in the Army DCO Information Systems Initial Capabilities Document (IS ICD) as follows:

FY 2020 Base procurement dollars in the amount \$2.700 million procures global instantiations of the Army's cyberspace analytics solution on NIPRNET and SIPRNET, procurement and fielding of a light-weight analytic solution on pre-positioned and deployable infrastructure, upgrade of specific analytic modules/components, generation of analytics for DCO and DODIN operations, and all associated New Equipment Training.

FY 2020 Base procurement dollars in the amount of \$10.650 million procures Cyber Protection Team Tools Suites 3.0 and 4.0 which focuses on adding reverse engineering, vulnerability management software tools and training, Supervisor Control and Data Acquisition (SCADA), Intel Support, passive mapping, and threat emulation.

FY 2020 Base procurement dollars in the amount of \$15.359 million procures sixteen (16) Garrison DCO Platforms providing prepositioned compute and storage capabilities at six (6) garrison installations

FY 2020 Base procurement dollars in the amount of \$11.710 million procures nineteen (19) Deployable DCO Systems (DDS) providing fly-away kit capabilities to six (6) additional Cyber Protection Teams. In FY19, unit costs decrease as DDS transitions to program of record. In FY20, DDS unit costs increase with the insertion of new technology.

FY 2020 Base procurement dollars in the amount of \$.708 million procures Forensics and Malware Analysis software for remote device integrity analysis and repair.

FY 2020 Base procurement dollars in the amount of \$.530 million for PhalanX Training to support DCO equipment planning.

FY2020 Base procurement dollars in the amount of \$4.211 million procures Cyber Armory hardware and software for three facilities located in the Mid-West, Southwest, and Western U.S. in support of Army Reserve and National Guard.

FY 2020 Base procurement dollars in the amount of \$5.044 million procures the infrastructure to support User Activity Monitoring (UAM) on the Joint Worldwide Intelligence Communication System (JWICS) and Secure Internet Protocol Router Network (SIPRNet) networks.

FY2020 Base procurement dollars in the amount of \$2.000 million (HW/SW) for ARCYBER Rapid Cyber Prototyping (RCP) that will execute limited authority to expend resources as appropriate to develop, modify and acquire, non-program of record cyber operations-peculiar equipment and capabilities in support of Cyber Mission Forces (CMF).

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<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 64: Information Security		<b>P-1 Line Item Number / Title:</b> 0128B63000 / Defensive CYBER Operations
<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> 0605041A
<b>Line Item MDAP/MAIS Code:</b> N/A		
<p>FY2020 Base procurement dollars in the amount of \$9.050 million for program management support. Provides funding for program office staff (matrix and contractor) for system engineering/management includes business, technical and logistical staff support and overall management of program execution, major events, reporting, and contract management.</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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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 64		<b>P-1 Line Item Number / Title:</b> 0128B63000 / Defensive CYBER Operations
		<b>Item Number / Title [DODIC]:</b> B63103 / DEFENSIVE CYBER TOOLS

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	19.329	53.436	51.343	61.962	-	61.962
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	19.329	53.436	51.343	61.962	-	61.962
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>19.329</b>	<b>53.436</b>	<b>51.343</b>	<b>61.962</b>	<b>-</b>	<b>61.962</b>

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

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

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Flyaway Cost																		
Recurring Cost																		
CYBERSPACE ANALYTICS <sup>(†)</sup>	-	-	-	-	-	-	-	-	-	2,700.000	1	2,700	-	-	-	2,700.000	1	2,700
CYBER PROTECTION TEAM TOOLS SUITE <sup>(†)</sup>	6,695.000	1	6,695	19,795.000	1	19,795	12,771.000	1	12,771	10,650.000	1	10,650	-	-	-	10,650.000	1	10,650
GARRISON DCO PLATFORMS <sup>(†)</sup>	-	-	-	970.833	6	5,825	989.000	5	4,945	959.938	16	15,359	-	-	-	959.938	16	15,359
DEPLOYABLE DCO SYSTEMS <sup>(†)</sup>	175.222	18	3,154	1,247.000	1	1,247	503.500	24	12,084	616.316	19	11,710	-	-	-	616.316	19	11,710
FORENSICS & MALWARE ANALYSIS <sup>(†)</sup>	-	-	-	-	-	-	3,462.000	1	3,462	708.000	1	0,708	-	-	-	708.000	1	0,708
CYBER ARMORY <sup>(†)</sup>	-	-	-	-	-	-	1,492.000	1	1,492	4,211.000	1	4,211	-	-	-	4,211.000	1	4,211
<i>Subtotal: Recurring Cost</i>	-	-	<b>9,849</b>	-	-	<b>26,867</b>	-	-	<b>34,754</b>	-	-	<b>45,338</b>	-	-	-	-	-	<b>45,338</b>
<i>Subtotal: Flyaway Cost</i>	-	-	<b>9,849</b>	-	-	<b>26,867</b>	-	-	<b>34,754</b>	-	-	<b>45,338</b>	-	-	-	-	-	<b>45,338</b>
Hardware Cost																		
Non Recurring Cost																		
DCO INFRASTRUCTURE ENTERPRISE HARDWARE (TDI) <sup>(†)</sup>	5,800.000	1	5,800	1,154.000	1	1,154	-	-	-	-	-	-	-	-	-	-	-	-

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 64		<b>P-1 Line Item Number / Title:</b> 0128B63000 / Defensive CYBER Operations
		<b>Item Number / Title [DODIC]:</b> B63103 / DEFENSIVE CYBER TOOLS

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
ARCYBER Rapid Cyber Prototyping (RCP)	-	-	-	-	-	-	-	-	-	1,100.000	1	1.100	-	-	-	1,100.000	1	1.100
<i>Subtotal: Non Recurring Cost</i>	-	-	5.800	-	-	1.154	-	-	-	-	-	1.100	-	-	-	-	-	1.100
<i>Subtotal: Hardware Cost</i>	-	-	5.800	-	-	1.154	-	-	-	-	-	1.100	-	-	-	-	-	1.100
<b>Software Cost</b>																		
<b>Recurring Cost</b>																		
USER ACTIVITY MONITORING <sup>(t)</sup>	-	-	-	-	-	-	-	-	3.505	5,044.000	1	5.044	-	-	-	5,044.000	1	5.044
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	3.505	-	-	5.044	-	-	-	-	-	5.044
<b>Non Recurring Cost</b>																		
ARCYBER Rapid Cyber Prototyping (RCP)	-	-	-	-	-	-	-	-	-	-	-	0.900	-	-	-	-	-	0.900
<i>Subtotal: Non Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	0.900	-	-	-	-	-	0.900
<i>Subtotal: Software Cost</i>	-	-	-	-	-	-	-	-	3.505	-	-	5.944	-	-	-	-	-	5.944
<b>Support - Program Management Cost</b>																		
Contractor Management	-	-	2.798	-	-	11.448	-	-	5.943	-	-	5.458	-	-	-	-	-	5.458
Government Management	-	-	0.882	-	-	8.122	-	-	3.911	-	-	3.592	-	-	-	-	-	3.592
<i>Subtotal: Support - Program Management Cost</i>	-	-	3.680	-	-	19.570	-	-	9.854	-	-	9.050	-	-	-	-	-	9.050
<b>Support - System Engineering Cost</b>																		
System Engineering	-	-	-	-	-	4.255	-	-	2.375	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - System Engineering Cost</i>	-	-	-	-	-	4.255	-	-	2.375	-	-	-	-	-	-	-	-	-
<b>Support - Training Cost</b>																		
Services	-	-	-	-	-	1.590	-	-	0.855	-	-	0.530	-	-	-	-	-	0.530
<i>Subtotal: Support - Training Cost</i>	-	-	-	-	-	1.590	-	-	0.855	-	-	0.530	-	-	-	-	-	0.530
<b>Gross/Weapon System Cost</b>	-	-	19.329	-	-	53.436	-	-	51.343	-	-	61.962	-	-	-	-	-	61.962

**Remarks:**

Program Office Estimates refined for the Program of Record (POR). GDP, DDS, Tools Suite, Cyber Analytics and Mission Planning Requirements Definition Packages (RDPs) were approved in FY18.

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>	<b>Date:</b> March 2019
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<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 64	<b>P-1 Line Item Number / Title:</b> 0128B63000 / Defensive CYBER Operations	<b>Item Number / Title [DODIC]:</b> B63103 / DEFENSIVE CYBER TOOLS
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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Cyberspace Analytics (CA) FY19 to FY20 changes: Current cloud hosting agreement will expire o/a mid-Jan 19, follow-on procurement will be funded with OMA in FY19. FY20 funds will support emerging technology evaluations.

Cyber Protection Team Tools Suite FY19 to FY20 changes: FY19 will procure Tools Suites 1 and 2, and FY20 will provide Tools Suites 3 and 4. Tools Suite are not defined by a number of tools procured on under the Tools Suite as the number of tools will vary drastically from tools suite to tools suite. The driving factor is the current mission threat profile and capabilities gaps determining through research. Any gaps will need to be covered by a tool if that gap is not on the DODIN side of the enterprise. Other factors include our methodology that a COTS tool will be replaced by an Open Source Tool per tools suite integration. Based on the aforementioned facts, there is no way to determine how many tools will be part of any tools suite.

Garrison DCO Platforms (GDP): PM DCO established a Cyberspace Operations Broad Responsive Agreement (COBRA) Other Transition Authority (OTA) with ACC-Rock Island to support Rapid Acquisition Activities, the PM will also utilize organic cyber capability (Tobyhanna Depot) to build and install base of issue GDP. Future GDP prototypes will be evaluated using these processes.

Deployable DCO Systems (DDS): PM DCO established a COBRA OTA with ACC-Rock Island to support Rapid Acquisition Activities. Under the COBRA OTA, DDS alternatives were evaluated and new prototype was identified.

Forensics and Malware Analysis (F&MA) FY19 to FY20 decrease: New start beginning in FY19. Procurement is front-loaded in FY19, and continue into FY20.

**Program Management Cost:**

- Contractor Management: providing support to the Product for Implementation/Fielding.

- Government Management: providing matrix support to the Product for Engineering/Acquisitioning. Starting in FY19, OMA SAG 435106 for civilian payroll was established due to Reimbursable to Direct conversion for DCO.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	-	-	-	-	-
	Total Obligation Authority	53.436	51.343	61.962	-	61.962
<b>Total:</b>	<b>Quantity</b>	-	-	-	-	-
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>53.436</b>	<b>51.343</b>	<b>61.962</b>	-	<b>61.962</b>

(†) indicates the presence of a P-5a



**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 64	<b>P-1 Line Item Number / Title:</b> 0128B63000 / Defensive CYBER Operations	<b>Item Number / Title [DODIC]:</b> B63103 / DEFENSIVE CYBER TOOLS
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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
CYBERSPACE ANALYTICS		2020	TBD / TBD	C / TBD	ACC-Rock Island, IL	Jun 2020	Jul 2020	1	2,700.000	N		
CYBER PROTECTION TEAM TOOLS SUITE		2018	TBD / TBD	Various	ACC-Rock Island, IL	Feb 2018	Mar 2018	1	19,795.000	N		
CYBER PROTECTION TEAM TOOLS SUITE		2019	TBD / TBD	C / TBD	ACC-Rock Island, IL	Feb 2019	Mar 2019	1	12,771.000	N		
CYBER PROTECTION TEAM TOOLS SUITE		2020	TBD / TBD	C / TBD	ACC-Rock Island, IL	Feb 2020	Mar 2020	1	10,650.000	N		
GARRISON DCO PLATFORMS		2018	TBD / TBD	C / FP	ACC-Rock Island, IL	Oct 2017	Feb 2018	6	970.833	N		
GARRISON DCO PLATFORMS		2019	TBD / TBD	C / FP	ACC-Rock Island, IL	Feb 2019	Mar 2019	5	989.000	N		
GARRISON DCO PLATFORMS		2020	TBD / TBD	C / FP	ACC-Rock Island, IL	Feb 2020	Mar 2020	16	959.938	N		
DEPLOYABLE DCO SYSTEMS		2018	TBD / TBD	C / FP	ACC-Rock Island, IL	Jun 2018	Jul 2018	1	1,247.000	N		
DEPLOYABLE DCO SYSTEMS		2019	TBD / TBD	C / FP	ACC-Rock Island, IL	Apr 2019	May 2019	24	503.500	N		
DEPLOYABLE DCO SYSTEMS		2020	TBD / TBD	C / FP	ACC-Rock Island, IL	Jun 2020	Jul 2020	19	616.316	N		
FORENSICS & MALWARE ANALYSIS		2019	TBD / TBD	C / TBD	ACC-Rock Island, IL	Feb 2019	Mar 2019	1	3,462.000	N		
FORENSICS & MALWARE ANALYSIS		2020	TBD / TBD	C / TBD	ACC-Rock Island, IL	Feb 2020	Mar 2020	1	708.000	N		
CYBER ARMORY		2019	TBD / TBD	MIPR	TOBYHANNA, PA	Oct 2018	Sep 2019	1	1,492.000	N		
CYBER ARMORY		2020	TBD / TBD	MIPR	TOBYHANNA, PA	Oct 2019	Sep 2020	1	4,211.000	N		
DCO INFRASTRUCTURE ENTERPRISE HARDWARE (TDI)		2018	TBD / TBD	C / CPFF	ACC-Rock Island, IL	Apr 2018	May 2018	1	1,154.000	N		
USER ACTIVITY MONITORING		2020	TBD / TBD	C / TBD	ACC-Rock Island, IL	Feb 2020	Mar 2020	1	5,044.000	N		

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 64: Information Security	<b>P-1 Line Item Number / Title:</b> 0131B89000 / Insider Threat Program - Unit Activity Monitoring
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	-	0.690	0.330	0.756	-	0.756	1.762	0.360	-	-	-	3.898
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	-	0.690	0.330	0.756	-	0.756	1.762	0.360	-	-	-	3.898
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	-	<b>0.690</b>	<b>0.330</b>	<b>0.756</b>	-	<b>0.756</b>	<b>1.762</b>	<b>0.360</b>	-	-	-	<b>3.898</b>

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

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

**Description:**

User Activity Monitoring (UAM) falls within the Line of Effort (LOE) 1 of the Network Modernization Strategy framework, which incorporates cyber capabilities that support the employment of the network as a weapon system.

This budget line will be moved under Defensive Cyber Operations (DCO) SSN B63000 in FY21.

All information technology (IT) procurement consists of commercial-off-the-shelf (COTS) solutions. Quantities and units costs vary by system configuration and site.

Army user activity monitoring (UAM) operations are conducted in support of the Army's insider threat program. User activity monitoring is the technical capability to observe and record the actions and activities of an individual, at any time, on any device access US Government information in order to detect insider threats and to support authorized investigations. The OPA program supports three objectives. First, it provides advanced analytics (including user behavior modeling software) to increase UAM analysis effectiveness and efficiency. Second, it provides additional system hardware, and third, it support the procurement of the next generation Army UAM tool in FY 2021. Advanced analytics procurement includes COTS hardware and software, and open source software. This capability will increase UAM analysts' effectiveness and efficiency. The primary objective is to employ COTS technology to identify potential insider threats by monitoring behavior between users, user interactions with data and network capabilities (especially in regards to privileged users), and monitoring user compliance with network and data standards and policies.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	0.690	0.330	0.756	-	0.756	1.762	0.360	-	-
<b>Total:</b>									
<b>Secondary Distribution</b>									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	<b>0.690</b>	<b>0.330</b>	<b>0.756</b>	-	<b>0.756</b>	<b>1.762</b>	<b>0.360</b>	-	-

**Justification:**

**UNCLASSIFIED**

<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 64: Information Security		<b>P-1 Line Item Number / Title:</b> 0131B89000 / Insider Threat Program - Unit Activity Monitoring
<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
<b>Line Item MDAP/MAIS Code:</b> N/A		
<p>FY 2020 Base procurement dollars in the amount of \$0.756 million support the procurement, installation, assessment and authorization of commercial-off-the-shelf (COTS) technology to enhance Army UAM analysis effectiveness and efficiency in support of the Army's Insider Threat Program. Army executes its insider threat program in accordance with Executive Order 13587, Structural Reforms to Improve the Security of Classified Networks and the Responsible Sharing and Safeguarding of Classified Information, (Reference b) dated 7 October 2011; Presidential Memorandum, National Insider Threat Policy and Minimum Standards for Executive Branch Insider Threat Programs, dated 21 November 2012; National Defense Authorization Act for Fiscal Year 2012, Section 922, Insider Threat Detection; and Army Directive 2013-18 (Army Insider Threat Program) dated 31 July 2013.</p>		

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 64: Information Security	<b>P-1 Line Item Number / Title:</b> 0132B65010 / Persistent Cyber Training Environment
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	-	4.000	3.000	3.000	-	3.000	3.000	3.000	3.000	3.030	-	22.030
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	-	4.000	3.000	3.000	-	3.000	3.000	3.000	3.000	3.030	-	22.030
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	-	<b>4.000</b>	<b>3.000</b>	<b>3.000</b>	-	<b>3.000</b>	<b>3.000</b>	<b>3.000</b>	<b>3.000</b>	<b>3.030</b>	-	<b>22.030</b>

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

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

**Description:**

The Persistent Cyber Training Environment (PCTE) will provide the Department of Defense (DoD) cyber force with a capability that uses a combination of loosely affiliated or independent virtual environments with varied capabilities that are not scalable or extensible. The current environment constrains training capabilities and capacity, but lacks a joint or standard approach consistent with a broader vision of PCTE. PCTE system approaches are aligned to the outputs of the Office of the Under Secretary of Defense for Acquisition, Technology and Logistics (OUSD AT&L) and Chairman of the Joint Chiefs of Staff (CJCS) J6 led, "Cyber Range Evaluation of Alternatives (EOA) Findings and Issue Paper Deliberations," dated 17 November 2015. The U.S. Army acknowledges it is the lead service to perform as the Executive Agent (EA) for Cyber Training Ranges and DoD Acquisition Lead for the PCTE. Program is directed by the 2016 National Defense Authorization Act, Section 1645.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	4.000	3.000	3.000	-	3.000	3.000	3.000	3.000	3.030
<b>Total:</b>									
<b>Secondary Distribution</b>									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	<b>4.000</b>	<b>3.000</b>	<b>3.000</b>	-	<b>3.000</b>	<b>3.000</b>	<b>3.000</b>	<b>3.000</b>	<b>3.030</b>

**Justification:**

FY 2020 base procurement funding in the amount of \$3.000 million provides the hardware and operations systems required to expand PCTE services to the "last mile" from the Regional Compute and storage node to the training facility. It will also provide the hardware end points at the training facility. In addition, procurement funding will support the migration of PCTE to DoD enterprise networks and to Government and/or Commercial cloud environments.

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 72: Comm - Long Haul Communications	<b>P-1 Line Item Number / Title:</b> 9716BU4160 / Base Support Communications
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	753.782	45.751	50.247	31.770	20.482	52.252	55.274	34.107	34.080	34.053	Continuing	Continuing
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	753.782	45.751	50.247	31.770	20.482	52.252	55.274	34.107	34.080	34.053	Continuing	Continuing
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>753.782</b>	<b>45.751</b>	<b>50.247</b>	<b>31.770</b>	<b>20.482</b>	<b>52.252</b>	<b>55.274</b>	<b>34.107</b>	<b>34.080</b>	<b>34.053</b>	<b>Continuing</b>	<b>Continuing</b>

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

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

**Description:**

The Base Support Communications funding supports the Army's Network Modernization Strategy Line of Effort #1, Unified Network.

The Base Support Communications program provides real-time voice communications and data via the Army Land Mobile Radio (LMR) network. Land Mobile Radio (LMR) systems are commercial solutions that provide mission critical mobile and portable communications for garrison first responders, public safety, force protection, homeland security, pre-deployment logistics support, and installation management missions. The Army's LMR program provides network infrastructure, network enabling functions and subscriber unit devices to ensure a synchronized, timely, and effective emergency first response. Originally designed and resourced to modernize Continental United States (CONUS) LMR systems to meet the National Telecommunications Information Administrations Narrowband (NTIA) mandates and to upgrade to the Association of Public-safety Communications Officers (APCO) Project 25 (P25) standards, the Army LMR program has grown to meet Army LMR requirements world-wide including providing communications support for non-combatant evacuation orders (NEO) in the OCONUS Theaters.

The LMR program provides all LMR system hardware/software infrastructure to include initial critical system spares, subscriber units in accordance with the IMCOM Basis of issue plan (BOIP), and two years of interim contractor support including system and cyber security patching.

Land Mobile Radio systems are a system of systems composed of various hardware and software components. Requirements at each post/camp/station vary based on the geographic coverage area, terrain of the installation, number of end users, number of mutual aid partners, and installation dispatch concept of operations. To meet the first responder and installation non-tactical communications mission requirements, the solution at each post/camp/station is unique and determined by government surveys and coordination with stakeholders.

To optimize efficiencies, Army LMR systems are currently migrating from a stand-alone LMR system at each post/camp/station to an enterprise network model that will centralize the information system to maximize cost-effectiveness and cyber security. The LMR systems are key components of the Army enterprise used to provide a seamless communications network in support of garrison level communications and infrastructure. Without adequate communications capabilities that enable coordinated emergency response, maximize the use of scarce radio spectrum, and provide secure voice transmissions, emergency responders and base support personnel would be significantly constrained in their ability to perform key emergency response functions. This is a health, life, and safety Army requirement.

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

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 72: Comm - Long Haul Communications	<b>P-1 Line Item Number / Title:</b> 9716BU4160 / Base Support Communications
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

	<b>Secondary Distribution</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
	Total Obligation Authority	45.751	50.247	31.770	20.482	52.252	55.274	34.107	34.080	34.053
<b>Total:</b>	<b>Quantity</b>	-	-	-	-	-	-	-	-	-
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>45.751</b>	<b>50.247</b>	<b>31.770</b>	<b>20.482</b>	<b>52.252</b>	<b>55.274</b>	<b>34.107</b>	<b>34.080</b>	<b>34.053</b>

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 72: Comm - Long Haul Communications	<b>P-1 Line Item Number / Title:</b> 9716BU4160 / Base Support Communications
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	BU4160 / Base Support Communications	P-5a			- / 753.782	- / 45.751	- / 50.247	- / 31.770	- / 20.482	- / 52.252
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 753.782</b>	<b>- / 45.751</b>	<b>- / 50.247</b>	<b>- / 31.770</b>	<b>- / 20.482</b>	<b>- / 52.252</b>

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

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

**Justification:**  
 FY 2020 base funding in the amount of \$31.770 million will modernize the following locations: Alaska (Phase II) will upgrade all Radio Frequency (RF) components, and subscriber units throughout Alaska. LMR upgrades in CONUS for Fort Hood, Texas, Fort Drum, New York, Fort Carson/Pueblo Chemical Depot, Colorado, Fort Sill, Oklahoma, and Fort Polk, Louisiana, will modernize and converge the legacy stand alone LMR systems at each locations into the Army CONUS Enterprise LMR network.

The quantity for cost element "Commercial" LMR Systems represents the number of local installations being modernized in the fiscal year, not an end item or the number of LMR systems. LMR is a commercial off-the-shelf solution that is a system of systems composed of various hardware and software components. Requirements at each post/camp/station vary based on the geographic coverage area, terrain of the installation, number of end users, number of mutual aid partners, and dispatch concept of operations. For example, Fort Rucker, AL consisted of 1 Core, 30 Repeaters, 4 Dispatch Consoles, 2 Logging Recorders, 1 Mutual Aid Interoperability Gateway, 2 Universal Power Supplies (UPS), 2 System Management Terminals (SMT), 2 Motorola Supervisory Control and Data Acquisition (MOSCAD) Clients, and 10 Key Variable Loaders (KVLs). In comparison, McAlester Army Ammo Plant consisted of 1 Core, 6 Repeaters, 4 Dispatch Consoles, 1 Logging Recorder, 1 Mutual Aid Interoperability Gateway, and 1 SMT. These elements are the main cost drivers for the LMR system solutions. All quantities and unit costs vary based on the unique requirements at each installation and the level of effort required as a result of the Government site survey that is completed for each location. Locations are determined by a stakeholder analysis, and prioritization that is reviewed annually in accordance with current requirements, threat analysis and DoD and Army Planning Guidance.

The Interim Contractor Support (ICS) cost element provides interim contractor support for initial system maintenance and cyber security patching. The ICS cost element is also driven by the aforementioned cost drivers, the more equipment required at a post/camp/station to meet coverage and user requirements, the higher the level of effort for the ICS.

The majority of existing LMR systems at Army installations do not meet DoD and Army standards, are obsolete, are no longer supported by the manufacturer, and/or are non-compliant with the National Telecommunications and Information Administrations (NTIA) spectrum efficiency mandate. Power projection and power support Army installations across the continental United States (CONUS) and the Europe and Pacific Area of Operations rely on base support LMR systems as a primary means to support force protection, public safety, installation management, homeland security missions and non-combatant evacuation operations (NEO).

FY 2020 OCO funding in the amount of \$20.482 million will support Operations Inherent Resolve (OIR) to provide better cross coordination, situational awareness, and support Combined Joint Task Force-Operation Inherent Resolve (CJTF-OIR) to implement an LMR solution at centralized training facilities (CTFs) (Erbil, Al Asad Air Base, Camp Taji, Qayara-West Airfield), Taqaddum Airbase, Union III, Iraq, and Baghdad Diplomatic Support Centers). CJTF-OIR in conjunction with Combined Joint Forces Land Component Command-Operation Inherent Resolve have identified multiple on-base communication gaps at Combined Task Forces (CTFs) as a result of non-unified and non-standardized LMR systems. Currently units utilize strategic voice systems (ex. Defense Switch Network, Voice Over Internet Protocol, Voice Over Secure Internet Protocol), organic point-to-point radios, or cell phones to communicate for routine and emergency events affecting base defense operations, counter-terrorism, and medical support. However, there are several capability gaps created under the current solution to include: radio interoperability between United States and Coalition forces; limitation in communication range due to point to point organic radios, increased complexity of spectrum management due to the diversity of organic radios used, and the burden of reestablishing communication capabilities/processes when units moved and recoup organic radios.

**UNCLASSIFIED**

<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 72: Comm - Long Haul Communications		<b>P-1 Line Item Number / Title:</b> 9716BU4160 / Base Support Communications
<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
<b>Line Item MDAP/MAIS Code:</b> N/A		
In accordance with Sections 1815 of the FY2008 National Defense Authorization Act (P.L. 110-181), this item is necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities.		



**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 72	<b>P-1 Line Item Number / Title:</b> 9716BU4160 / Base Support Communications	<b>Item Number / Title [DODIC]:</b> BU4160 / Base Support Communications

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	753.782	45.751	50.247	31.770	20.482	52.252
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	753.782	45.751	50.247	31.770	20.482	52.252
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>753.782</b>	<b>45.751</b>	<b>50.247</b>	<b>31.770</b>	<b>20.482</b>	<b>52.252</b>

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

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

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Hardware Cost																		
Non Recurring Cost																		
Commercial LMR Systems <sup>(†)</sup>	136,402.600	5	682.013	5,900.000	5	29.500	5,336.714	7	37.357	4,157.600	5	20.788	-	-	-	4,157.600	5	20.788
Interim Contractor Support <sup>(†)</sup>	518.750	4	2.075	2,500.000	5	12.500	2,000.000	4	8.000	1,730.400	5	8.652	-	-	-	1,730.400	5	8.652
Engineering and Program Support <sup>(†)</sup>	23,231.333	3	69.694	1,875.500	2	3.751	4,200.000	1	4.200	2,330.000	1	2.330	-	-	-	2,330.000	1	2.330
GTMO LMR Systems <sup>(†)</sup>	-	-	-	-	-	-	690.000	1	0.690	-	-	-	-	-	-	-	-	-
Operation Inherent Resolve <sup>(†)</sup>	-	-	-	-	-	-	-	-	-	-	-	-	20,482.000	1	20.482	20,482.000	1	20.482
<i>Subtotal: Non Recurring Cost</i>	-	-	753.782	-	-	45.751	-	-	50.247	-	-	31.770	-	-	20.482	-	-	52.252
<i>Subtotal: Hardware Cost</i>	-	-	753.782	-	-	45.751	-	-	50.247	-	-	31.770	-	-	20.482	-	-	52.252
<b>Gross/Weapon System Cost</b>	-	-	753.782	-	-	45.751	-	-	50.247	-	-	31.770	-	-	20.482	-	-	52.252

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	-	-	-	-	-
	Total Obligation Authority	45.751	50.247	31.770	20.482	52.252
<b>Total:</b>	<b>Quantity</b>	-	-	-	-	-

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<b>Exhibit P-5, Cost Analysis:</b> PB 2020 Army				<b>Date:</b> March 2019		
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 72		<b>P-1 Line Item Number / Title:</b> 9716BU4160 / Base Support Communications		<b>Item Number / Title [DODIC]:</b> BU4160 / Base Support Communications		
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :			<b>MDAP/MAIS Code:</b>			
<b>Secondary Distribution</b>		<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	45.751	50.247	31.770	20.482	52.252

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

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<b>Exhibit P-5a, Procurement History and Planning: PB 2020 Army</b>							<b>Date: March 2019</b>				
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 72			<b>P-1 Line Item Number / Title:</b> 9716BU4160 / Base Support Communications				<b>Item Number / Title [DODIC]:</b> BU4160 / Base Support Communications				

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
Commercial LMR Systems		2018	VAR / .VAR	C / FFP	ACC RI, Rock Island, IL	Apr 2018	May 2018	5	5,900.000	N		
Commercial LMR Systems		2019	VAR / .VAR	C / FFP	ACC RI, Rock Island, IL	Mar 2019	Apr 2019	7	5,336.714	N		
Commercial LMR Systems		2020	VAR / .VAR	C / FFP	ACC RI, Rock Island, IL	Mar 2020	Sep 2020	5	4,157.600	N		
Interim Contractor Support		2018	VAR / .VAR	C / FFP	ACC RI, Rock Island, IL	Jul 2018	Aug 2018	5	2,500.000	N		
Interim Contractor Support		2019	VAR / .VAR	C / FFP	ACC RI, Rock Island, IL	Apr 2019	May 2019	4	2,000.000	N		
Interim Contractor Support		2020	VAR / .VAR	C / FFP	ACC-RI, Rock Island, IL	Mar 2020	Sep 2020	5	1,730.400	N		
Engineering and Program Support		2018	ISEC / Ft. Detrick, MD	MIPR	ISEC, Fort Detrick, MD/ PEO FT Belvoir, Va	Apr 2018	May 2018	2	1,875.500	N		
Engineering and Program Support		2019	ISEC / Ft. Detrick, MD	MIPR	ISEC, Fort Detrick, MD/ PEO FT Belvoir, Va	Apr 2019	May 2019	1	4,200.000	N		
Engineering and Program Support		2020	ISEC / Ft. Detrick, MD	MIPR	ISEC, Fort Detrick, MD/ PEO FT Belvoir, Va	Apr 2020	May 2020	1	2,330.000	N		
GTMO LMR Systems		2019	TBD / TBD	C / FFP	TBD	Apr 2019	May 2019	1	690.000	N		
Operation Inherent Resolve	✓	2020	TBD / TBD	C / FFP	TBD	Mar 2020	Sep 2020	1	20,482.000	N		

**Remarks:**

All IT procurements consist of Commercial Off-The-shelf (COTS) solutions. PEO EIS - Program Executive Office Enterprise Information Systems, PM DCATS-Project Manager, Defense Communications and Army Transmission Systems; PL LMR-Product Lead, Land Mobile Radios; ACC-RI - Army Contracting Command Rock Island; ISEC - Information Systems Engineering Command.

Note the quantity for cost element of Commercial LMR systems does not articulate an end item or the number of LMR systems, rather, it represents the number of local installations/area of responsibility being modernized in the fiscal year. Requirements at each post/camp/station vary based on the geographic coverage, terrain of the installation, number of end users, number of mutual air partners, and dispatch of operations. These elements are the main cost drivers for the LMR system solutions.

The Interim Contractor Support (ICS) cost element provides interim contractor support for initial system maintenance and cyber security patching. The ICS cost element is also driven by the aforementioned cost drivers, the more equipment required at a post/camp/station to coverage and user requirements, the higher the level of effort for the ICS.

Decreased unit cost for Interim Contract Support (ICS) is due to the fact that all CONUS efforts are integrated into the converged Army Corps of Engineering (ACE) network with reduce requirements for systems patching.

Decreased unit costs for Engineering and Program Support is due to Program Office support salary moved to Operations & Maintenance-Army (OMA) line.

Decrease in Commercial LMR systems from FY19 to FY20 is due to the fact that all locations are within CONUS reducing costs for travel and engineering as there are no Host Nation approval requirements.

All quantities of LMR hardware/software vary based on the unique requirements at each installation and the level of effort required as a result of the Government site survey that is completed for each location. Fluctuations in unit costs year to year for Commercial LMR Systems and ICS are based on the cost drivers and specific requirements at each post/camp/station.

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 73: Comm - Base Communications	<b>P-1 Line Item Number / Title:</b> 9200BB8650 / Information Systems
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	2,806.717	85.570	80.064	159.009	55.800	214.809	156.864	176.220	126.160	101.571	Continuing	Continuing
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	2,806.717	85.570	80.064	159.009	55.800	214.809	156.864	176.220	126.160	101.571	Continuing	Continuing
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>2,806.717</b>	<b>85.570</b>	<b>80.064</b>	<b>159.009</b>	<b>55.800</b>	<b>214.809</b>	<b>156.864</b>	<b>176.220</b>	<b>126.160</b>	<b>101.571</b>	<b>Continuing</b>	<b>Continuing</b>

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

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

**Description:**

This budget line does not procure weapons systems or produce end items. All Information Technology (IT) procurements consist of COTS/GOTS solutions; all quantities and unit cost vary by project, system configuration, and site.

This program provides engineering, quality assurance, and Information Systems infrastructure (common user voice, data, video networks) in support of Military Construction Army (MCA) and Sustainment, Restoration, and Modernization (SRM) projects. It supplies non-tactical telecommunications equipment and engineering services for Army base operations. When required due to MCA or SRM projects, this program provides upgrades to regional or Theater Information Systems infrastructure, as well as physical plant infrastructure that directly support those Information Systems assets. This program delivers standardized operational processes and procedures, providing the Army with consistent integration, synchronization, and delivery of voice, data, imagery, applications, and network capabilities down to the individuals in both the operating force and generating force Army-wide. In conjunction with MCA or SRM projects, this program also provides funding for organization-specific command and control Information Systems requirements necessary to equip a new or modernized facility to a mission-ready state ahead of the physical relocation of the occupant organization.

**PROPONENT/MISSION IT-MCA/PHYSICAL RELOCATION (B31510):**

This program funds organization-specific command and control Information Systems requirements necessary to relocate and equip an organization in conjunction with MCA or SRM projects. These may include specific IT requirements to facilitate connectivity from building infrastructure to end user equipment, items for classrooms, computers, video teleconferencing (VTC) systems, projectors, display/knowledge walls, telephone equipment, and other end user devices to include IT supporting classification above SECRET. This program consolidates individual organizational requirements to provide a deliberate planned programmatic approach to procure mission essential Information Systems equipment and includes the following large scale projects.

**US ARMY PACIFIC (USARPAC) COMMAND AND CONTROL (C2) FACILITY PHASE 3:** The construction continues with Phase 3 at USARPAC Headquarters/C2 Facility at Fort Shafter, Hawaii. The historical headquarters was spread across multiple historical wooden buildings that could not support modern IT requirements. Phase 3 initiates the IT fit out for the Mission Command Facility (MCF), Support Operations Facility, Secure Operations Facility, and power generation, with open storage and SCIFs to support USARPAC missions.

**UNITED STATES FORCES KOREA (USFK) BATTLE COMMAND TRAINING CENTER (BCTC) AND OPERATIONS (OPS) SENSITIVE COMPARTMENTED INFORMATION FACILITIES (SCIFs):** In accordance with the Yongsan Relocation Plan (YRP), US Forces are relocating from US Army Garrison Yongsan, Seoul, South Korea, to US Army Garrison Humphreys. Two new SCIFs are required to support the Battle Command Training Center (BCTC) and USFK Operations (OPS). These SCIFs will provide Command, Control, Communications, Computers, and Intelligence (C4I) capabilities and systems at classification levels from unclassified to Top Secret.

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<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 73: Comm - Base Communications		<b>P-1 Line Item Number / Title:</b> 9200BB8650 / Information Systems
<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
<b>Line Item MDAP/MAIS Code:</b> N/A		
<p>INTELLIGENCE AND SECURITY COMMAND (INSCOM) SECURE ADMIN/OPERATIONS FACILITY INCREMENT 3: The INSCOM secure administration/operations facility at the Information Dominance Center consolidates and expands INSCOM, Military Intelligence Reserve Command, and 1st Intelligence Operations intelligence gathering operations. Increment 3 will provide the facility with C4I capabilities and systems at classification levels from unclassified to Top Secret.</p> <p>TRAINING AND DOCTRINE COMMAND (TRADOC) BATTLE LAB, MORAN HALL NORTH, AND ALLEN HALL: TRADOC is transforming United States Army Garrison (USAG) Fort Gordon, Georgia from its traditional role as the Signal Center of Excellence into the Cyber Center of Excellence (CCoE) to reflect the expanded Cyber roles and missions. Through a combination of Military Construction (MILCON) and Restoration &amp; Modernization (RM) projects, TRADOC has created a state-of-the-art Cyber Campus on Fort Gordon in order to attract, train, and retain world-class cyber warriors. The Cyber Battle Lab, Moran Hall North, and Allen Hall projects require mission unique equipment to complete the IT Fit-out.</p> <p>US EUROPEAN COMMAND (EUCOM) EUROPEAN DETERRENCE INITIATIVE (EDI): The US European Command (EUCOM) exercises command and control from facilities located on Patch Barracks, Stuttgart, Germany that have not been modernized in decades. The facilities can no longer support the needs of modern IT requirements. Building 2301 is undergoing renovation and modernization (RM). Upon completion, the building will have open storage and Sensitive Compartmented Information Facility (SCIF) areas containing data, voice, and audio/video capabilities to support EUCOM missions.</p> <p>INFORMATION SYSTEMS (MCA SUPPORT) (BB1400): This program provides for the worldwide Information Systems infrastructure (common user voice, data, video networks) for the MCA Program. It supplies non-tactical telecommunications equipment and services in support of Army base operations, Unified Capabilities, common user, and physical plant infrastructure to support Information Systems assets. It provides standardized operational processes and procedures, enabling the Army consistent integration, synchronization, and delivery of voice, data, imagery, applications, and network capabilities down to the individuals in both the operating force and generating force Army-wide.</p> <p>US ARMY CENTRAL (USARCENT) MISSION COMMAND POST (MCP) CONTINUITY OF OPERATIONS (COOP): The 3rd Army/USARCENT is modernizing an alternate, non-permissive Contingency Facility into a COOP facility capable of supporting Operation Spartan Shield networks, systems, and missions in the event that Patton Hall, Shaw Air Force Base, South Carolina, should become non-mission capable. Upon completion, the COOP will have Command, Control, Communications, Computers, and Intelligence (C4I) capabilities and systems consisting of data, voice, and audio/video networks/systems operating at classification levels from unclassified to Top Secret.</p> <p>US ARMY CENTRAL (USARCENT) ARIFJAN MISSION COMMAND FACILITY (MCF) POWER &amp; HEATING, VENTILATION, AND AIR CONDITIONING (HVAC) REMEDIATION: The 3rd Army/USARCENT is modernizing the power and HVAC systems for the MCF, Earth Terminal Complex (ETC), and the Tactical (TAC) Technical Control Facility (TCF) in support of Operation Spartan Shield. The current infrastructure poses unacceptable operational risks to the critical network operations. Upon completion, Command, Control, Communications, Computers, and Intelligence (C4I) capabilities and systems operating 24/7/365 at classification levels from unclassified to Top Secret.</p> <p>US ARMY CENTRAL (USARCENT) ARIFJAN MISSION COMMAND FACILITY (MCF) CONTINUITY OF OPERATIONS (COOP) POWER AND HEATING, VENTILATION, AND AIR CONDITIONING (HVAC), THEATER BLACK CORE NETWORK (TBCN) UPGRADES: The ARIFJAN MCF COOP upgrades will eliminate single points of failure in theater transport, services, and data storage by establishing COOP locations outside of Kuwait to provide a fully redundant network with distributed applications and data hosting capabilities in support of Operation Spartan Shield. Upon completion, Command, Control, Communications, Computers, and Intelligence (C4I) capabilities and systems operating 24/7/365 at classification levels from unclassified to Top Secret will be stable and reliable.</p> <p>INFORMATION SYSTEMS (CONUS/WESTERN HEM) (BB8700): This program provides for the worldwide Information Systems infrastructure (common user voice, data, video networks) for the SRM Program. It supplies non-tactical telecommunications equipment and services in support of Army base operations, Unified Capabilities, common user, and physical plant infrastructure to support Information Systems assets. It provides standardized operational processes and procedures, enabling the Army consistent integration, synchronization, and delivery of voice, data, imagery, applications, and network capabilities down to the individuals in both the operating force and generating force Army-wide.</p>		

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 73: Comm - Base Communications	<b>P-1 Line Item Number / Title:</b> 9200BB8650 / Information Systems
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

In accordance with Section 1815 of 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 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	85.570	80.064	159.009	55.800	214.809	156.864	176.220	126.160	101.571
<b>Total: Secondary Distribution</b>	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	<b>85.570</b>	<b>80.064</b>	<b>159.009</b>	<b>55.800</b>	<b>214.809</b>	<b>156.864</b>	<b>176.220</b>	<b>126.160</b>	<b>101.571</b>

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

**Appropriation / Budget Activity / Budget Sub Activity:**  
2035A: Other Procurement, Army / BA 02: Communications and Electronics  
Equipment / BSA 73: Comm - Base Communications

**P-1 Line Item Number / Title:**  
9200BB8650 / Information Systems

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

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

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	B31510 / PROPONENT/MISSION IT-MCA/PHYSICAL RELOCATION	P-5a			- / 180.688	- / 41.762	- / 58.324	- / 139.135	- / 22.400	- / 161.535
P-5	BB1400 / INFORMATION SYSTEMS (MCA SUPPORT)	P-5a			- / 1,604.261	- / 3.849	- / 16.300	- / 6.550	- / 33.400	- / 39.950
P-5	BB8655 / INFORMATION SYSTEMS (CYBER)	P-5a			- / -	- / 38.533	- / -	- / -	- / -	- / -
P-5	BB8700 / INFORMATION SYSTEMS (CONUS/WESTERN HEM)	P-5a			- / 1,021.768	- / 1.426	- / 5.440	- / 13.324	- / -	- / 13.324
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 2,806.717</b>	<b>- / 85.570</b>	<b>- / 80.064</b>	<b>- / 159.009</b>	<b>- / 55.800</b>	<b>- / 214.809</b>

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

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

**Justification:**  
 PROPONENT/MISSION IT-MCA/PHYSICAL RELOCATION (B31510):  
 FY 2020 Base procurement dollars in the amount of \$49.701 million support PROPONENT/MISSION IT-MCA/PHYSICAL RELOCATION with procurement of commercial-off-the-shelf (COTS) end-user devices (including telephones, soft phones, video teleconferencing equipment, computing devices), associated licensing, and secure data switches, gateways, and encryption devices for classified and unclassified connectivity. It also supports information systems for classrooms, computers for traditional business users and Warfighters, video teleconferencing (VTC) systems, projectors, display/knowledge walls, secure telephone equipment, and physical plant infrastructure to support those information system assets. Procurements include network infrastructure engineering, acquisition, installation, security, and quality assurance to support the planning, design, implementation, and completion of a multitude of MCA and SRM projects. Installation of the mission unique/end user equipment is dependent upon construction timelines; this the final phase of an MCA or SRM project, and is required to ensure that new/renovated buildings are mission capable and ready for unit/Soldier occupancy.

FY 2020 Base procurement dollars in the amount of \$23.429 million supports USARPAC C2 Facility Phase 3 with end user IT equipment such as switches, computers, phones, cabling, cameras, sound and video mixers, display panels, speakers, and other IT equipment.

FY 2020 Base procurement dollars in the amount of \$30.000 million supports USFK BCTC/OPS SCIFs with end user IT equipment such as routers, switches, servers, computers, data storage, phones, cabling, cameras, sound and video mixers, display panels, speakers, encryption devices, and other IT equipment. These SCIFs are a part of the Yongsan Relocation Plan (YRP).

FY 2020 Base procurement dollars in the amount of \$21.605 million supports INSCOM Secure Admin/Operations Facility with end user IT equipment such as switches, servers, computers, phones, cabling, cameras, sound and video mixers, display panels, speakers, and other IT equipment.

FY 2020 Base procurement dollars in the amount of \$14.400 million supports TRADOC Battle Lab/Moran/Allen Mission Unique Equipment (MUE) requirements such as specialized lab equipment, switches, encryption devices, computers, monitors, phones, printers, large screen displays, cameras, video codecs, microphones, speakers, and other IT equipment.

FY 2020 OCO procurement dollars in the amount of \$22.400 million support the EUCOM EDI Building 2301 renovation and modernization project with end user IT equipment such as routers, switches, computers, phones, cabling, cameras, sound and video mixers, speakers, and encryption devices.

INFORMATION SYSTEMS (MCA SUPPORT) (BB1400):  
 FY 2020 Base procurement dollars in the amount of \$6.550 million supports IS infrastructure with Unified Capability voice/data switches, common user network transport infrastructure, end-user instruments (including telephones, soft phones, video teleconferencing equipment or computing devices), associated licensing, training range connectivity which may include long runs of fiber optics cable, and secure data switches, gateways and encryption devices for classified network connectivity. This funding also procures the network infrastructure engineering, acquisition, installation, security, and quality assurance to

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<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 73: Comm - Base Communications		<b>P-1 Line Item Number / Title:</b> 9200BB8650 / Information Systems
<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
<b>Line Item MDAP/MAIS Code:</b> N/A		
<p>support the planning, design, and implementation of Information Systems requirements associated with MCA projects. Funding is required to ensure that these projects have all necessary Information Systems infrastructure and equipment for soldier readiness of the facilities.</p> <p>FY 2020 OCO procurement dollars in the amount of \$3.800 million supports USARCENT MCP COOP with end user IT equipment such as routers, switches, servers, data-storage, computers, phones, cabling, cameras, sound and video mixers, display panels, speakers, encryption devices, and other IT equipment.</p> <p>FY 2020 OCO procurement dollars in the amount of \$10.000 million supports USARCENT AFIRJAN MCF REMEDIATION with upgrade and modernization the power infrastructure, HVAC systems, and two MCF generators.</p> <p>FY 2020 OCO procurement dollars in the amount of \$19.600 million supports USARCENT COOP/THEATER BLACK CORE NETWORK with power, HVAC, and core level IT equipment such as enterprise-level routers and switches, data servers and storage, cabling, encryption devices, and other equipment.</p> <p>INFORMATION SYSTEMS (CONUS/WESTERN HEM) (BB8700): FY 2020 Base procurement dollars in the amount of \$13.324 million supports SRM projects with Unified Capability voice/data switches, common user network transport infrastructure, end-user instruments (including telephones, soft phones, video teleconferencing equipment or computing devices), associated licensing, training range connectivity which may include long runs of fiber optics cable, and secure data switches, gateways and encryption devices for classified network connectivity. This funding also procures the network infrastructure engineering, acquisition, installation, security, and quality assurance to support the planning, design, and implementation of Information Systems requirements. Funding is required to ensure that these projects have all necessary Information Systems infrastructure and equipment for soldier readiness of the facilities.</p>		



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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 73	<b>P-1 Line Item Number / Title:</b> 9200BB8650 / Information Systems	<b>Item Number / Title [DODIC]:</b> B31510 / PROPONENT/MISSION IT-MCA/PHYSICAL RELOCATION

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	180.688	41.762	58.324	139.135	22.400	161.535
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	180.688	41.762	58.324	139.135	22.400	161.535
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>180.688</b>	<b>41.762</b>	<b>58.324</b>	<b>139.135</b>	<b>22.400</b>	<b>161.535</b>

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

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

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Hardware Cost																		
Non Recurring Cost																		
Proponent/Mission IT Hardware <sup>(†)</sup>	60,229.333	3	180.688	41,762.000	1	41.762	49,574.000	1	49.574	49,701.000	1	49.701	-	-	-	49,701.000	1	49.701
GTMO Detention Legal Complex <sup>(†)</sup>	-	-	-	-	-	-	3,000.000	1	3.000	-	-	-	-	-	-	-	-	-
GTMO Unaccompanied Housing/High Value Detainee Facility/NOC Facility/Detention Facility <sup>(†)</sup>	-	-	-	-	-	-	5,750.000	1	5.750	-	-	-	-	-	-	-	-	-
USARPAC C2 Facility Phase 3 <sup>(†)</sup>	-	-	-	-	-	-	-	-	-	23,429.000	1	23.429	-	-	-	23,429.000	1	23.429
USFK BCTC/OPS SCIFs <sup>(†)</sup>	-	-	-	-	-	-	-	-	-	30,000.000	1	30.000	-	-	-	30,000.000	1	30.000
INSCOM Secure Admin/Operations Facility Incr 3 <sup>(†)</sup>	-	-	-	-	-	-	-	-	-	21,605.000	1	21.605	-	-	-	21,605.000	1	21.605
TRADOC Battle Lab/Moran/Allen <sup>(†)</sup>	-	-	-	-	-	-	-	-	-	14,400.000	1	14.400	-	-	-	14,400.000	1	14.400
EUCOM EDI <sup>(†)</sup>	-	-	-	-	-	-	-	-	-	-	-	-	22,400.000	1	22.400	22,400.000	1	22.400

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 73		<b>P-1 Line Item Number / Title:</b> 9200BB8650 / Information Systems
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :		<b>MDAP/MAIS Code:</b>

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
<i>Subtotal: Non Recurring Cost</i>	-	-	180.688	-	-	41.762	-	-	58.324	-	-	139.135	-	-	22.400	-	-	161.535
<i>Subtotal: Hardware Cost</i>	-	-	180.688	-	-	41.762	-	-	58.324	-	-	139.135	-	-	22.400	-	-	161.535
<b>Gross/Weapon System Cost</b>	-	-	180.688	-	-	41.762	-	-	58.324	-	-	139.135	-	-	22.400	-	-	161.535

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	-	-	-	-	-
	Total Obligation Authority	41.762	58.324	139.135	22.400	161.535
<b>Total:</b>	Quantity	-	-	-	-	-
<b>Secondary Distribution</b>	Total Obligation Authority	41.762	58.324	139.135	22.400	161.535

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

**UNCLASSIFIED**

<b>Exhibit P-5a, Procurement History and Planning:</b> PB 2020 Army							<b>Date:</b> March 2019					
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 73			<b>P-1 Line Item Number / Title:</b> 9200BB8650 / Information Systems				<b>Item Number / Title [DODIC]:</b> B31510 / PROPONENT/MISSION IT-MCA/PHYSICAL RELOCATION					

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
Proponent/Mission IT Hardware		2018	Various / Various	C / FFP	Various	Aug 2018	Dec 2018	1	41,762.000	Y		Apr 2018
Proponent/Mission IT Hardware		2019	TBS / TBS	C / FFP	ACC-RI, Rock Island, IL	Aug 2019	Dec 2019	1	49,574.000	N		Apr 2019
Proponent/Mission IT Hardware		2020	TBS / TBS	C / FFP	ACC-RI, Rock Island, IL	May 2020	Jul 2020	1	49,701.000	N		Apr 2020
GTMO Detention Legal Complex		2019	TBS / TBS	C / FFP	ACC-RI, Rock Island, IL	Aug 2019	Dec 2019	1	3,000.000	N		Apr 2019
GTMO Unaccompanied Housing/ High Value Detainee Facility/NOC Facility/Detention Facility		2019	TBS / TBS	C / FFP	ACC-RI, Rock Island, IL	Aug 2019	Dec 2019	1	5,750.000	N		Apr 2019
USARPAC C2 Facility Phase 3		2020	TBS / TBS	C / FFP	ACC-RI, Rock Island, IL	Apr 2020	Jun 2020	1	23,429.000	N		
USFK BCTC/OPS SCIFs		2020	TBS / TBS	C / FFP	ACC-RI, Rock Island, IL	May 2020	Jul 2020	1	30,000.000	N		
INSCOM Secure Admin/Operations Facility Incr 3		2020	TBS / TBS	C / FFP	ACC-RI, Rock Island, IL	Mar 2020	May 2020	1	21,605.000	N		
TRADOC Battle Lab/Moran/Allen		2020	TBS / TBS	C / FFP	ACC-RI, Rock Island, IL	May 2020	Jul 2020	1	14,400.000	N		
EUCOM EDI	✓	2020	TBS / TBS	C / FFP	ACC-RI, Rock Island, IL	May 2020	Jul 2020	1	22,400.000	N		

**Remarks:**  
All IT procurements consist of COTS/GOTS solutions; all quantities and unit costs vary by project, system configuration, and site. Army Contracting Command-Rock Island ACC-RI.

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 73	<b>P-1 Line Item Number / Title:</b> 9200BB8650 / Information Systems	<b>Item Number / Title [DODIC]:</b> BB1400 / INFORMATION SYSTEMS (MCA SUPPORT)

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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<b>Resource Summary</b>	<b>Prior Years</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Procurement Quantity (Units in Each)	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	1,604.261	3.849	16.300	6.550	33.400	39.950
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	1,604.261	3.849	16.300	6.550	33.400	39.950
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>1,604.261</b>	<b>3.849</b>	<b>16.300</b>	<b>6.550</b>	<b>33.400</b>	<b>39.950</b>

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

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

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

<b>Cost Elements</b>	<b>Prior Years</b>			<b>FY 2018</b>			<b>FY 2019</b>			<b>FY 2020 Base</b>			<b>FY 2020 OCO</b>			<b>FY 2020 Total</b>		
	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>
<b>Hardware Cost</b>																		
<b>Non Recurring Cost</b>																		
MCA Spt-Telephone Switch <sup>(†)</sup>	8,765.357	14	122.715	-	-	-	6,818.000	1	6.818	1,745.000	1	1.745	-	-	-	1,745.000	1	1.745
MCA Spt-Switch Upgrades <sup>(†)</sup>	282.414	58	16.380	105.000	3	0.315	988.000	1	0.988	250.000	1	0.250	-	-	-	250.000	1	0.250
MCA Spt-Telephone System <sup>(†)</sup>	162.931	58	9.450	70.000	3	0.210	627.000	1	0.627	125.000	1	0.125	-	-	-	125.000	1	0.125
MCA Spt-LAN Transport System <sup>(†)</sup>	600.000	55	33.000	255.000	3	0.765	2,068.000	1	2.068	300.000	1	0.300	-	-	-	300.000	1	0.300
MCA Spt-Range Connectivity <sup>(†)</sup>	1,500.000	13	19.500	445.000	1	0.445	1,710.000	1	1.710	800.000	1	0.800	-	-	-	800.000	1	0.800
MCA Spt-Secure Data/ Encryption Devices <sup>(†)</sup>	1,000.000	16	16.000	318.000	1	0.318	760.000	1	0.760	550.000	1	0.550	-	-	-	550.000	1	0.550
MCA Spt-Engineering Svcs <sup>(†)</sup>	31,423.000	3	94.269	1,071.000	1	1.071	1,598.000	1	1.598	1,000.000	1	1.000	-	-	-	1,000.000	1	1.000
Phys Plant Infrastructure Spt IS Assets <sup>(†)</sup>	1,593.000	1	1.593	725.000	1	0.725	1,731.000	1	1.731	1,780.000	1	1.780	-	-	-	1,780.000	1	1.780
MCA	1,291,354.000	1	1,291.354	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
USARCENT MCP COOP <sup>(†)</sup>	-	-	-	-	-	-	-	-	-	-	-	-	3,800.000	1	3.800	3,800.000	1	3.800

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 73	<b>P-1 Line Item Number / Title:</b> 9200BB8650 / Information Systems	<b>Item Number / Title [DODIC]:</b> BB1400 / INFORMATION SYSTEMS (MCA SUPPORT)
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :		<b>MDAP/MAIS Code:</b>

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
USARCENT ARIFJAN MCF Remediation <sup>(†)</sup>	-	-	-	-	-	-	-	-	-	-	-	-	10,000.000	1	10.000	10,000.000	1	10.000
USARCENT COOP/ Theater Black Core Network <sup>(†)</sup>	-	-	-	-	-	-	-	-	-	-	-	-	19,600.000	1	19.600	19,600.000	1	19.600
<i>Subtotal: Non Recurring Cost</i>	-	-	1,604.261	-	-	3.849	-	-	16.300	-	-	6.550	-	-	33.400	-	-	39.950
<i>Subtotal: Hardware Cost</i>	-	-	1,604.261	-	-	3.849	-	-	16.300	-	-	6.550	-	-	33.400	-	-	39.950
<b>Gross/Weapon System Cost</b>	-	-	1,604.261	-	-	3.849	-	-	16.300	-	-	6.550	-	-	33.400	-	-	39.950

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	-	-	-	-	-
	Total Obligation Authority	3.849	16.300	6.550	33.400	39.950
<b>Total: Secondary Distribution</b>	Quantity	-	-	-	-	-
	Total Obligation Authority	3.849	16.300	6.550	33.400	39.950

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

**UNCLASSIFIED**

Exhibit P-5a, Procurement History and Planning: PB 2020 Army								Date: March 2019				
Appropriation / Budget Activity / Budget Sub Activity: 2035A / 02 / 73			P-1 Line Item Number / Title: 9200BB8650 / Information Systems					Item Number / Title [DODIC]: BB1400 / INFORMATION SYSTEMS (MCA SUPPORT)				
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
MCA Spt-Telephone Switch		2019	TBS / TBS	C / FFP	ACC-RI, Rock Island, IL	Apr 2019	Jul 2019	1	6,818.000	N		
MCA Spt-Telephone Switch		2020	TBS / TBS	C / FFP	ACC-RI, Rock Island, IL	Mar 2020	Jun 2020	1	1,745.000	N		
MCA Spt-Switch Upgrades		2018	TBS / TBS	C / FFP	ACC-RI, Rock Island, IL	Aug 2018	Nov 2018	3	105.000	Y		
MCA Spt-Switch Upgrades		2019	TBS / TBS	C / FFP	ACC-RI, Rock Island, IL	Apr 2019	Jul 2019	1	988.000	N		
MCA Spt-Switch Upgrades		2020	TBS / TBS	C / FFP	ACC-RI, Rock Island, IL	Mar 2020	Jun 2020	1	250.000	N		
MCA Spt-Telephone System		2018	TBS / TBS	C / FFP	ACC-RI, Rock Island, IL	Aug 2018	Nov 2018	3	70.000	Y		
MCA Spt-Telephone System		2019	TBS / TBS	C / FFP	ACC-RI, Rock Island, IL	Apr 2019	Jul 2019	1	627.000	N		
MCA Spt-Telephone System		2020	TBS / TBS	C / FFP	ACC-RI, Rock Island, IL	Mar 2020	Jun 2020	1	125.000	N		
MCA Spt-LAN Transport System		2018	TBS / TBS	C / FFP	ACC-RI, Rock Island, IL	Aug 2018	Nov 2018	3	255.000	Y		
MCA Spt-LAN Transport System		2019	TBS / TBS	C / FFP	ACC-RI, Rock Island, IL	Apr 2019	Jul 2019	1	2,068.000	N		
MCA Spt-LAN Transport System		2020	TBS / TBS	C / FFP	ACC-RI, Rock Island, IL	Mar 2020	Jun 2020	1	300.000	N		
MCA Spt-Range Connectivity		2018	TBS / TBS	C / FFP	ACC-RI, Rock Island, IL	Aug 2018	Nov 2018	1	445.000	Y		
MCA Spt-Range Connectivity		2019	TBS / TBS	C / FFP	ACC-RI, Rock Island, IL	Apr 2019	Jul 2019	1	1,710.000	N		
MCA Spt-Range Connectivity		2020	TBS / TBS	C / FFP	ACC-RI, Rock Island, IL	Mar 2020	Jun 2020	1	800.000	N		
MCA Spt-Secure Data/Encryption Devices		2018	TBS / TBS	C / FFP	ACC-RI, Rock Island, IL	Aug 2018	Nov 2018	1	318.000	Y		
MCA Spt-Secure Data/Encryption Devices		2019	TBS / TBS	C / FFP	ACC-RI, Rock Island, IL	Apr 2019	Jul 2019	1	760.000	N		
MCA Spt-Secure Data/Encryption Devices		2020	TBS / TBS	C / FFP	ACC-RI, Rock Island, IL	Mar 2020	Jun 2020	1	550.000	N		
MCA Spt-Engineering Svcs		2018	TBS / TBS	C / FFP	ACC-HUA, Ft. Huachuca, AZ	Aug 2018	Nov 2018	1	1,071.000	Y		
MCA Spt-Engineering Svcs		2019	TBS / TBS	C / FFP	ACC-RI, Rock Island, IL	Apr 2019	Jul 2019	1	1,598.000	N		
MCA Spt-Engineering Svcs		2020	TBS / TBS	C / FFP	ACC-RI, Rock Island, IL	Mar 2020	Jun 2020	1	1,000.000	N		
Phys Plant Infrastructure Spt IS Assets		2018	TBS / TBS	C / FFP	ACC-RI, Rock Island, IL	Aug 2018	Nov 2018	1	725.000	Y		
Phys Plant Infrastructure Spt IS Assets		2019	TBS / TBS	C / FFP	ACC-RI, Rock Island, IL	Apr 2019	Jul 2019	1	1,731.000	N		
Phys Plant Infrastructure Spt IS Assets		2020	TBS / TBS	C / FFP	ACC-RI, Rock Island, IL	Mar 2020	Jun 2020	1	1,780.000	N		
USARCENT MCP COOP	✓	2020	TBS / TBS	C / FFP	ACC-RI, Rock Island, IL	Mar 2020	Jul 2020	1	3,800.000	N		
USARCENT ARIFJAN MCF Remediation	✓	2020	TBS / TBS	C / FFP	ACC-RI, Rock Island, IL	Mar 2020	Jul 2020	1	10,000.000	N		
USARCENT COOP/Theater Black Core Network	✓	2020	TBS / TBS	C / FFP	ACC-RI, Rock Island, IL	Mar 2020	Jul 2020	1	19,600.000	N		

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<b>Exhibit P-5a, Procurement History and Planning:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 73	<b>P-1 Line Item Number / Title:</b> 9200BB8650 / Information Systems	<b>Item Number / Title [DODIC]:</b> BB1400 / INFORMATION SYSTEMS (MCA SUPPORT)
<b>Remarks:</b> All IT procurements consist of COTS/GOTS solutions; all quantities and unit costs vary by project, system configuration, and site. ACC-RI - Army Contracting Command-Rock Island; ACC-HUA - Army Contracting Command-Fort Huachuca.		

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 73	<b>P-1 Line Item Number / Title:</b> 9200BB8650 / Information Systems	<b>Item Number / Title [DODIC]:</b> BB8655 / INFORMATION SYSTEMS (CYBER)

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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<b>Resource Summary</b>	<b>Prior Years</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Procurement Quantity <i>(Units in Each)</i>	-	-	-	-	-	-
Gross/Weapon System Cost <i>(\$ in Millions)</i>	-	38.533	-	-	-	-
Less PY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-
Net Procurement (P-1) <i>(\$ in Millions)</i>	-	38.533	-	-	-	-
Plus CY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-
<b>Total Obligation Authority</b> <i>(\$ in Millions)</i>	-	<b>38.533</b>	-	-	-	-

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

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

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

<b>Cost Elements</b>	<b>Prior Years</b>			<b>FY 2018</b>			<b>FY 2019</b>			<b>FY 2020 Base</b>			<b>FY 2020 OCO</b>			<b>FY 2020 Total</b>		
	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)
<b>Hardware Cost</b>																		
<b>Non Recurring Cost</b>																		
Information Systems (Cyber) <sup>(†)</sup>	-	-	-	38,533.000	1	38.533	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Non Recurring Cost</i>	-	-	-	-	-	38.533	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Hardware Cost</i>	-	-	-	-	-	<b>38.533</b>	-	-	-	-	-	-	-	-	-	-	-	-
<b>Gross/Weapon System Cost</b>	-	-	-	-	-	<b>38.533</b>	-	-	-	-	-	-	-	-	-	-	-	-

<b>Secondary Distribution</b>		<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Army	Quantity	-	-	-	-	-
	Total Obligation Authority	38.533	-	-	-	-
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	-	-	-	-	-
	<b>Total Obligation Authority</b>	<b>38.533</b>	-	-	-	-

(†) indicates the presence of a P-5a



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<b>Exhibit P-5a, Procurement History and Planning:</b> PB 2020 Army							<b>Date:</b> March 2019				
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 73			<b>P-1 Line Item Number / Title:</b> 9200BB8650 / Information Systems				<b>Item Number / Title [DODIC]:</b> BB8655 / INFORMATION SYSTEMS (CYBER)				

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
Information Systems (Cyber)		2018	Various / Various	C / FFP	Various	Aug 2018	Oct 2018	1	38,533.000	Y		

**Remarks:**  
 All IT procurements consist of COTS/GOTS solutions; all quantities and unit costs vary by project, system configuration, and site. ACC-RI - Army Contracting Command-Rock Island.  
 Contracts awarded:  
 CDW Government LLC, Vernon Hills, IL - \$7,582/ DCMA Chicago, Arlington Heights, IL  
 Advanced Computer Concepts, Inc., McLean, VA - \$1,870/ DCMA Manassas, Chantilly, VA  
 CDW Government LLC, Vernon Hills, IL - 10,490/ DCMA Chicago, Arlington Heights, IL  
 CDW Government LLC, Vernon Hills, IL - \$8,571/ DCMA Chicago, Arlington Heights, IL  
 UNICOM Government, Inc., Chantilly, VA - \$408/ MICC Fort Gordon, GA  
 Real Time Monitors, Inc., Carson City, NV - \$172/ MICC Fort Gordon, GA  
 NSA, Fort Meade, MD - \$468 / ISEC Fort Detrick Engineering Directorate, Frederick, MD  
 Iron Bow Technologies, LLC, Herndon, VA - \$1,549/ ACC Rock Island, Rock Island, IL  
 Naval Air Warfare Center Air Div, Patuxent River, MD - \$1,996/ ISEC Fort Detrick Engineering Directorate, Frederick, MD  
 DOD SUPPLY ACTIVITY / NSA, Fort Meade, MD - \$2,572/ ISEC Fort Detrick Engineering Directorate, Frederick, MD  
 TBS/TBS \$2,855

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 73	<b>P-1 Line Item Number / Title:</b> 9200BB8650 / Information Systems	<b>Item Number / Title [DODIC]:</b> BB8700 / INFORMATION SYSTEMS (CONUS/WESTERN HEM)

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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<b>Resource Summary</b>	<b>Prior Years</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Procurement Quantity (Units in Each)	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	1,021.768	1.426	5.440	13.324	-	13.324
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	1,021.768	1.426	5.440	13.324	-	13.324
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>1,021.768</b>	<b>1.426</b>	<b>5.440</b>	<b>13.324</b>	<b>-</b>	<b>13.324</b>

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

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

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

<b>Cost Elements</b>	<b>Prior Years</b>			<b>FY 2018</b>			<b>FY 2019</b>			<b>FY 2020 Base</b>			<b>FY 2020 OCO</b>			<b>FY 2020 Total</b>		
	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>
Hardware Cost																		
Non Recurring Cost																		
Sustain/Restore/Modernize (SRM) HW <sup>(†)</sup>	510,884.000	2	1,021.768	1,426.000	1	1.426	5,440.000	1	5.440	13,324.000	1	13.324	-	-	-	13,324.000	1	13.324
<i>Subtotal: Non Recurring Cost</i>	-	-	1,021.768	-	-	1.426	-	-	5.440	-	-	13.324	-	-	-	-	-	13.324
<i>Subtotal: Hardware Cost</i>	-	-	1,021.768	-	-	1.426	-	-	5.440	-	-	13.324	-	-	-	-	-	13.324
<b>Gross/Weapon System Cost</b>	-	-	1,021.768	-	-	1.426	-	-	5.440	-	-	13.324	-	-	-	-	-	13.324

<b>Secondary Distribution</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Army	-	-	-	-	-
Total Obligation Authority	1.426	5.440	13.324	-	13.324
<b>Total: Secondary Distribution</b>	-	-	-	-	-
Total Obligation Authority	1.426	5.440	13.324	-	13.324

(†) indicates the presence of a P-5a

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<b>Exhibit P-5a, Procurement History and Planning:</b> PB 2020 Army							<b>Date:</b> March 2019				
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 73			<b>P-1 Line Item Number / Title:</b> 9200BB8650 / Information Systems				<b>Item Number / Title [DODIC]:</b> BB8700 / INFORMATION SYSTEMS (CONUS/WESTERN HEM)				

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
Sustain/Restore/Modernize (SRM) HW		2018	Various / Various	C / FFP	Various	Aug 2018	Dec 2018	1	1,426.000	Y		
Sustain/Restore/Modernize (SRM) HW		2019	TBS / TBS	C / FFP	CHESS, Ft Belvoir, VA	Aug 2019	Dec 2019	1	5,440.000	Y		
Sustain/Restore/Modernize (SRM) HW		2020	TBS / TBS	C / FFP	CHESS, Ft Belvoir, VA	May 2020	Jul 2020	1	13,324.000	N		

**Remarks:**  
All IT procurements consist of COTS/GOTS solutions; all quantities and unit costs vary by project, system configuration, and site. CHESS - Computer Hardware Enterprise Software and Solutions.

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 73: Comm - Base Communications	<b>P-1 Line Item Number / Title:</b> 9666BU8000 / Emergency Management Modernization Program
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	162.729	4.490	4.736	4.854	-	4.854	4.905	4.939	4.940	4.989	-	196.582
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	162.729	4.490	4.736	4.854	-	4.854	4.905	4.939	4.940	4.989	-	196.582
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>162.729</b>	<b>4.490</b>	<b>4.736</b>	<b>4.854</b>	<b>-</b>	<b>4.854</b>	<b>4.905</b>	<b>4.939</b>	<b>4.940</b>	<b>4.989</b>	<b>-</b>	<b>196.582</b>

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

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

**Description:**

The Emergency Management Modernization Program (EM2P) is a single integrated acquisition program for the design, procurement, fielding, new equipment training, and life-cycle management of emergency management capabilities in support of Army installations, Soldiers and their Families, civilians, and contractors. EM2P provides capabilities that increase situational awareness, decrease responder time, and allow for quicker warning and notification of personnel during the management of an active incident. EM2P consists of Enterprise Mass Warning and Notification (EMWN) technologies, Enhanced 911 (E911) solutions and Computer Aided Dispatch (CAD) capability (fielding beginning in FY20).

CAD is a central hub capable of dispatching law enforcement/fire/medical services. CAD is integrated with Automated Installation Entry (AIE), Enterprise Mass Warning and Notification (EMWN), and law enforcement (LE) authoritative data sources as well as with local civilian CAD and civilian LE authoritative data sources. CAD is a technical software/hardware system which assists dispatchers, call-takers, and 911 operators in tracking, monitoring and rapid dispatching of first responders using geographic information system (GIS) mobile technology, pre-programmed protocols getting the nearest responders quickest to critical incidents, while maintaining records of these responses. CAD is a system used by dispatchers and first responders to log, track, dispatch and assign calls for service.

Currently, various locally procured Computer Aided Dispatch (CAD) systems are being used on Army installations posing cybersecurity risks and are not in compliance with Army Regulation (AR) 70-1, Army Acquisition Policy, as some systems are not accredited and are vulnerable to cyber threats. CAD systems on Army installations do not fully integrate with Enhanced 911 and other emergency services like Land Mobile Radio. Many do not have the capability to digitally communicate reports of incidents, location, situational information, and background information by interfacing with authoritative informational data sources and providing enterprise level situational awareness/information sharing to assist military and civilian law enforcement, fire and medical. This causes delays in dispatch and response times, increased risk to property and personnel, and resource management constraints. The desired CAD capability will provide secure and reliable digital communications to assist military and civilian emergency personnel with emergency management operations. A standardized CAD system procured and implemented on an enterprise level will reduce the loss of life and property, increase situational awareness and improve reporting and analysis of incidents. CAD systems reduce the loss of life and property by automating incident creation and minimizing dispatch and response times as identified in the Fort Hood Army Internal Review. The system also improves situational awareness by sharing information from authoritative data sources (i.e. communications systems, law enforcement databases, etc.) with military and civilian first responders. Additionally, CAD allows for real time asset management, tracking the location and status of individual assets (personnel and equipment) which provides a superior real time common operating picture throughout the entire incident lifecycle. This data can be used during or after the incident, providing forensics of key performance indicators. Furthermore this data improves future manpower modeling based on calls for service tracked within the CAD system. The monetary return on investment is based on a scalable solution that takes into consideration the size and scope of the installation mission set, this will provide a cost effective strategy.

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 73: Comm - Base Communications	<b>P-1 Line Item Number / Title:</b> 9666BU8000 / Emergency Management Modernization Program
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

The EM2P provides capabilities that will save lives by enabling Commanders to quickly and effectively respond to any installation emergency events, to include insider threats, terrorist activity and natural disasters.

	<b>Secondary Distribution</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	4.490	4.736	4.854	-	4.854	4.905	4.939	4.940	4.989
<b>Total:</b>	<b>Quantity</b>	-	-	-	-	-	-	-	-	-
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>4.490</b>	<b>4.736</b>	<b>4.854</b>	<b>-</b>	<b>4.854</b>	<b>4.905</b>	<b>4.939</b>	<b>4.940</b>	<b>4.989</b>

**Justification:**  
 FY 2020 Base procurement funding in the amount of \$4.854 million supports Computer Aided Dispatch (CAD) capability fielding. The CAD capability leverages a System of Systems approach that integrates e911 and other emergency services. Funding will also procure the Hardware/Software required to provide secure and reliable digital communications to assist military and civilian emergency personnel with emergency management operations.

CAD capabilities are currently employed in a fragmented operational, training and sustainment environment and are managed at the individual installation level. CONUS and Outside the Continental US (OCONUS) installations have historically procured non-standard equipment with closed architecture and proprietary software. In accordance with AR 70-1, the CAD capability must use a System of Systems approach that leverages aspects of the Chief Information Officer (CIO)/G-6, Assistant Secretary of the Army for Acquisition, Logistics and Technology (ASA (ALT)), Common Operating Environment (COE) Architecture and the DOD IT Strategy Roadmap. This will allow for a standardized, scalable and common technical solution across diverse installation sizes with the ability to integrate and interoperate with emergency response capabilities.

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 Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities.

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 73: Comm - Base Communications	<b>P-1 Line Item Number / Title:</b> 9674B33000 / Home Station Mission Command Centers (HSMCC)
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	-	20.050	24.479	47.174	-	47.174	15.243	-	-	-	-	106.946
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	-	20.050	24.479	47.174	-	47.174	15.243	-	-	-	-	106.946
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	-	<b>20.050</b>	<b>24.479</b>	<b>47.174</b>	-	<b>47.174</b>	<b>15.243</b>	-	-	-	-	<b>106.946</b>

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

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	-	4,010.000	4,079.833	-	-	-	-	-	-	-	-	9,722.364

**Description:**

The Home Station Mission Command Center (HSMCC) funding line supports the Army's Network Modernization Strategy Line of Effort #4, Command Post. LOE#4 addresses the operational requirement of deployable, Integrated, and Mobile Command Post and integrates Knowledge Management.

HSMCC is a suite of standardized capabilities utilized at Corps, Division and Theater Headquarters that allows expeditionary mission command during all operational phases. HSMCC provides the physical infrastructure (5 conference rooms + 1 Sensitive Compartmented Information Facility) that supports Distributive Mission Command. HSMCC will enable units to execute a variety of required missions, such as Defense Support to Civil Authorities, Training and Readiness, Preparing and Deploying regionally aligned forces from Home Station, and Senior Commander Functions. Advances in network capability, telepresence tools and remote collaboration provide the technical foundation for the HSMCCs reach-forward and reach-back capabilities. HSMCC provides control and enables the mission command warfighting function by providing a secure, integrated, standards-based environment that ensures uninterrupted global access and enables collaboration and decisive action throughout all operational phases across all environments. The Mission Partner Environment stack supports CONUS/OCONUS Command and Control (C2) training for Joint, Coalition interoperability across a Multiple Domain Battlespace, creating a virtual environment for commanders before the fight.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	-	-	-	-	-	-	-	-
	Total Obligation Authority	20.050	19.479	37.174	-	37.174	15.243	-	-
ANG	Quantity	-	-	-	-	-	-	-	-
	Total Obligation Authority	-	5.000	10.000	-	10.000	-	-	-
<b>Total:</b> Secondary Distribution	<b>Quantity</b>	-	-	-	-	-	-	-	-
	<b>Total Obligation Authority</b>	<b>20.050</b>	<b>24.479</b>	<b>47.174</b>	-	<b>47.174</b>	<b>15.243</b>	-	-

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 73: Comm - Base Communications	<b>P-1 Line Item Number / Title:</b> 9674B33000 / Home Station Mission Command Centers (HSMCC)
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	B33011 / Home Station Mission Command Centers (HSMCC)				- / -	- / 20.050	- / 24.479	- / 47.174	- / -	- / 47.174
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				- / -	- / 20.050	- / 24.479	- / 47.174	- / -	- / 47.174

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

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

**Justification:**

FY2020 base procurement dollars in the amount of \$47.174 million accelerates installation of the HSMCC capabilities. Funding procures site preparation that includes site surveys, site assessment reports, systems requirement documents and engineering implementation plans. Hardware IT equipment to be procured includes, Operator & PC connections, HD cameras, Network Switches, coder-decoders (CODECs), projectors, HDTV tuners, monitors, microphones, speakers, control panels, servers, communication hardware racks, interconnect video feeds, laptop interfaces and sound systems. FY2020 also funds associated program management contractor support costs.

The increase in funding from FY2019 to FY2020 results from system engineering and hardware cost growth based on the Army decision to accelerate investment in the HSMCC sites scheduled for FY2020 to meet the Chief of Staff, Army top priority (Readiness). HSMCCs are tailored to the mission and facilities to provide a common level of capability at all locations. Hardware and engineering solutions at specific locations vary significantly. Therefore, "unit cost" and quantity are not appropriate measures of efficiency or capability for HSMCCs. Prior year P-forms and the Army's unit quantity database did not account for the Army's recent decision to accelerate HSMCC implementation.

\$5 million of the FY2020 request will be used to complete installation of HSMCC sites initiated in FY19. All remaining FY2020 funding will be used for Mission Partner Environment (MPE) stacks to buy servers to install MPE capability at I, III and XVIII ABN Corps, USAREUR, USARPAC, 8th Army and CAC MCTP. In addition, MPE will be installed at the Division level and at select, prioritized BCTs utilizing remaining funds.

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

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 73	<b>P-1 Line Item Number / Title:</b> 9674B33000 / Home Station Mission Command Centers (HSMCC)	<b>Item Number / Title [DODIC]:</b> B33011 / Home Station Mission Command Centers (HSMCC)

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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<b>Resource Summary</b>	<b>Prior Years</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Procurement Quantity (Units in Each)	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	-	20.050	24.479	47.174	-	47.174
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	-	20.050	24.479	47.174	-	47.174
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	-	<b>20.050</b>	<b>24.479</b>	<b>47.174</b>	-	<b>47.174</b>

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

Initial Spares (\$ in Millions)	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	-	4,010.000	4,079.833	-	-	-

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

<b>Cost Elements</b>	<b>Prior Years</b>			<b>FY 2018</b>			<b>FY 2019</b>			<b>FY 2020 Base</b>			<b>FY 2020 OCO</b>			<b>FY 2020 Total</b>		
	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>
<b>Hardware Cost</b>																		
Recurring Cost																		
HSMCC Hardware	-	-	-	-	-	10.400	-	-	12.585	-	-	29.000	-	-	-	-	-	29.000
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	<i>10.400</i>	-	-	<i>12.585</i>	-	-	<i>29.000</i>	-	-	-	-	-	<i>29.000</i>
<i>Subtotal: Hardware Cost</i>	-	-	-	-	-	<i>10.400</i>	-	-	<i>12.585</i>	-	-	<i>29.000</i>	-	-	-	-	-	<i>29.000</i>
<b>Support - Program Management Cost</b>																		
Contractor Management	-	-	-	-	-	1.250	-	-	1.486	-	-	2.730	-	-	-	-	-	2.730
<i>Subtotal: Support - Program Management Cost</i>	-	-	-	-	-	<i>1.250</i>	-	-	<i>1.486</i>	-	-	<i>2.730</i>	-	-	-	-	-	<i>2.730</i>
<b>Support - System Engineering Cost</b>																		
System Engineering	-	-	-	-	-	8.400	-	-	10.408	-	-	15.444	-	-	-	-	-	15.444
<i>Subtotal: Support - System Engineering Cost</i>	-	-	-	-	-	<i>8.400</i>	-	-	<i>10.408</i>	-	-	<i>15.444</i>	-	-	-	-	-	<i>15.444</i>
<b>Gross/Weapon System Cost</b>	-	-	-	<b>4,010.000</b>	-	<b>20.050</b>	<b>4,079.833</b>	-	<b>24.479</b>	-	-	<b>47.174</b>	-	-	-	-	-	<b>47.174</b>

**Remarks:**

The increase in funding from FY2019 to FY2020 results from system engineering and hardware cost growth based on the Army decision to accelerate investment in the HSMCC sites scheduled for FY2020 to meet the Chief of Staff, Army top priority (Readiness). HSMCCs are tailored to the mission and facilities to provide a common level of capability at all locations. Hardware and engineering solutions at specific locations vary significantly. Therefore, "unit cost" and quantity are not appropriate measures of efficiency or capability for HSMCCs. Prior year P-forms and the Army's unit quantity database did not account for the Army's recent decision to accelerate HSMCC implementation.



**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 73	<b>P-1 Line Item Number / Title:</b> 9674B33000 / Home Station Mission Command Centers (HSMCC)	<b>Item Number / Title [DODIC]:</b> B33011 / Home Station Mission Command Centers (HSMCC)

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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<b>Secondary Distribution</b>		<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Army	Quantity	-	-	-	-	-
	Total Obligation Authority	20.050	19.479	37.174	-	37.174
ANG	Quantity	-	-	-	-	-
	Total Obligation Authority	-	5.000	10.000	-	10.000
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	-	-	-	-	-
	<b>Total Obligation Authority</b>	<b>20.050</b>	<b>24.479</b>	<b>47.174</b>	-	<b>47.174</b>

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 73: Comm - Base Communications	<b>P-1 Line Item Number / Title:</b> 9700BU0500 / Installation Info Infrastructure Mod Program
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	3,818.820	187.451	246.770	297.994	75.820	373.814	378.154	231.609	210.915	205.846	Continuing	Continuing
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	3,818.820	187.451	246.770	297.994	75.820	373.814	378.154	231.609	210.915	205.846	Continuing	Continuing
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>3,818.820</b>	<b>187.451</b>	<b>246.770</b>	<b>297.994</b>	<b>75.820</b>	<b>373.814</b>	<b>378.154</b>	<b>231.609</b>	<b>210.915</b>	<b>205.846</b>	<b>Continuing</b>	<b>Continuing</b>

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

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

**Description:**

This program supports the Army's Network Modernization Strategy Line of Effort #1 Unified Network, by replacing obsolete communications equipment, converging disparate segments of the current enterprise architecture, eliminating excessive and unnecessary duplication of existing networks, and increasing interoperability amongst joint users and coalition partners. The end state is to provide reliable communications transport options for the Army to enable information dominance across the full spectrum of operations.

BU0500 / Installation Information Infrastructure Modernization Program (I3MP):

The Installation Information Infrastructure Modernization Program (I3MP) funding line acquires the Army's enterprise communications infrastructure for the Army's network. This supports all 288 Army installations worldwide. It consists of all the work and products required to execute site surveys, engineering design, integration, and hardware and information technology (routers, switches, fiber optic cable, and broadband access to enable audio/visual, voice phone communications, data and internet) for both classified and unclassified communications. This funding modernizes the Army network by replacing end-of-lifecycle components that are obsolete to ensure the Army can maintain communications transport throughput and bandwidth capacity to satisfy projected Army operational demands. The converged network enables Unified Capabilities (UC) and the Joint Information Environment (JIE) and eliminates the need and costs to manage and maintain three separate voice, video and data networks. Implementation of network modernization delivers modern communications Internet Protocol (IP) transport and data capabilities, optimizing existing and future capabilities, and divests systems that are no longer required or sustainable, and present operational risk to the command based on cyber vulnerabilities. Not all installations require the same degree of investments and have different degrees of complexity. Requirements depend on geographic coverage area, terrain of the installation, number of users, evolving operational requirements, and the state of existing infrastructure that may require significant modernization of backup power, facilities, and outside plant which may vary from COCOM to COCOM. As a result, all quantities and unit costs vary by system configuration and site. This budget line supports the following five efforts: I3MP Europe (BU0510), I3MP CONUS (BU0530), I3MP SWA (BU0540), WWTCIP (BU3610), and Terrestrial Transmission (BU2000).

Funding includes Overseas Contingency Operations (OCO) to address significant state of disrepair in Central Command's (CENTCOM) forward bases in Southwest Asia executing ongoing named operations.

BU0510 / I3MP Europe:

This funding line includes base and OCO funding. The funding line installs and modernizes the classified and unclassified networks at multiple locations across Europe.

BU0530 / I3MP CONUS:

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<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 73: Comm - Base Communications		<b>P-1 Line Item Number / Title:</b> 9700BU0500 / Installation Info Infrastructure Mod Program
<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
<b>Line Item MDAP/MAIS Code:</b> N/A		
<p>This funding line will address the seven overarching modernization efforts affecting numerous installations worldwide. These Installation Campus Area Networks (ICAN) efforts include Voice over Internet Protocol (VoIP), Inside Plant (ISP), Outside Plant (OSP), Secure Internet Protocol Router (SIPR) Network Modernization, Non-Secure Internet Protocol Router (NIPR) Network Modernization, Circuit Optimization, and Multiprotocol Labeling Switch (MPLS) upgrades.</p> <p>BU0540 / I3MP SWA: The funding line installs and modernizes the classified and unclassified networks at multiple locations across Southwest Asia supporting multiple operations including Operation Spartan Shield (OSS), Operation Inherent Resolve (OIR), and Operation Freedom Sentinel (OFS). In FY20 the Army is transitioning from contingency operations to enduring bases and must build capabilities that are flexible and transportable to support the entire Southwest Asia Area of Responsibility (AOR) in support of Operation Spartan Shield (OSS). This includes Area Distribution Nodes in-a-box, Technical Control Facilities in-a-box, and Fiber Rings in-a-box.</p> <p>BU2000 / Terrestrial Transmission (TT): This funding line provides hardware modernization for the Army's Special Access Program Enterprise Portal (ASEP). This is a Top Secret / Secret Compartmentalized Information (TS/SCI) accredited network supporting operational intelligence and acquisitions ASEPS. It will also continue the upgrade of power, and timing and alarm systems for the European Transmission Systems. The Army Special Access Program Enterprise Portal (ASEP) is the Army's only Top Secret compartmented wide area network providing a secure communications capability (email, video, teleconferencing, document storage/sharing, voice over internet protocol and instant messaging) for the transmission of highly classified Special Access Required (SAR) information between the Army Operations Center (AOC), the Army staff, Army Commands, Army Service Component Commands, Army Special Access Programs (SAPs) and Army Sensitive Activities (SAs).</p> <p>BU3610 / World Wide Technical Control Improvement Program (WWTCIP): The World Wide Technical Control Improvement Program (WWTCIP) is a continuing program to initiate, improve, expand and automate the Army's Technical Control Facilities (TCFs) with a more efficient capability to monitor communications networks and perform the restoral activities required to have an uninterrupted, assured and protected communications which enable critical warfighting and sustainment functions. These upgrades provide the end user with greater bandwidth for high quality voice, data, video, enabling real time response and restoral actions to minimize communications outages. This program provides configuration management and implements Information Assurance (IA) controls for the modernized TCFs. The program is essential to support Outside the Continental United States (OCONUS) Theater Combatant Commander's communications, Continental United States (CONUS) power projection bases, and Defense Satellite Communications Systems. WWTCIP provides the means for technical control personnel to gain full use of the supporting communication resources available through the expansion and automation of the Army's TCF worldwide. The program provides power, timing and synchronization equipment, line conditioning equipment, real time alarm monitoring and control, tri-service tactical interface, and appropriate test equipment with associated hardware in support of the Soldier, to enable information dominance and ensure robust communications worldwide.</p> <p>-----</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 2020 Army **Date:** March 2019

**Appropriation / Budget Activity / Budget Sub Activity:**  
 2035A: Other Procurement, Army / BA 02: Communications and Electronics **P-1 Line Item Number / Title:**  
 9700BU0500 / Installation Info Infrastructure Mod Program  
 Equipment / BSA 73: Comm - Base Communications

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

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

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	B00540 / I3MP- SWA				- / -	- / -	- / -	- / -	- / 57.630	- / 57.630
P-5	BU0510 / I3MP - Europe				- / 874.137	- / 57.101	- / -	- / -	- / 16.261	- / 16.261
P-5	BU0530 / I3MP - CONUS	P-5a			- / 1,926.471	- / 119.758	- / 218.924	- / 289.648	- / -	- / 289.648
P-5	BU2000 / TERRESTRIAL TRANSMISSION	P-5a			- / 73.793	- / 1.592	- / 1.651	- / 1.673	- / -	- / 1.673
P-5	BU3610 / WW Tech Con Imp Prog (WWTCIP)	P-5a			- / 944.419	- / 9.000	- / 26.195	- / 6.673	- / 1.929	- / 8.602
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 3,818.820</b>	<b>- / 187.451</b>	<b>- / 246.770</b>	<b>- / 297.994</b>	<b>- / 75.820</b>	<b>- / 373.814</b>

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

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

**Justification:**  
 BU0510 / I3MP-Europe:  
 FY2020 OCO procurement dollars in the amount of \$16.261 million support the modernization and convergence of voice, data and video networks to a high capacity communications infrastructure which enables the Army to deliver mandated Unified Capabilities (UC) and reduces operation and management costs for the enterprise. Funding also procures remediation efforts at HQ USEUCOM supporting the European Deterrence Initiative (EDI) to include the Army Prepositioned Stock (APS) with wired and wireless networks, Defense Threat Reduction Agency (DTRA) and (SIPR) Modernization. Funds support communications infrastructure capabilities for European Deterrent Initiative (EDI) Army Prepositioned Stock (APS), DTRA remediation efforts at HQ USEUCOM supporting the European Deterrence Initiative (EDI), and Enduring European Equipment Set (E3S) sites.

FY2020 I3MP Europe OCO procurement total is \$16.261 million consisting of:

FY20 OCO: \$6.000 million for Mission Partner Environment upgrades for EUCOM

FY20 OCO: \$8.700 million for network upgrades to support rotation of Army units to EUCOM

FY20 OCO: \$1.561 million for Defense Threat Reduction upgrades for EUCOM network.

BU0530 / I3MP-CONUS:  
 FY 2020 Base procurement dollars in the amount of \$289.648 million procures the end-to-end dependencies needed to deliver worldwide network modernization to Army installations. Modernization implementation efforts include replacing obsolete copper wire telephone infrastructure with Voice over Internet Protocol (VoIP), Inside and Outside Plant modernization, circuit optimization to eliminate unnecessary redundant circuit through the Global Transport Engineering Services (GTES) project; in Korea: replacing the obsolete Asynchronous Transfer Mode (ATM) and Synchronous Optical Networking (SONET) with modern fiber optic in-ground wiring and secured routing Multiprotocol Labeling Switch (MPLS), relocation and modernization of network equipment from USAG-Yongsan to USAG-Humphreys Yongsan Relocation Plan/Land Partnership Plan (YRP/LPP), Modernizing Installation Campus Area Networks (ICAN) and (SIPR) Modernization. These procurements include: surveys of Army locations; the engineering and design necessary to modernize and optimize Army locations; the IP transport and data hardware; the installation and implementation of the engineered hardware solutions; and the divestiture of legacy communications network components. Equipment procurements include, but are not limited to, high speed Installation Campus Area Network (ICAN) level switching devices, high capacity routers, and optical fiber. The modernization and convergence of voice, data and video networks to a high capacity communications infrastructure enables the Army to deliver mandated Unified Capabilities (UC) and reduces operation and management costs for the enterprise. Funding procures the accelerated replacement of, outdated and failing, worldwide Time Division Multiplex (TDM) Analog Voice Switches to VoIP

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<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 73: Comm - Base Communications		<b>P-1 Line Item Number / Title:</b> 9700BU0500 / Installation Info Infrastructure Mod Program
<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
<b>Line Item MDAP/MAIS Code:</b> N/A		
<p>capabilities. Specifically analog voice switches that are 10 years out of date. TDM upgrade includes VOIP capabilities via software, software licensing, server, phones , copper to IP switches, survey engineering and implementation, and training for VOIP configurations and operations.</p> <p>BU0540 / I3MP-SWA: FY20 OCO procurement dollars in the amount of \$57.630 million support the modernization and convergence of voice, data and video networks to a high capacity communications infrastructure which enables the Army to deliver mandated Unified Capabilities (UC) and reduces operation and management costs for the enterprise.</p> <p>FY20 OCO: \$19.230 million SWA TACLANE (COMSEC Equipment) Replacement</p> <p>FY20 OCO: \$12.000 million U.S. Forces-Afghanistan (USFOR-A) Critical Outside Plant (OSP) / Inside Plant (ISP) Remediation - Supports Operation Freedom's Sentinel require to remediate fiber cabling between buildings and Ethernet cabling within the building at Kandahar Airfield, Bagram Airfield, and Kabul Base Cluster. More than a decade of combat operations have degraded the cabling causing serious network outages therefore increasing operational risk. The requirement will also address power, HVAC, and other critical remediation efforts as necessary to correct the cabling issues inside the communications facilities</p> <p>FY20 OCO: \$3.100 million Service Delivery Node (SDN) Modernization - SDN Modernization procures networking equipment to execute a full technical refresh of the SDNs located in Bagram Air Field (BAF) and New Kabul Cluster (NKC) Afghanistan.</p> <p>FY20 OCO: \$2.500 million Kandahar Airfield Service</p> <p>FY20 OCO: \$20.800 million Coalition Joint Task Force-Operation Inherent Resolve (CJTF-OIR) OSP/ISP (Camp Taji) - As CJTF-OIR continues to expand its building partner capacity sites. It will require additional remediation and hardware to expediently extend OSP/ISP fiber network capability to these areas. This requirement procures fiber cabling, ethernet cabling, and networking equipment to support the expansion. The requirement will also address power, HVAC, and critical remediation as necessary to correct the cabling issues inside the communications facilities. This funding line will address the seven overarching modernization efforts affecting numerous installations worldwide. These Installation Campus Area Networks (ICAN) efforts include Voice over Internet Protocol (VoIP), Inside Plant (ISP), Outside Plant (OSP), Secure Internet Protocol Router (SIPR) Network Modernization, Non-Secure Internet Protocol Router (NIPR) Network Modernization, Circuit Optimization, and Multiprotocol Labeling Switch (MPLS) upgrades.</p> <p>BU2000 / Terrestrial Transmission: FY 2020 Base procurement dollars in the amount of \$1.673 million procures minimal technology refresh (Routers, Switches, Servers, Monitors, etc.) of 10 sites to maintain operational effectiveness, information assurance requirements and to replace obsolete system components of the Army's Special Access Program Enterprise Portal (ASEP).</p> <p>BU3610 / World Wide Tech Control Improvement WWTCIP: FY 2020 Base procurement dollars in the amount of \$6.673 million procures the technical engineering service support that facilitates design reviews for the full technical upgrades of TCFs; the power alternating current and direct current (AC/DC), uninterruptible power supply (UPS) and backup generator, timing and synchronization equipment, line conditioning equipment, real time alarm monitoring and control, tri-service tactical interfaces, and appropriate test equipment with associated hardware. The emerging requirements for base consolidation in the European AOR requires robust TCF capability.</p> <p>FY 2020 OCO procurement dollars in the amount of \$1.929 million procures the technical engineering service support that facilitates design reviews for the full technical upgrades of TCFs in European locations.</p> <p>-----</p>		

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 73	<b>P-1 Line Item Number / Title:</b> 9700BU0500 / Installation Info Infrastructure Mod Program	<b>Item Number / Title [DODIC]:</b> B00540 / I3MP- SWA

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	-	-	-	-	57.630	57.630
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	-	-	-	-	57.630	57.630
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	-	-	-	-	<b>57.630</b>	<b>57.630</b>

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

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

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
<b>Hardware Cost</b>																		
Non Recurring Cost																		
SWA TACLANE Replacement	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19.230	-	-	19.230
USFOR-A Critical OSP/ISP Remediation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12.000	-	-	12.000
Service DeliveryNode Modernization	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.100	-	-	3.100
Kandahar Airfield (KAF) Service	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.500	-	-	2.500
CJTF-OIR OSP/ISP (Taji)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20.800	-	-	20.800
<i>Subtotal: Non Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	0.000	-	-	57.630	-	-	57.630
<i>Subtotal: Hardware Cost</i>	-	-	-	-	-	-	-	-	-	-	-	0.000	-	-	57.630	-	-	57.630
<b>Gross/Weapon System Cost</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<b>57.630</b>	-	-	<b>57.630</b>

**Remarks:**

Breakout in costs for IT modernization is dependent on the number of users and infrastructure that needs to be updated. Each installation has unique requirements for hardware and software solutions to modernize IT Infrastructure and cannot be captured via quantities on the P Form data.

This BILN was established to delineate SWA OCO requirements from Europe OCO requirements.

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 73	<b>P-1 Line Item Number / Title:</b> 9700BU0500 / Installation Info Infrastructure Mod Program	<b>Item Number / Title [DODIC]:</b> BU0510 / I3MP - Europe

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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<b>Resource Summary</b>	<b>Prior Years</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Procurement Quantity (Units in Each)	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	874.137	57.101	-	-	16.261	16.261
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	874.137	57.101	-	-	16.261	16.261
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>874.137</b>	<b>57.101</b>	-	-	<b>16.261</b>	<b>16.261</b>

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

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

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

<b>Cost Elements</b>	<b>Prior Years</b>			<b>FY 2018</b>			<b>FY 2019</b>			<b>FY 2020 Base</b>			<b>FY 2020 OCO</b>			<b>FY 2020 Total</b>		
	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>
<b>Hardware Cost</b>																		
<b>Non Recurring Cost</b>																		
ERI Operation Atlantic Resolve (OAR) Network	-	-	644.752	-	-	15.349	-	-	-	-	-	-	-	-	-	-	-	-
Shelterized Tech Comm Facilities	-	-	55.385	-	-	23.000	-	-	-	-	-	-	-	-	-	-	-	-
Multi-Protocol Packet Label Switching SW Asia	-	-	174.000	-	-	18.752	-	-	-	-	-	-	-	-	-	-	-	-
EUCOM Mission Partner Environment upgrades	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.000	-	-	6.000
EUCOM Network upgrades to support rotation of Army units	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.700	-	-	8.700
EUCOM Defense Threat Reduction Network upgrades	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.561	-	-	1.561
<i>Subtotal: Non Recurring Cost</i>	-	-	<i>874.137</i>	-	-	<i>57.101</i>	-	-	-	-	-	<i>0.000</i>	-	-	<i>16.261</i>	-	-	<i>16.261</i>
<i>Subtotal: Hardware Cost</i>	-	-	<i>874.137</i>	-	-	<i>57.101</i>	-	-	-	-	-	<i>0.000</i>	-	-	<i>16.261</i>	-	-	<i>16.261</i>
<b>Gross/Weapon System Cost</b>	-	-	<b>874.137</b>	-	-	<b>57.101</b>	-	-	-	-	-	-	-	-	<b>16.261</b>	-	-	<b>16.261</b>

**Remarks:**

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 73	<b>P-1 Line Item Number / Title:</b> 9700BU0500 / Installation Info Infrastructure Mod Program	<b>Item Number / Title [DODIC]:</b> BU0510 / I3MP - Europe
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>	
Each installation has unique requirements for hardware and software solutions dependent on the number of users and infrastructure that needs to be updated in order to modernize IT Infrastructure which does not lend itself to be captured via quantities in P Form data.		



**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 73		<b>P-1 Line Item Number / Title:</b> 9700BU0500 / Installation Info Infrastructure Mod Program
		<b>Item Number / Title [DODIC]:</b> BU0530 / I3MP - CONUS

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	1,926.471	119.758	218.924	289.648	-	289.648
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	1,926.471	119.758	218.924	289.648	-	289.648
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>1,926.471</b>	<b>119.758</b>	<b>218.924</b>	<b>289.648</b>	<b>-</b>	<b>289.648</b>

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

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

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
<b>Hardware Cost</b>																		
<b>Recurring Cost</b>																		
NETMOD-C Hardware <sup>(†)</sup>	23,078.000	2	46.156	15,239.000	1	15.239	30,711.000	1	30.711	-	-	-	-	-	-	-	-	-
YRP/LPP <sup>(†)</sup>	10,823.500	2	21.647	23,448.000	1	23.448	30,698.000	1	30.698	21,900.000	1	21.900	-	-	-	21,900.000	1	21.900
IT Modernization Hardware <sup>(†)</sup>	114,104.000	2	228.208	10,089.000	1	10.089	37,809.000	1	37.809	98,221.000	1	98.221	-	-	-	98,221.000	1	98.221
IT Modernization Engineering/ Implementation <sup>(†)</sup>	752,581.500	2	1,505.163	24,483.000	1	24.483	38,634.000	1	38.634	102,832.000	1	102.832	-	-	-	102,832.000	1	102.832
THAAD Infrastructure <sup>(†)</sup>	-	-	-	14,000.000	1	14.000	10,500.000	1	10.500	-	-	-	-	-	-	-	-	-
NETMOD-Europe	3,149.000	2	6.298	-	-	-	-	-	-	2,695.000	1	2.695	-	-	-	2,695.000	1	2.695
ATM SONET	24,446.000	1	24.446	-	-	-	-	-	-	4,500.000	1	4.500	-	-	-	4,500.000	1	4.500
NETMOD-Pacific <sup>(†)</sup>	17,664.000	1	17.664	-	-	-	-	-	-	45,500.000	1	45.500	-	-	-	45,500.000	1	45.500
<i>Subtotal: Recurring Cost</i>	<i>-</i>	<i>-</i>	<i>1,849.582</i>	<i>-</i>	<i>-</i>	<i>87.259</i>	<i>-</i>	<i>-</i>	<i>148.352</i>	<i>-</i>	<i>-</i>	<i>275.648</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>275.648</i>
<b>Non Recurring Cost</b>																		
OAR NETWORK	-	-	-	-	-	2.499	-	-	-	-	-	-	-	-	-	-	-	-
NETMOD Afghanistan <sup>(†)</sup>	-	-	-	-	-	-	12,300.000	1	12.300	-	-	-	-	-	-	-	-	-
USFOR-A OSP/ISP Remediation <sup>(†)</sup>	-	-	-	-	-	-	12,155.000	1	12.155	-	-	-	-	-	-	-	-	-

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 73	<b>P-1 Line Item Number / Title:</b> 9700BU0500 / Installation Info Infrastructure Mod Program	<b>Item Number / Title [DODIC]:</b> BU0530 / I3MP - CONUS

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
CJTF-OIR OSP/ISP Remediation <sup>(†)</sup>	4,000.000	1	4.000	-	-	-	2,100.000	1	2.100	-	-	-	-	-	-	-	-	-
NETMOD Kuwait <sup>(†)</sup>	-	-	-	-	-	-	3,497.000	1	3.497	-	-	-	-	-	-	-	-	-
NETMOD Buehring <sup>(†)</sup>	-	-	-	-	-	-	570.000	1	0.570	-	-	-	-	-	-	-	-	-
Cyber JUONS ST-007	11,741.000	1	11.741	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
JRSS Hardware/ Implementation	8,900.000	1	8.900	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ATLANTIC RESOLVE (AR) NETWORK <sup>(†)</sup>	-	-	-	-	-	-	9,050.000	1	9.050	-	-	-	-	-	-	-	-	-
Korea Ethernet Microwave Modernization <sup>(†)</sup>	-	-	-	-	-	-	-	-	-	5,000.000	1	5.000	-	-	-	5,000.000	1	5.000
SIPR-O Modernization <sup>(†)</sup>	-	-	-	-	-	-	-	-	-	9,000.000	1	9.000	-	-	-	9,000.000	1	9.000
<i>Subtotal: Non Recurring Cost</i>	-	-	<i>24.641</i>	-	-	<i>2.499</i>	-	-	<i>39.672</i>	-	-	<i>14.000</i>	-	-	<i>-</i>	-	-	<i>14.000</i>
<i>Subtotal: Hardware Cost</i>	-	-	<i>1,874.223</i>	-	-	<i>89.758</i>	-	-	<i>188.024</i>	-	-	<i>289.648</i>	-	-	<i>-</i>	-	-	<i>289.648</i>
<b>Support - Program Management Cost</b>																		
Government Management	26,124.000	2	52.248	-	-	30.000	-	-	30.900	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - Program Management Cost</i>	-	-	<i>52.248</i>	-	-	<i>30.000</i>	-	-	<i>30.900</i>	-	-	<i>-</i>	-	-	<i>-</i>	-	-	<i>-</i>
<b>Gross/Weapon System Cost</b>	-	-	<b>1,926.471</b>	-	-	<b>119.758</b>	-	-	<b>218.924</b>	-	-	<b>289.648</b>	-	-	<b>-</b>	-	-	<b>289.648</b>

**Remarks:**

Funding increase in FY20 will be used for urgent IT infrastructure modernization which includes IT Modernization Engineering/Implementation and the purchase of IT Modernization Hardware at up to 11 sites. Breakout in costs for IT modernization is dependent on the number of users and infrastructure that needs to be updated. Each installation has unique requirements for hardware and software solutions to modernize IT Infrastructure and cannot be captured via quantities on the P Form data.

NET MOD C concluded in FY19

YRP/LPP reduced from FY19 to FY20 as the mission ramps down towards scheduled completion in FY23. Peak implementation occurred between FY17-FY19.

FY19-20 THAAD requirement decrease due to mission reprioritization.

FY20 NETMOD-Pacific requirements have increased across the Korean peninsula, Hawaii and Alaska due to changing National Security Priorities.

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<b>Exhibit P-5, Cost Analysis:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 73	<b>P-1 Line Item Number / Title:</b> 9700BU0500 / Installation Info Infrastructure Mod Program	<b>Item Number / Title [DODIC]:</b> BU0530 / I3MP - CONUS
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :		<b>MDAP/MAIS Code:</b>

(†) indicates the presence of a P-5a

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 73	<b>P-1 Line Item Number / Title:</b> 9700BU0500 / Installation Info Infrastructure Mod Program	<b>Item Number / Title [DODIC]:</b> BU0530 / I3MP - CONUS
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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
NETMOD-C Hardware		2018	Iron Bow / Chantilly, VA	C / FFP	ACC-RI, Rock Island, IL	Jan 2018	Feb 2018	1	15,239.000	N		
NETMOD-C Hardware		2019	TBD / TBD	C / FFP	ACC-RI, Rock Island, IL	Jan 2019	Feb 2019	1	30,711.000	N		
YRP/LPP		2018	LGS Innovations / McLeansville, NC	C / CPFF	ACC-RI, Rock Island, IL	Mar 2018	Apr 2018	1	23,448.000	N		
YRP/LPP		2019	TBD / TBD	C / CPFF	ACC-RI, Rock Island, IL	Feb 2019	Mar 2019	1	30,698.000	N		
YRP/LPP		2020	TBD / TBD	C / CPFF	ACC-RI, Rock Island, IL	Dec 2019	Jan 2020	1	21,900.000	N		
IT Modernization Hardware		2019	Various / Various	C / Various	ACC-RI, Rock Island, IL	Jan 2019	Feb 2019	1	37,809.000	N		
IT Modernization Hardware		2020	Various / Various	C / FFP	ACC-RI, Rock Island, IL	Dec 2019	Jan 2020	1	98,221.000	Y		
IT Modernization Engineering/ Implementation		2018	Various / Various	C / Various	ACC-RI, Rock Island, IL	Jan 2018	Jan 2018	1	24,483.000	N		
IT Modernization Engineering/ Implementation		2019	Various / Various	C / Various	ACC-RI, Rock Island, IL	Jan 2019	Feb 2019	1	38,634.000	N		
IT Modernization Engineering/ Implementation		2020	Various / Various	C / Various	ACC-RI, Rock Island, IL	Dec 2019	Jan 2020	1	102,832.000	N		
THAAD Infrastructure		2018	TBD / TBD	C / FFP	ACC-RI, Rock Island, IL	May 2019	Jun 2019	1	14,000.000	N		
THAAD Infrastructure		2019	TBD / TBD	C / FFP	ACC-RI, Rock Island, IL	May 2019	Jun 2019	1	10,500.000	N		
NETMOD-Pacific		2020	TBD / TBD	C / FFP	ACC-RI, Rock Island, IL	Jan 2020	Feb 2020	1	45,500.000	N		
NETMOD Afghanistan		2019	TBD / TBD	C / FFP	ACC-RI, Rock Island, IL	Mar 2019	Apr 2019	1	12,300.000	N		
USFOR-A OSP/ISP Remediation		2019	TBD / TBD	C / FFP	ACC-RI, Rock Island, IL	Apr 2019	May 2019	1	12,155.000	N		
CJTF-OIR OSP/ISP Remediation		2019	TBD / TBD	C / FFP	ACC-RI, Rock Island, IL	May 2020	Jun 2020	1	2,100.000	N		
NETMOD Kuwait		2019	TBD / TBD	C / FFP	ACC-RI, Rock Island, IL	May 2019	Jun 2019	1	3,497.000	N		
NETMOD Buehring		2019	TBD / TBD	C / FFP	ACC-RI, Rock Island, IL	May 2019	Jun 2019	1	570.000	Y		
ATLANTIC RESOLVE (AR) NETWORK		2019	TBD / TBD	C / FFP	ACC-RI, Rock Island, IL	May 2019	Jun 2019	1	9,050.000	N		
Korea Ethernet Microwave Modernization		2020	TBD / TBD	C / FFP	ACC-RI, Rock Island, IL	Jan 2020	Feb 2020	1	5,000.000	N		
SIPR-O Modernization		2020	TBD / TBD	C / FFP	ACC-RI, Rock Island, IL	Dec 2019	Jan 2020	1	9,000.000	N		

**Remarks:**  
 Funding increase in FY20 will be used for urgent IT infrastructure modernization which includes IT Modernization Engineering/Implementation and the purchase of IT Modernization Hardware at up to 11 sites. Breakout in costs for IT modernization is dependent on the number of users and infrastructure that needs to be updated. Each installation has unique requirements for hardware and software solutions to modernize IT Infrastructure and cannot be captured via quantities on the P Form data.

NETMOD C concluded in FY19

YRP/LPP reduced from FY19 to FY20 as the mission ramps down towards scheduled completion in FY23. Peak implementation occurred between FY17-FY19.

FY19-20 THAAD requirement decrease due to mission reprioritization.

FY20 NETMOD-Pacific requirements have increased across the Korean peninsula, Hawaii and Alaska due to changing National Security Priorities.

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<b>Exhibit P-5a, Procurement History and Planning:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 73	<b>P-1 Line Item Number / Title:</b> 9700BU0500 / Installation Info Infrastructure Mod Program	<b>Item Number / Title [DODIC]:</b> BU0530 / I3MP - CONUS

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**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 73	<b>P-1 Line Item Number / Title:</b> 9700BU0500 / Installation Info Infrastructure Mod Program	<b>Item Number / Title [DODIC]:</b> BU2000 / TERRESTRIAL TRANSMISSION

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :				<b>MDAP/MAIS Code:</b>					
<b>Resource Summary</b>				<b>Prior Years</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Procurement Quantity (Units in Each)				-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)				73.793	1.592	1.651	1.673	-	1.673
Less PY Advance Procurement (\$ in Millions)				-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)				73.793	1.592	1.651	1.673	-	1.673
Plus CY Advance Procurement (\$ in Millions)				-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>				<b>73.793</b>	<b>1.592</b>	<b>1.651</b>	<b>1.673</b>	<b>-</b>	<b>1.673</b>
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>									
Initial Spares (\$ in Millions)				-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)				-	-	-	-	-	-

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Hardware Cost																		
Recurring Cost																		
Furnish Bill of Material, Install, and Test <sup>(†)</sup>	73,793.000	1	73.793	1,592.000	1	1.592	1,651.000	1	1.651	1,673.000	1	1.673	-	-	-	1,673.000	1	1.673
<i>Subtotal: Recurring Cost</i>	-	-	73.793	-	-	1.592	-	-	1.651	-	-	1.673	-	-	-	-	-	1.673
<i>Subtotal: Hardware Cost</i>	-	-	73.793	-	-	1.592	-	-	1.651	-	-	1.673	-	-	-	-	-	1.673
<b>Gross/Weapon System Cost</b>	-	-	73.793	-	-	1.592	-	-	1.651	-	-	1.673	-	-	-	-	-	1.673

(†) indicates the presence of a P-5a

**UNCLASSIFIED**

<b>Exhibit P-5a, Procurement History and Planning:</b> PB 2020 Army							<b>Date:</b> March 2019				
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 73			<b>P-1 Line Item Number / Title:</b> 9700BU0500 / Installation Info Infrastructure Mod Program				<b>Item Number / Title [DODIC]:</b> BU2000 / TERRESTRIAL TRANSMISSION				

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
Furnish Bill of Material, Install, and Test		2018	Unicom Government Inc / Dulles	MIPR	PEO EIS, CHESS, FT Belvoir, VA	Jan 2018	Mar 2018	1	1,592.000	Y		
Furnish Bill of Material, Install, and Test		2019	Unicom Government Inc / Dulles	MIPR	PEO EIS, CHESS, FT Belvoir, VA	Jan 2019	Mar 2019	1	1,651.000	N		
Furnish Bill of Material, Install, and Test		2020	TBD / TBD	MIPR	PEO EIS, CHESS, FT Belvoir, VA	Jan 2020	Mar 2020	1	1,673.000	N		

**Remarks:**  
 Purchase is for Commercial Off the Shelf (COTS) equipment.  
 Program Executive Office, Enterprise Information Systems (PEO EIS)  
 Computer Hardware, Enterprise Software and Solutions (CHESS)

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 73	<b>P-1 Line Item Number / Title:</b> 9700BU0500 / Installation Info Infrastructure Mod Program	<b>Item Number / Title [DODIC]:</b> BU3610 / WW Tech Con Imp Prog (WWTCIP)

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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<b>Resource Summary</b>	<b>Prior Years</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Procurement Quantity (Units in Each)	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	944.419	9.000	26.195	6.673	1.929	8.602
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	944.419	9.000	26.195	6.673	1.929	8.602
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>944.419</b>	<b>9.000</b>	<b>26.195</b>	<b>6.673</b>	<b>1.929</b>	<b>8.602</b>

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

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

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

<b>Cost Elements</b>	<b>Prior Years</b>			<b>FY 2018</b>			<b>FY 2019</b>			<b>FY 2020 Base</b>			<b>FY 2020 OCO</b>			<b>FY 2020 Total</b>		
	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>
<b>Hardware Cost</b>																		
<b>Recurring Cost</b>																		
Program Management Administration <sup>(†)</sup>	-	-	194.851	4,200.000	1	4.200	2,707.000	1	2.707	-	-	-	-	-	-	-	-	-
Engineer, Install & Test <sup>(†)</sup>	-	-	749.568	2,468.000	1	2.468	2,823.000	1	2.823	2,000.000	1	2.000	1,929.000	1	1.929	1,964.500	2	3.929
<i>Subtotal: Recurring Cost</i>	-	-	<b>944.419</b>	-	-	<b>6.668</b>	-	-	<b>5.530</b>	-	-	<b>2.000</b>	-	-	<b>1.929</b>	-	-	<b>3.929</b>
<i>Subtotal: Hardware Cost</i>	-	-	<b>944.419</b>	-	-	<b>6.668</b>	-	-	<b>5.530</b>	-	-	<b>2.000</b>	-	-	<b>1.929</b>	-	-	<b>3.929</b>
<b>Logistics Cost</b>																		
<b>Recurring Cost</b>																		
Technical Control Facility <sup>(†)</sup>	-	-	-	2,332.000	1	2.332	16,100.000	1	16.100	4,673.000	1	4.673	-	-	-	4,673.000	1	4.673
Mobile Technical Control Facility Refresh <sup>(†)</sup>	-	-	-	-	-	-	4,565.000	1	4.565	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	<b>2.332</b>	-	-	<b>20.665</b>	-	-	<b>4.673</b>	-	-	-	-	-	<b>4.673</b>
<i>Subtotal: Logistics Cost</i>	-	-	-	-	-	<b>2.332</b>	-	-	<b>20.665</b>	-	-	<b>4.673</b>	-	-	-	-	-	<b>4.673</b>
<b>Gross/Weapon System Cost</b>	-	-	<b>944.419</b>	-	-	<b>9.000</b>	-	-	<b>26.195</b>	-	-	<b>6.673</b>	-	-	<b>1.929</b>	-	-	<b>8.602</b>

(†) indicates the presence of a P-5a



**UNCLASSIFIED**

<b>Exhibit P-5a, Procurement History and Planning:</b> PB 2020 Army							<b>Date:</b> March 2019				
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 73			<b>P-1 Line Item Number / Title:</b> 9700BU0500 / Installation Info Infrastructure Mod Program				<b>Item Number / Title [DODIC]:</b> BU3610 / WW Tech Con Imp Prog (WWTCIP)				

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
Program Management Administration		2018	PM DCATS / Ft. Belvoir, VA	Various	PM DCATS, Fort Belvoir, VA	Oct 2017	Nov 2017	1	4,200.000	N		
Engineer, Install & Test		2018	ISEC / Fort Huachuca, AZ	MIPR	PEO EIS, Fort Belvoir, VA	Oct 2017	Dec 2017	1	2,468.000	N		
Engineer, Install & Test		2019	ISEC / Fort Huachuca, AZ	MIPR	PEO EIS, Fort Belvoir, VA	Oct 2018	Dec 2018	1	2,823.000	N		
Engineer, Install & Test		2020	ISEC / Fort Huachuca, AZ	MIPR	PEO EIS, Fort Belvoir, VA	Oct 2019	Nov 2019	2	1,964.500	N		
Technical Control Facility		2018	PM DCATS / Ft. Belvoir, VA	MIPR	PM DCATS, Fort Belvoir, VA	Jul 2018	Sep 2018	1	2,332.000	N		
Technical Control Facility		2019	PM DCATS / Ft. Belvoir, VA	C / FFP	PM DCATS, Fort Belvoir, VA	Jul 2019	Sep 2019	1	16,100.000	N		
Technical Control Facility		2020	PM DCATS / Ft. Belvoir, VA	C / FFP	PM DCATS, Fort Belvoir, VA	Jul 2020	Sep 2020	1	4,673.000	N		
Mobile Technical Control Facility Refresh		2019	PM DCATS / Ft. Belvoir, VA	C / FFP	PM DCATS, Fort Belvoir, VA	Feb 2019	Mar 2019	1	4,565.000	N		

**Remarks:**  
 WWTCIP procurements consist of COTS/GOTS products.  
 Program management support requirement reduced from FY19 to FY20 due to realignment of DA Civilian pay to OMA funding.

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 80: Elect Equip - Tact Int Rel Act (TIARA)	<b>P-1 Line Item Number / Title:</b> 9522V29600 / JTT/CIBS-M (MIP)
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	321.226	12.154	9.027	7.686	-	7.686	5.310	5.482	1.807	-	-	362.692
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	321.226	12.154	9.027	7.686	-	7.686	5.310	5.482	1.807	-	-	362.692
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>321.226</b>	<b>12.154</b>	<b>9.027</b>	<b>7.686</b>	<b>-</b>	<b>7.686</b>	<b>5.310</b>	<b>5.482</b>	<b>1.807</b>	<b>-</b>	<b>-</b>	<b>362.692</b>

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

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

**Description:**

The Joint Program Office (JPO) for Integrated Broadcast Service (IBS) Terminals supports all of the Joint Services and Special Operations Command (SOCOM). The IBS is the worldwide Department of Defense (DoD) standard network enterprise for transmitting time-sensitive tactical intelligence and targeting data to all echelons of Joint Service operational Users. The JPO's role is to coordinate modernization and sustainment of IBS terminals compatible with the Ultra High Frequency Satellite Communications (UHF SATCOM) IBS broadcasts. The transmit/receive-capable Joint Tactical Terminal (JTT) systems satisfy the radio communication Key Performance Parameters for the IBS Program. The JTT is the official IBS producer system and ensures continued IBS interoperability to a variety of tactical producers/consumers across the Joint Services. JPO IBS Terminals performs JTT life cycle program management through acquisition, fielding support and sustainment of recently upgraded JTT equipment. The JPO coordinates support as needed for the new IBS network that employs new crypto, a new Common Interactive Broadcast (CIB), and the Common Message Format (CMF). Funds support JTT sustainment coordination, training and fielding support and the integration and qualification of a modernized non-developmental item known as JTT Next Generation.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	-	-	-	-	-	-	-	-
	Total Obligation Authority	12.154	9.027	7.686	-	7.686	5.310	5.482	1.807
<b>Total:</b> Secondary Distribution	Quantity	-	-	-	-	-	-	-	-
	Total Obligation Authority	<b>12.154</b>	<b>9.027</b>	<b>7.686</b>	<b>-</b>	<b>7.686</b>	<b>5.310</b>	<b>5.482</b>	<b>1.807</b>

**UNCLASSIFIED**

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

**Appropriation / Budget Activity / Budget Sub Activity:**  
 2035A: Other Procurement, Army / BA 02: Communications and Electronics  
 Equipment / BSA 80: Elect Equip - Tact Int Rel Act (TIARA) **P-1 Line Item Number / Title:**  
 9522V29600 / JTT/CIBS-M (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 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	V29600 / JTT/CIBS-M (MIP)				- / 321.226	- / 12.154	- / 9.027	- / 7.686	- / -	- / 7.686
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 321.226</b>	<b>- / 12.154</b>	<b>- / 9.027</b>	<b>- / 7.686</b>	<b>- / -</b>	<b>- / 7.686</b>

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

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

**Justification:**  
 FY 2020 Base procurement dollars in the amount of \$7.686 million support the procurement of Next Generation initial hardware to include qualification, integration, configuration management, sustainment, training and fielding support.

The approved Army Acquisition Objective is 994.

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

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>													<b>Date:</b> March 2019					
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 80						<b>P-1 Line Item Number / Title:</b> 9522V29600 / JTT/CIBS-M (MIP)						<b>Item Number / Title [DODIC]:</b> V29600 / JTT/CIBS-M (MIP)						
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :									<b>MDAP/MAIS Code:</b>									
<b>Resource Summary</b>				<b>Prior Years</b>		<b>FY 2018</b>		<b>FY 2019</b>		<b>FY 2020 Base</b>		<b>FY 2020 OCO</b>		<b>FY 2020 Total</b>				
Procurement Quantity (Units in Each)				-		-		-		-		-		-				
Gross/Weapon System Cost (\$ in Millions)				321.226		12.154		9.027		7.686		-		7.686				
Less PY Advance Procurement (\$ in Millions)				-		-		-		-		-		-				
Net Procurement (P-1) (\$ in Millions)				321.226		12.154		9.027		7.686		-		7.686				
Plus CY Advance Procurement (\$ in Millions)				-		-		-		-		-		-				
<b>Total Obligation Authority (\$ in Millions)</b>				<b>321.226</b>		<b>12.154</b>		<b>9.027</b>		<b>7.686</b>		<b>-</b>		<b>7.686</b>				
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>																		
Initial Spares (\$ in Millions)				-		-		-		-		-		-				
Gross/Weapon System Unit Cost (\$ in Thousands)				-		-		-		-		-		-				
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
<b>Cost Elements</b>	<b>Prior Years</b>			<b>FY 2018</b>			<b>FY 2019</b>			<b>FY 2020 Base</b>			<b>FY 2020 OCO</b>			<b>FY 2020 Total</b>		
	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>
Hardware Cost																		
Recurring Cost																		
JTT Low Rate Production Units	-	-	-	-	-	-	625.000	8	5.000	-	-	1.320	-	-	-	-	-	1.320
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	5.000	-	-	1.320	-	-	-	-	-	1.320
Non Recurring Cost																		
JTT Component integration/engineering	-	-	154.342	-	-	1.720	-	-	2.000	-	-	2.150	-	-	-	-	-	2.150
JTT Organic Hardware Depot Start up	-	-	-	-	-	8.950	-	-	1.000	-	-	0.021	-	-	-	-	-	0.021
IBS Spare Parts Support	13,731.727	11	151.049	24.167	24	0.580	-	-	-	-	-	-	-	-	-	-	-	-
Fielding and Training prep/Documentation	-	-	-	-	-	-	-	-	-	-	-	2.109	-	-	-	-	-	2.109
<i>Subtotal: Non Recurring Cost</i>	-	-	305.391	-	-	11.250	-	-	3.000	-	-	4.280	-	-	-	-	-	4.280
<i>Subtotal: Hardware Cost</i>	-	-	305.391	-	-	11.250	-	-	8.000	-	-	5.600	-	-	-	-	-	5.600
Software Cost																		
Recurring Cost																		
JTT Organic Software Depot	-	-	-	-	-	-	-	-	-	-	-	0.318	-	-	-	-	-	0.318
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	0.318	-	-	-	-	-	0.318
<i>Subtotal: Software Cost</i>	-	-	-	-	-	-	-	-	-	-	-	0.318	-	-	-	-	-	0.318
Support - Program Management Cost																		

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 80	<b>P-1 Line Item Number / Title:</b> 9522V29600 / JTT/CIBS-M (MIP)	<b>Item Number / Title [DODIC]:</b> V29600 / JTT/CIBS-M (MIP)
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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 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Government Management	-	-	15.835	-	-	0.904	-	-	1.027	-	-	1.060	-	-	-	-	-	1.060
<i>Subtotal: Support - Program Management Cost</i>	-	-	<b>15.835</b>	-	-	<b>0.904</b>	-	-	<b>1.027</b>	-	-	<b>1.060</b>	-	-	-	-	-	<b>1.060</b>
Support - System Technical Support (STS) Cost																		
System Technical Support (STS)	-	-	-	-	-	-	-	-	-	-	-	0.708	-	-	-	-	-	0.708
<i>Subtotal: Support - System Technical Support (STS) Cost</i>	-	-	-	-	-	-	-	-	-	-	-	<b>0.708</b>	-	-	-	-	-	<b>0.708</b>
<b>Gross/Weapon System Cost</b>	-	-	<b>321.226</b>	-	-	<b>12.154</b>	-	-	<b>9.027</b>	-	-	<b>7.686</b>	-	-	-	-	-	<b>7.686</b>

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	-	-	-	-	-
	Total Obligation Authority	12.154	9.027	7.686	-	7.686
<b>Total: Secondary Distribution</b>	Quantity	-	-	-	-	-
	Total Obligation Authority	<b>12.154</b>	<b>9.027</b>	<b>7.686</b>	-	<b>7.686</b>

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 80: Elect Equip - Tact Int Rel Act (TIARA)	<b>P-1 Line Item Number / Title:</b> 9654BU4050 / DRUG INTERDICTION PROGRAM (DIP) (TIARA)
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	602.319	3.638	-	-	-	-	-	-	-	-	-	605.957
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	602.319	3.638	-	-	-	-	-	-	-	-	-	605.957
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>602.319</b>	<b>3.638</b>	-	-	-	-	-	-	-	-	-	<b>605.957</b>

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

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

**Description:**

CLASSIFIED PROGRAM: INFORMATION WILL BE PROVIDED UPON REQUEST.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	3.638	-	-	-	-	-	-	-	-
<b>Total:</b>									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	<b>3.638</b>	-	-	-	-	-	-	-	-

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 80: Elect Equip - Tact Int Rel Act (TIARA)	<b>P-1 Line Item Number / Title:</b> 9690BZ7316 / DCGS-A (MIP)
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> 0305208A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	2,723.346	328.397	291.760	180.350	38.613	218.963	215.929	185.206	191.813	199.293	-	4,354.707
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	2,723.346	328.397	291.760	180.350	38.613	218.963	215.929	185.206	191.813	199.293	-	4,354.707
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>2,723.346</b>	<b>328.397</b>	<b>291.760</b>	<b>180.350</b>	<b>38.613</b>	<b>218.963</b>	<b>215.929</b>	<b>185.206</b>	<b>191.813</b>	<b>199.293</b>	<b>-</b>	<b>4,354.707</b>

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

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	1,190.274	95.826	117.220	417.477	70.720	223.889	223.761	440.967	390.658	385.480	-	376.217

**Description:**

Distributed Common Ground System - Army (DCGS-A) is the Intelligence, Surveillance and Reconnaissance (ISR) System of Systems (SoS) for Joint, Interagency, Allied, Coalition, and National data analysis, sharing and collaboration. The core functions of DCGS-A are: the vertical and horizontal synchronization of ISR Processing, Exploitation and Dissemination (PED) efforts; operations in a networked environment at multiple security levels; control of select Army and joint sensor systems; fusion of all acquired data and information, and distribution of relevant red (threat), gray (non-aligned), and environmental (weather and terrain) information; and providing the Warfighters' early warning and targeting capability. DCGS-A provides a single integrated ISR ground processing system composed of common components that are interoperable with sensors, other information sources, all Warfighting Functions, and the Defense Information & Intelligence Enterprise (DI2E). DCGS-A is fielded in Fixed, Mobile, and Portable configurations emphasizing the use of reach and split based operations by improving accessibility of data in order to reduce forward deployed footprint. As newer versions of the baseline software are tested and released, a continuing series of software releases will be integrated into Army common/commodity hardware and fielded to units in accordance with (IAW) the Army Force Modernization Strategy and the Army Resourcing Priority List (ARPL).

DCGS-A is designated as a Program of Record (PoR) within the Command Post Computing Environment (CPCE) of the Common Operating Environment (COE). DCGS-A provides the Single and Shareable Geospatial Foundation (SSGF) Cross Cutting Capability (CCC), and is defining the DCGS-A architecture to fit within the COE as described by the Assistant Secretary of the Army (Acquisition, Logistics, and Technology) (ASA(ALT)) COE Implementation Plan. This is in accordance with the G-3/5/7 priority to align all Army networks, procurements and enhancements under one COE and one vision leveraging intelligence community investments. PM DCGS-A continues to work with PM Mission Command (PM MC) to converge on CP CE Tactical Server Infrastructure (TSI).

DCGS-A hardware and software is based on a combination of Government Off The Shelf (GOTS), Commercial Off The Shelf (COTS), and Non-Developmental Items (NDI) that are integrated into scalable configurations, tailored to Warfighting functions. These product line components include the software baseline, server suite (Intelligence Fusion Server (IFS)) and individual analyst Multi-Function Workstations (MFWS) such as Portable and Fixed MFWS (P-MFWS/F-MFWS) and the Geospatial Intelligence (GEOINT) Workstation. These components are also used to upgrade existing fielded Intel Programs of Record to enable the establishment of the Army COE while simultaneously assuring system compatibility and interoperability within the DCGS-A enterprise.

DCGS-A was formally designated as a Major Automation Information System (MAIS) and is deployed on multiple hardware platforms and security levels across the Army. The DCGS-A Increment 1 Full Deployment Decision (FDD) Acquisition Decision Memorandum (ADM) dated 14 November 2012, authorizes continued deployment of Release 1 capabilities. The DCGS-A Increment 1 Release 2 Fielding Acquisition Decision Memorandum (ADM) was approved by the Army Acquisition Executive (AAE) on 4 November 2015 after a successful Follow-On Test and Evaluation (FOT&E) event in May 2015.

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<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2020 Army							<b>Date:</b> March 2019			
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 80: Elect Equip - Tact Int Rel Act (TIARA)					<b>P-1 Line Item Number / Title:</b> 9690BZ7316 / DCGS-A (MIP)					
<b>ID Code</b> (A=Service Ready, B=Not Service Ready):			<b>Program Elements for Code B Items:</b> N/A			<b>Other Related Program Elements:</b> 0305208A				
<b>Line Item MDAP/MAIS Code:</b> N/A										
DCGS-A ISR capabilities are deployed at all echelons across the Army. DCGS-A consolidates and modernizes the Army ISR PED capabilities from 14 legacy Program of Record (POR) systems and significantly reduces their sustainment burdens.										

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	273.212	224.895	112.735	38.613	151.348	161.627	129.818	135.318	142.100
ANG	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	50.520	62.200	62.861	-	62.861	51.444	52.473	53.522	54.164
AR	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	4.665	4.665	4.754	-	4.754	2.858	2.915	2.973	3.029
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	-	-	-	-	-	-	-	-	-
	<b>Total Obligation Authority</b>	<b>328.397</b>	<b>291.760</b>	<b>180.350</b>	<b>38.613</b>	<b>218.963</b>	<b>215.929</b>	<b>185.206</b>	<b>191.813</b>	<b>199.293</b>



**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 80: Elect Equip - Tact Int Rel Act (TIARA)	<b>P-1 Line Item Number / Title:</b> 9690BZ7316 / DCGS-A (MIP)
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> 0305208A
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**Line Item MDAP/MAIS Code:** N/A

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	BZ7316 / DCGS-A (MIP)	P-5a			- / 2,723.346	- / 328.397	- / 291.760	- / 180.350	- / 38.613	- / 218.963
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 2,723.346</b>	<b>- / 328.397</b>	<b>- / 291.760</b>	<b>- / 180.350</b>	<b>- / 38.613</b>	<b>- / 218.963</b>

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

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

**Justification:**  
 FY 2020 Base funding in the amount of \$180.350 million will update and procure components for the DCGS-A Fixed Sites and Army, Reserve, and National Guard units, providing fixed and portable system configurations IAW the Army's Equipping Strategy. The DCGS-A updates will continue to enhance the Army ISR PED capabilities to meet new threats or emerging capability needs. Funding supports the ARPL by equipping and training the force as well as deploying units with the current DCGS-A software release. Fielding of Release 2 includes High Side capability at the Brigade level. To meet the ARPL fielding schedule, the PM ramped up to six training teams, which will support the Fielding Priority Guidance and the 20% technical refresh cycle of Release 2 software and continued iterative Capability Drops. Funding also procures new COTS software licenses to enhance performance of fielded systems as well as support integration of Intelligence Community investments. DCGS-A supports the Army's Geospatial Transformation by providing an integrated visualization capability for intelligence, terrain, and weather effects in a net centric environment. Funding will also support continued alignment with Army COE objectives.

FY 2020 OCO funding in the amount of \$38.613 million will support new equipment training, fielding, and modernized Release 2 software capabilities to theater requirements.

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

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>						<b>Date:</b> March 2019		
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 80			<b>P-1 Line Item Number / Title:</b> 9690BZ7316 / DCGS-A (MIP)			<b>Item Number / Title [DODIC]:</b> BZ7316 / DCGS-A (MIP)		
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :						<b>MDAP/MAIS Code:</b>		
<b>Resource Summary</b>			<b>Prior Years</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Procurement Quantity (Units in Each)			-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)			2,723.346	328.397	291.760	180.350	38.613	218.963
Less PY Advance Procurement (\$ in Millions)			-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)			2,723.346	328.397	291.760	180.350	38.613	218.963
Plus CY Advance Procurement (\$ in Millions)			-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>			<b>2,723.346</b>	<b>328.397</b>	<b>291.760</b>	<b>180.350</b>	<b>38.613</b>	<b>218.963</b>
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>								
Initial Spares (\$ in Millions)			-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)			1,190.274	95.826	117.220	417.477	70.720	223.889

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Flyaway Cost																		
Recurring Cost																		
Tactical ISR Grd Station (TGS/DE CGS) <sup>(†)</sup>	-	-	877.397	2,277.000	8	18.216	2,277.000	3	6.831	-	-	-	-	-	-	-	-	-
ISR Process Ctr - V1 (IPC V1/DE ACE) <sup>(†)</sup>	3,207.000	3	9.621	2,000.000	3	6.000	2,000.000	2	4.000	-	-	-	-	-	-	-	-	-
Oper ISR Grnd Station (OGS/SIPC)	-	-	34.928	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OGS Refresh/Repair <sup>(†)</sup>	-	-	-	2,200.000	1	2.200	2,200.000	3	6.600	-	-	-	2,200.000	3	6.600	2,200.000	3	6.600
ISR Process Ctr V2 (IPC V2/DE ACT-E) <sup>(†)</sup>	3,172.273	22	69.790	1,200.000	20	24.000	1,200.000	21	25.200	1,200.000	18	21.600	1,200.000	8	9.600	1,200.000	26	31.200
Cross Domain Solution Suite (CDSS) <sup>(†)</sup>	50.000	67	3.350	135.000	51	6.885	-	-	-	151.000	59	8.909	-	-	-	151.000	59	8.909
GEOINT WS (GWS/DE DTSS-D) <sup>(†)</sup>	363.075	318	115.458	245.000	133	32.585	245.000	108	26.460	193.000	88	16.984	-	-	-	193.000	88	16.984
Intel Fusion Server (IFS) <sup>(†)</sup>	1,479.667	415	614.062	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Intel Fusion Server (IFS) (TSI Config) <sup>(†)</sup>	-	-	-	196.000	238	46.648	196.000	146	28.616	169.000	131	22.139	-	-	-	169.000	131	22.139
Portable (P)Multi Function WorkSta. <sup>(†)</sup>	43.371	8,126	352.433	2.500	1,081	2.703	2.500	1,125	2.813	-	-	-	-	-	-	-	-	-

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>												<b>Date:</b> March 2019					
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 80						<b>P-1 Line Item Number / Title:</b> 9690BZ7316 / DCGS-A (MIP)						<b>Item Number / Title [DODIC]:</b> BZ7316 / DCGS-A (MIP)					
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :												<b>MDAP/MAIS Code:</b>					

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Fixed (F)-Multi Function WorkStations <sup>(†)</sup>	-	-	-	18.000	370	6.660	-	-	-	18.000	202	3.636	-	-	-	18.000	202	3.636
TPE H/W S/W Refresh	-	-	14.450	-	-	-	-	-	32.806	-	-	-	-	-	7.360	-	-	7.360
Fixed Site Refresh	-	-	2.500	-	-	5.400	-	-	5.400	-	-	2.700	-	-	-	-	-	2.700
Equipment Tech Refresh	-	-	72.754	-	-	72.934	-	-	15.676	-	-	10.141	-	-	10.053	-	-	20.194
Software Licenses for Int. on DCGS HW	-	-	157.228	-	-	33.224	-	-	24.144	-	-	0.615	-	-	-	-	-	0.615
Program Office Support	-	-	123.084	-	-	11.100	-	-	11.100	-	-	8.100	-	-	-	-	-	8.100
Software Integration on to DCGS HW	-	-	35.850	-	-	5.005	-	-	5.005	-	-	3.905	-	-	-	-	-	3.905
Fielding/Training	-	-	176.371	-	-	31.499	-	-	36.500	-	-	29.347	-	-	5.000	-	-	34.347
Technical Engineering Services	-	-	62.754	-	-	22.000	-	-	22.000	-	-	17.000	-	-	-	-	-	17.000
Data	-	-	1.312	-	-	1.338	-	-	1.364	-	-	1.492	-	-	-	-	-	1.492
Capability Drop Modifications Hardware	-	-	-	-	-	-	5.100	582	2.968	-	-	1.438	-	-	-	-	-	1.438
Capability Drop Modifications Software	-	-	-	-	-	-	-	-	34.277	-	-	25.844	-	-	-	-	-	25.844
Capability Drop Fielding	-	-	-	-	-	-	-	-	-	-	-	6.500	-	-	-	-	-	6.500
<i>Subtotal: Recurring Cost</i>	-	-	<i>2,723.341</i>	-	-	<i>328.397</i>	-	-	<i>291.760</i>	-	-	<i>180.350</i>	-	-	<i>38.613</i>	-	-	<i>218.963</i>
<i>Subtotal: Flyaway Cost</i>	-	-	<i>2,723.341</i>	-	-	<i>328.397</i>	-	-	<i>291.760</i>	-	-	<i>180.350</i>	-	-	<i>38.613</i>	-	-	<i>218.963</i>
<b>Gross/Weapon System Cost</b>	<b>1,190.274</b>	-	<b>2,723.346</b>	<b>95.826</b>	-	<b>328.397</b>	<b>117.220</b>	-	<b>291.760</b>	<b>417.477</b>	-	<b>180.350</b>	<b>70.720</b>	-	<b>38.613</b>	<b>223.889</b>	-	<b>218.963</b>

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	-	-	-	-	-
	Total Obligation Authority	273.212	224.895	112.735	38.613	151.348
ANG	Quantity	-	-	-	-	-
	Total Obligation Authority	50.520	62.200	62.861	-	62.861
AR	Quantity	-	-	-	-	-
	Total Obligation Authority	4.665	4.665	4.754	-	4.754
<b>Total:</b>	<b>Quantity</b>	-	-	-	-	-

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<b>Exhibit P-5, Cost Analysis:</b> PB 2020 Army				<b>Date:</b> March 2019		
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 80		<b>P-1 Line Item Number / Title:</b> 9690BZ7316 / DCGS-A (MIP)		<b>Item Number / Title [DODIC]:</b> BZ7316 / DCGS-A (MIP)		
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :			<b>MDAP/MAIS Code:</b>			
<b>Secondary Distribution</b>		<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	328.397	291.760	180.350	38.613	218.963

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

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 80	<b>P-1 Line Item Number / Title:</b> 9690BZ7316 / DCGS-A (MIP)	<b>Item Number / Title [DODIC]:</b> BZ7316 / DCGS-A (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 (Each)	Unit Cost (\$ K)	Specs Avail Now?	Date Revision Available	RFP Issue Date
Tactical ISR Grd Station (TGS/DE CGS)		2018	General Dynamics4 / Phoenix, AZ - TGS(DEC GS)	C / FP	CECOM ACQ CENTER	Aug 2018	Nov 2018	8	2,277.000	N		
ISR Process Ctr - V1 (IPC V1/DE ACE)		2018	General Dynamics6 / Taunton, MA - (IPC V1)	C / FP	CECOM ACQ CENTER	Jun 2018	Oct 2018	3	2,000.000	N		
OGS Refresh/Repair		2018	CACI / Elkridge, NJ (OGS)	C / CPFF	CECOM ACQ CENTER	Jun 2018	Sep 2018	1	2,200.000	N		
OGS Refresh/Repair		2019	CACI / Elkridge, NJ (OGS)	C / CPFF	CECOM ACQ CENTER	Jun 2019	Sep 2019	3	2,200.000	N		
OGS Refresh/Repair	✓	2020	CACI / Elkridge, NJ (OGS)	C / CPFF	CECOM ACQ CENTER	Jun 2020	Sep 2020	3	2,200.000	N		
ISR Process Ctr V2 (IPC V2/DE ACT-E)		2017	General Dynamics2 / Taunton, MA - (IPC V2)	C / FP	CECOM ACQ CENTER	Jun 2017	Sep 2017	22	1,685.000	N		
ISR Process Ctr V2 (IPC V2/DE ACT-E)		2018	General Dynamics2 / Taunton, MA - (IPC V2)	C / FP	CECOM ACQ CENTER	Jun 2018	Sep 2018	20	1,200.000	N		
ISR Process Ctr V2 (IPC V2/DE ACT-E)		2019	TBD / TBD	C / FP	CECOM ACQ CENTER	Jul 2019	Sep 2019	21	1,200.000	N		
ISR Process Ctr V2 (IPC V2/DE ACT-E)		2020	General Dynamics2 / Taunton, MA - (IPC V2)	C / FP	CECOM ACQ CENTER	Apr 2020	Sep 2020	26	1,200.000	Y		
Cross Domain Solution Suite (CDSS)		2017	General Dynamics3 / Taunton, MA - CDS	C / FP	CECOM ACQ CENTER	Apr 2017	Jul 2017	67	50.000	N		
Cross Domain Solution Suite (CDSS)		2018	General Dynamics3 / Taunton, MA - CDS	C / FP	CECOM ACQ CENTER	Apr 2018	Jul 2018	51	135.000	N		
Cross Domain Solution Suite (CDSS)		2020	General Dynamics3 / Taunton, MA - CDS	C / FP	CECOM ACQ CENTER	Apr 2020	Sep 2020	59	151.000	Y		
GEOINT WS (GWS/DE DTSS-D)		2017	General Dynamics1 / Taunton, MA - GWS	C / FP	CECOM ACQ CENTER	Mar 2017	Jun 2017	134	166.000	N		
GEOINT WS (GWS/DE DTSS-D)		2018	General Dynamics1 / Taunton, MA - GWS	C / FP	CECECOM ACQ CENTER	Mar 2018	Jun 2018	133	245.000	N		
GEOINT WS (GWS/DE DTSS-D)		2019	General Dynamics1 / Taunton, MA - GWS	C / FP	CECOM ACQ CENTER	Mar 2019	Jun 2019	108	245.000	N		
GEOINT WS (GWS/DE DTSS-D)		2020	General Dynamics1 / Taunton, MA - GWS	C / FP	CECOM ACQ CENTER	Mar 2020	Sep 2020	88	193.000	Y		
Intel Fusion Server (IFS)		2017	General Dynamics2 / Taunton, MA - IFS	C / FP	CECOM ACQ CENTER	Feb 2017	May 2017	200	235.000	N		
Intel Fusion Server (IFS) (TSI Config)		2018	General Dynamics2 / Taunton, MA - IFS	C / FP	CECOM ACQ CENTER	Feb 2018	Sep 2018	238	196.000	N		
Intel Fusion Server (IFS) (TSI Config)		2019	General Dynamics2 / Taunton, MA - IFS	C / FP	CECOM ACQ CENTER	Feb 2019	Sep 2019	146	196.000	N		
Intel Fusion Server (IFS) (TSI Config)		2020	General Dynamics2 / Taunton, MA - IFS	C / FP	CECOM ACQ CENTER	Feb 2020	Sep 2020	131	169.000	Y		
Portable (P)Multi Function WorkSta.		2017	General Dynamics5 / Taunton, MA - MFWS	C / FP	CECOM ACQ CENTER	Mar 2017	Jun 2017	1,501	5.000	N		

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 80	<b>P-1 Line Item Number / Title:</b> 9690BZ7316 / DCGS-A (MIP)	<b>Item Number / Title [DODIC]:</b> BZ7316 / DCGS-A (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
Portable (P)Multi Function WorkSta.		2018	General Dynamics5 / Taunton, MA - MFWS	C / FP	CECOM ACQ CENTER	Mar 2018	Jun 2018	1,081	2.500	N		
Portable (P)Multi Function WorkSta.		2019	General Dynamics5 / Taunton, MA - MFWS	C / FP	CECOM ACQ CENTER	Mar 2019	Mar 2019	1,125	2.500	N		
Fixed (F)-Multi Function WorkStations		2018	General Dynamics5 / Taunton, MA - MFWS	C / FP	CECOM ACQ CENTER	Mar 2018	Jun 2018	370	18.000	N		

**Remarks:**  
All DCGS-A hardware is comprised solely of COTS equipment. Based on the approved Army Cost Position in preparation for the Full Deployment Decision, the program office has updated the P-form to reflect software, system integration, engineering change proposals, and engineering support costs separately from the system unit costs.

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 80: Elect Equip - Tact Int Rel Act (TIARA)	<b>P-1 Line Item Number / Title:</b> 9692BZ8401 / Joint Tactical Ground Station (JTAGS) (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: 1208053A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	1	0	5	-	-	-	-	-	5	-	-	11
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	53.224	-	5.434	-	-	-	-	-	6.393	-	-	65.051
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	53.224	-	5.434	-	-	-	-	-	6.393	-	-	65.051
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>53.224</b>	<b>-</b>	<b>5.434</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>6.393</b>	<b>-</b>	<b>-</b>	<b>65.051</b>

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

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	53,224.000	-	1,086.800	-	-	-	-	-	1,278.600	-	-	5,913.727

**Description:**

The Joint Tactical Ground Station (JTAGS) disseminates near real time warning, alerting, and cueing information on ballistic missile launches and other tactical events of interest throughout the theater using existing communication networks, providing critical support to Combatant Commanders in their Areas of Responsibility (AOR). JTAGS, first fielded in 1997, has four OCONUS deployed JTAGS units, which are deployed in three theaters (PACOM, CENTCOM, EUCOM). A fifth CONUS system is used as an institutional trainer though is available as a deployable asset. Obsolescence issues coupled with the desire to take advantage of the Air Force's investment in newer satellites (Space Based Infrared System (SBIRS)) and their improved warning accuracy and timeliness, resulted in the JTAGS Block II Pre-Planned Product Improvement (P3I) system. Block II systems are currently being fielded, replacing the legacy Block I fielded systems. The JTAGS Approved Acquisition Objective (AAO) is five systems.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	-	5	-	-	-	-	5	-
	Total Obligation Authority	-	5.434	-	-	-	-	6.393	-
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	<b>-</b>	<b>5</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>5</b>	<b>-</b>
	<b>Total Obligation Authority</b>	<b>-</b>	<b>5.434</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>6.393</b>	<b>-</b>

**Justification:**

There are no FY20 procurement dollars planned for the JTAGS program.

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

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 80: Elect Equip - Tact Int Rel Act (TIARA)	<b>P-1 Line Item Number / Title:</b> 9704BA0326 / TROJAN (MIP)
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> 0303032A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	511.344	40.062	27.549	17.368	1.337	18.705	18.949	18.144	15.909	16.068	-	666.730
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	511.344	40.062	27.549	17.368	1.337	18.705	18.949	18.144	15.909	16.068	-	666.730
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>511.344</b>	<b>40.062</b>	<b>27.549</b>	<b>17.368</b>	<b>1.337</b>	<b>18.705</b>	<b>18.949</b>	<b>18.144</b>	<b>15.909</b>	<b>16.068</b>	-	<b>666.730</b>

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

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

**Description:**

TROJAN, as an Army Intelligence system, has been providing direct support and an operational readiness capability to soldiers since 1983. TROJAN provides the tactical commander with remote access to signal environments, in order to maintain a high state of operational readiness and enhance the training and sustainment of highly perishable intelligence skills. Additionally, the TROJAN architecture provides the infrastructure enabling split-based and force protection operations in direct support of the warfighter.

TROJAN NexGEN, formerly TROJAN Classic XXI (TCXXI) advances the tactical commanders' readiness in the areas of training (technical and operational signals intelligence (SIGINT)), operational intelligence production and dissemination, and operational support to split-based intelligence operations supporting force protection operations. TROJAN NexGEN's principle use is to provide remote access to target environments, enabling split-based operations from a sanctuary by being the gateway interface to environments of immediate relevance to every supported commander's priority intelligence requirements. In addition, NexGEN will continue its role as an operational readiness system, while also supporting commanders' intelligence requirements across the spectrum of conflict.

TROJAN NexGEN is an intelligence and electronic warfare (IEW) system that supports the increased readiness of key mobilization personnel in preparation for actions in the mission areas of The Army Plan (TAP). NexGEN is capable of maintaining operational readiness status of unit personnel supporting the full spectrum of military operations as outlined in the Army Strategic Planning Guidance and Army Planning Guidance sections of the TAP.

TROJAN NexGEN provides operational readiness capability to an Army commander employing a rapid global response capability to any level of military conflict throughout the seven mission areas. By employing reach technology relay capabilities between the forward deployed sensors and the sanctuary-based Remote Operational Facilities (ROFs), NexGEN can meet the operational deployment timelines through the use of readiness training venues to meet the requirements of units from Brigade Combat Teams through Corps and Echelon Above Corps (EAC). This operational concept provides the unique capability to remotely control the sensors and direction finding capabilities of the Deployable Collection Assets (DCAs) and process and analyze the collected information for timely reporting of time-sensitive information to the forward deployed Army, Joint Service and Multi-National warfighters.

TROJAN SPIRIT provides Army units with dedicated, secure, high capacity, Sensitive Compartmented Information high intelligence data processing and communications. It provides a rapidly deployable, multi-level security, processor-to-processor, high capacity communications capability, and supports tactical to strategic reach-back, essential to split-based operations.

All funding goes to the Active Component.



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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 80: Elect Equip - Tact Int Rel Act (TIARA)	<b>P-1 Line Item Number / Title:</b> 9704BA0326 / TROJAN (MIP)
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> 0303032A
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**Line Item MDAP/MAIS Code:** N/A

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	39.762	27.249	17.068	1.337	18.405	18.649	17.544	15.909	16.068
ANG	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	0.150	0.150	0.150	-	0.150	0.150	0.300	-	-
AR	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	0.150	0.150	0.150	-	0.150	0.150	0.300	-	-
<b>Total:</b>	<b>Quantity</b>	-	-	-	-	-	-	-	-	-
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>40.062</b>	<b>27.549</b>	<b>17.368</b>	<b>1.337</b>	<b>18.705</b>	<b>18.949</b>	<b>18.144</b>	<b>15.909</b>	<b>16.068</b>

**UNCLASSIFIED**

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

**Appropriation / Budget Activity / Budget Sub Activity:** 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 80: Elect Equip - Tact Int Rel Act (TIARA) **P-1 Line Item Number / Title:** 9704BA0326 / TROJAN (MIP)

**ID Code** (A=Service Ready, B=Not Service Ready): **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0303032A

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

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	BA0331 / TROJAN CLASSIC (MIP)				- / 248.695	- / 31.629	- / 15.346	- / 8.799	- / 1.337	- / 10.136
P-5	BA0333 / TROJAN SPIRIT - TERMINALS (MIP)	P-5a			- / 262.649	- / 8.433	- / 12.203	- / 8.569	- / -	- / 8.569
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 511.344</b>	<b>- / 40.062</b>	<b>- / 27.549</b>	<b>- / 17.368</b>	<b>- / 1.337</b>	<b>- / 18.705</b>

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

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

**Justification:**

FY 2020 Base funding in the amount of \$17.368 million funds the following TROJAN NexGEN and TROJAN SPIRIT requirements:

- TROJAN NexGEN: Funds collection and processing system upgrades required to maintain the TROJAN NexGEN system strategic architecture commonality. Funding is used for the procurement of material (hardware/software) in support of planned TROJAN NexGEN upgrades and fielding activities to include fixed and mobile collection platforms, multi-band signal search and acquisition survey systems, fielding, modernization of existing sites, and upgrades to Network Control Centers to support NSA-approved architecture for network infrastructures.

- TROJAN SPIRIT: Funds procure pre-planned product improvements for modernization/refresh of TROJAN SPIRIT LITE (V)1/(V)2/(V)3 systems to include bulk transport (bulk encrypted) network upgrades, increased bandwidth upgrades to Mbps throughput, X and Ka Band upgrades, replacement of end-of-life or out dated hardware, and TROJAN Network Control Center (TNCC)/TROJAN Network Operations Center (TNOC) interface upgrades. Funds the upgrades and support of TROJAN SPIRIT terminals required for current and emerging operational missions in support of Regionally Aligned Forces (RAF), Global Response Forces (GRF) and Army Contingency Forces (ACF) until capability is fielded by PM mission command.

FY 2020 OCO funding in the amount of \$1.337 million funds the following requirements:

- TROJAN NexGEN: Funds support the annual maintenance and refresh of deployed TROJAN NexGEN systems in Operation Freedom Sentinel (OFS) and Operation Inherent Resolve (OIR).

In accordance with Section 1815 of the FY 2018 NDAA this item is necessary for use by the active components and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities.

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 80	<b>P-1 Line Item Number / Title:</b> 9704BA0326 / TROJAN (MIP)	<b>Item Number / Title [DODIC]:</b> BA0331 / TROJAN CLASSIC (MIP)

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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<b>Resource Summary</b>	<b>Prior Years</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Procurement Quantity (Units in Each)	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	248.695	31.629	15.346	8.799	1.337	10.136
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	248.695	31.629	15.346	8.799	1.337	10.136
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>248.695</b>	<b>31.629</b>	<b>15.346</b>	<b>8.799</b>	<b>1.337</b>	<b>10.136</b>

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

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

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

<b>Cost Elements</b>	<b>Prior Years</b>			<b>FY 2018</b>			<b>FY 2019</b>			<b>FY 2020 Base</b>			<b>FY 2020 OCO</b>			<b>FY 2020 Total</b>		
	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>
<b>Flyaway Cost</b>																		
<b>Recurring Cost</b>																		
Hardware (Previous Years)	2,948.532	62	182.809	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TROJAN Analytical Node (TAN)	199.333	3	0.598	199.200	5	0.996	-	-	-	-	-	-	-	-	-	-	-	-
Remote Operations Facility (ROF)	241.500	2	0.483	241.667	3	0.725	241.600	5	1.208	241.667	6	1.450	-	-	-	241.667	6	1.450
TSPRING-D	1,930.000	1	1.930	1,930.000	1	1.930	1,930.000	2	3.860	1,930.000	2	3.860	-	-	-	1,930.000	2	3.860
TATTERAN	2,230.000	1	2.230	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S280 Shelter	205.000	1	0.205	260.000	1	0.260	-	-	-	260.000	1	0.260	-	-	-	260.000	1	0.260
Training Suite	419.000	1	0.419	40.000	1	0.040	-	-	-	-	-	-	-	-	-	-	-	-
Integration/Fielding (TROJAN)	12,004.200	5	60.021	3,668.000	1	3.668	3,352.000	1	3.352	3,229.000	1	3.229	-	-	-	3,229.000	1	3.229
<b>Subtotal: Recurring Cost</b>	<b>-</b>	<b>-</b>	<b>248.695</b>	<b>-</b>	<b>-</b>	<b>7.619</b>	<b>-</b>	<b>-</b>	<b>8.420</b>	<b>-</b>	<b>-</b>	<b>8.799</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>8.799</b>
<b>Non Recurring Cost</b>																		
Hardware (JMICS)	-	-	-	2,600.000	2	5.200	-	-	-	-	-	-	-	-	-	-	-	-
Establishment of Wiesbaden TNCC (OCO)	-	-	-	6,000.000	1	6.000	-	-	-	-	-	-	-	-	-	-	-	-
Refresh of Systems Supporting OFS/OIR (OCO)	-	-	-	842.500	12	10.110	6,926.000	1	6.926	-	-	-	1,337.000	1	1.337	1,337.000	1	1.337
NexGEN	-	-	-	-	-	2.700	-	-	-	-	-	-	-	-	-	-	-	-

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>												<b>Date:</b> March 2019					
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 80						<b>P-1 Line Item Number / Title:</b> 9704BA0326 / TROJAN (MIP)						<b>Item Number / Title [DODIC]:</b> BA0331 / TROJAN CLASSIC (MIP)					
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :												<b>MDAP/MAIS Code:</b>					

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
<i>Subtotal: Non Recurring Cost</i>	-	-	-	-	-	24.010	-	-	6.926	-	-	0.000	-	-	1.337	-	-	1.337
<i>Subtotal: Flyaway Cost</i>	-	-	248.695	-	-	31.629	-	-	15.346	-	-	8.799	-	-	1.337	-	-	10.136
<b>Gross/Weapon System Cost</b>	-	-	248.695	-	-	31.629	-	-	15.346	-	-	8.799	-	-	1.337	-	-	10.136

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	-	-	-	-	-
	Total Obligation Authority	31.629	15.346	8.799	1.337	10.136
<b>Total: Secondary Distribution</b>	Quantity	-	-	-	-	-
	Total Obligation Authority	31.629	15.346	8.799	1.337	10.136

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 80	<b>P-1 Line Item Number / Title:</b> 9704BA0326 / TROJAN (MIP)	<b>Item Number / Title [DODIC]:</b> BA0333 / TROJAN SPIRIT - TERMINALS (MIP)

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	262.649	8.433	12.203	8.569	-	8.569
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	262.649	8.433	12.203	8.569	-	8.569
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>262.649</b>	<b>8.433</b>	<b>12.203</b>	<b>8.569</b>	<b>-</b>	<b>8.569</b>

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

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

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
<b>Flyaway Cost</b>																		
<b>Recurring Cost</b>																		
Hardware SPIRIT <sup>(†)</sup>	294.474	508	149.593	30.657	143	4.384	46.843	191	8.947	34.098	164	5.592	-	-	-	34.098	164	5.592
Integration/Fielding	16,991.833	6	101.951	3,449.000	1	3.449	3,256.000	1	3.256	2,977.000	1	2.977	-	-	-	2,977.000	1	2.977
<b>Subtotal: Recurring Cost</b>	<b>-</b>	<b>-</b>	<b>251.544</b>	<b>-</b>	<b>-</b>	<b>7.833</b>	<b>-</b>	<b>-</b>	<b>12.203</b>	<b>-</b>	<b>-</b>	<b>8.569</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>8.569</b>
<b>Non Recurring Cost</b>																		
SPIRIT Cinematic Training	-	-	-	200.000	3	0.600	-	-	-	-	-	-	-	-	-	-	-	-
ISR Transfer Funding (OCO)	3,800.000	1	3.800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Refresh of Tactical NexGEN Systems (OCO) (Funding should be aligned under BA0331)	3,305.000	1	3.305	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fielding of Tactical NexGEN Systems (OCO) (Funding should be aligned under BA0331)	1,333.333	3	4.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Subtotal: Non Recurring Cost</b>	<b>-</b>	<b>-</b>	<b>11.105</b>	<b>-</b>	<b>-</b>	<b>0.600</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Subtotal: Flyaway Cost</b>	<b>-</b>	<b>-</b>	<b>262.649</b>	<b>-</b>	<b>-</b>	<b>8.433</b>	<b>-</b>	<b>-</b>	<b>12.203</b>	<b>-</b>	<b>-</b>	<b>8.569</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>8.569</b>
<b>Gross/Weapon System Cost</b>	<b>-</b>	<b>-</b>	<b>262.649</b>	<b>-</b>	<b>-</b>	<b>8.433</b>	<b>-</b>	<b>-</b>	<b>12.203</b>	<b>-</b>	<b>-</b>	<b>8.569</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>8.569</b>

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 80	<b>P-1 Line Item Number / Title:</b> 9704BA0326 / TROJAN (MIP)	<b>Item Number / Title [DODIC]:</b> BA0333 / TROJAN SPIRIT - TERMINALS (MIP)
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :		<b>MDAP/MAIS Code:</b>

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

Cost Element Breakout	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Hardware SPIRIT	294.474	508	149.593	30.657	143	4.384	46.843	191	8.947	34.098	164	5.592	-	-	-	34.098	164	5.592
AN/TSQ-226B(V)1 Phase 3 Kits	170.704	27	4.609	-	-	-	170.500	24	4.092	-	-	-	-	-	-	-	-	-
AN/TSQ-226B(V)1 Phase 3 Kits Spares (RSC)	153.286	7	1.073	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
AN/TSQ-226B/C(V)2/3 Phase 3 Kits	90.000	1	0.090	89.500	8	0.716	-	-	-	-	-	-	-	-	-	-	-	-
T-JWICS VTC Suite Upgrades	-	-	-	41.368	19	0.786	41.361	61	2.523	41.371	89	3.682	-	-	-	41.371	89	3.682
T-JWICS VTC Suite Spares (RSC)	-	-	-	45.571	14	0.638	-	-	-	45.636	11	0.502	-	-	-	45.636	11	0.502
iDirect Modems	-	-	-	22.000	88	1.936	22.000	106	2.332	22.000	64	1.408	-	-	-	22.000	64	1.408
iDirect Modems - Spares (RSC)	-	-	-	22.000	14	0.308	-	-	-	-	-	-	-	-	-	-	-	-
Hardware (Previous Years)	304.061	473	143.821	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	-	-	-	-	-
	Total Obligation Authority	8.133	11.903	8.269	-	8.269
ANG	Quantity	-	-	-	-	-
	Total Obligation Authority	0.150	0.150	0.150	-	0.150
AR	Quantity	-	-	-	-	-
	Total Obligation Authority	0.150	0.150	0.150	-	0.150
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	-	-	-	-	-
	<b>Total Obligation Authority</b>	<b>8.433</b>	<b>12.203</b>	<b>8.569</b>	-	<b>8.569</b>

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

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<b>Exhibit P-5a, Procurement History and Planning:</b> PB 2020 Army							<b>Date:</b> March 2019				
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 80			<b>P-1 Line Item Number / Title:</b> 9704BA0326 / TROJAN (MIP)				<b>Item Number / Title [DODIC]:</b> BA0333 / TROJAN SPIRIT - TERMINALS (MIP)				

Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty <i>(Each)</i>	Unit Cost <i>(\$ K)</i>	Specs Avail Now?	Date Revision Available	RFP Issue Date
Hardware SPIRIT		2015	CACI / APG	C / CPFF	CECOM	Jun 2015	Sep 2015	51	169.980	N		
Hardware SPIRIT		2016	CACI / APG	C / CPFF	CECOM	Sep 2016	Sep 2016	106	145.890	N		
Hardware SPIRIT		2017	CACI / APG	C / CPFF	CECOM	Sep 2017	Sep 2017	35	164.910	N		
Hardware SPIRIT		2018	CACI / APG	C / CPFF	CECOM	Sep 2018	Sep 2018	143	30.657	N		
Hardware SPIRIT		2019	TBD / APG	C / CPAF	CECOM	Sep 2019	Sep 2019	191	46.843	N		
Hardware SPIRIT		2020	TBD / APG	C / CPAF	CECOM	Sep 2020	Sep 2020	164	34.098	N		

**Remarks:**  
Hardware is a combination of Government off-the-Shelf (GOTS) and Commercial off-the-Shelf (COTS) products obtained from the Prime Contractor, NAVAIR and related vendors.  
Prime contractor TBD for TROJAN SPIRIT due to current contract re-compete. The period of performance for base and option years is 30 SEP to 29 SEP.

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 80: Elect Equip - Tact Int Rel Act (TIARA)	<b>P-1 Line Item Number / Title:</b> 9912BZ9750 / Mod of In-Svc Equip (INTEL SPT) (MIP)
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	36	54	12	11	-	11	10	-	-	-	-	123
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	239.345	53.334	48.009	59.052	2.051	61.103	48.650	16.246	4.145	4.194	-	475.026
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	239.345	53.334	48.009	59.052	2.051	61.103	48.650	16.246	4.145	4.194	-	475.026
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>239.345</b>	<b>53.334</b>	<b>48.009</b>	<b>59.052</b>	<b>2.051</b>	<b>61.103</b>	<b>48.650</b>	<b>16.246</b>	<b>4.145</b>	<b>4.194</b>	<b>-</b>	<b>475.026</b>

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

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	6,648.472	987.667	4,000.750	5,368.364	-	5,554.818	4,865.000	-	-	-	-	3,862.000

**Description:**

Special Purpose Systems (BZ9751): Program funds technical Insertions (TI) for the ground-based Signals Intelligence (SIGINT) system with additional capabilities required by fielded units to effectively engage enemy forces and provide Force Protection information to friendly forces. The program funds procurement of Government and Commercial Off-the-Shelf (GOTS/COTS) Next Generation SIGINT capabilities for the Prophet system to pace near peer and emerging threats and Signals of Interest (SOI) to support the National Defense Strategy.

Prophet Enhanced Modifications MIP (BZ9753): For FY 2020, program funds modifications to retrofit, test, train, and support previously fielded Prophet Enhanced systems not currently hosted on a prime mover to the latest mounted configuration will continue. Prophet Enhanced is the tactical commander's sole organic ground-based SIGINT/Electronic Warfare system for the Multi-Function Teams (MFTs), Stryker Brigade Combat Teams (SBCTs), and Expeditionary-Military Intelligence Brigades (E-MIBs). Its primary mission is to provide 24-hour Situation Development and Information Superiority to the supported maneuver brigade to enable the most effective engagement of enemy forces. Prophet Enhanced provides a modular, scalable, open architecture-based system solution optimized for ease of use in a variety of configurations (Stationary-Fixed, Mobile and Manpack). Prophet Enhanced's design also incorporates the ability for rapid integration of TI to ensure operational relevance.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army									
Quantity	54	12	11	-	11	10	-	-	-
Total Obligation Authority	53.334	48.009	59.052	2.051	61.103	48.650	16.246	4.145	4.194
<b>Total:</b>									
<b>Secondary Distribution</b>									
Quantity	<b>54</b>	<b>12</b>	<b>11</b>	<b>-</b>	<b>11</b>	<b>10</b>	<b>-</b>	<b>-</b>	<b>-</b>
Total Obligation Authority	<b>53.334</b>	<b>48.009</b>	<b>59.052</b>	<b>2.051</b>	<b>61.103</b>	<b>48.650</b>	<b>16.246</b>	<b>4.145</b>	<b>4.194</b>



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

**Appropriation / Budget Activity / Budget Sub Activity:**  
 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 80: Elect Equip - Tact Int Rel Act (TIARA) **P-1 Line Item Number / Title:**  
 9912BZ9750 / Mod of In-Svc Equip (INTEL SPT) (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 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	BZ9751 / SPECIAL PURPOSE SYSTEMS (MIP)				10 / 131.304	- / 4.241	- / 4.162	- / 4.000	- / -	- / 4.000
P-5	BZ9753 / Prophet Enhanced Modifications (MIP)	P-5a, P-21			26 / 108.041	54 / 49.093	12 / 43.847	11 / 55.052	- / 2.051	11 / 57.103
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>36 / 239.345</b>	<b>54 / 53.334</b>	<b>12 / 48.009</b>	<b>11 / 59.052</b>	<b>- / 2.051</b>	<b>11 / 61.103</b>

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

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

**Justification:**  
 FY 2020 BZ9751 Base procurement funding in the amount of \$4.000 million supports the continuing integration of modern Signal of Interest (SOI) an improvements to provide Prophet Enhanced the ability to address an evolving threat capability. An upgraded software capability will ensure that Prophet remains relevant against modern threats, providing an open architecture that allows capability integration to address advanced signal types in a constantly changing spectrum environment.

FY 2020 BZ9753 Base procurement funding in the amount of \$55.052 million supports the modification of 11 legacy systems and procurement of manpacks as a component legacy modification, associated support, integration, testing and fielding activities for these systems. Additionally, FY 2020 funding supports the procurement and fielding of up to 15 Enhanced Signal Processing (ESP) kits that will be installed on previously fielded Prophet Enhanced systems to address threats outlined in the National Defense Strategy.

FY 2020 BZ9753 OCO procurement funding in the amount of \$2.051 million supports a Mobile Training Team (MTT) to conduct new equipment and refresher training.

All funding is for the Active component.

Army Acquisition Objective (AAO): 235

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 80	<b>P-1 Line Item Number / Title:</b> 9912BZ9750 / Mod of In-Svc Equip (INTEL SPT) (MIP)	<b>Item Number / Title [DODIC]:</b> BZ9751 / SPECIAL PURPOSE SYSTEMS (MIP)

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity (Units in Each)	10	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	131.304	4.241	4.162	4.000	-	4.000
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	131.304	4.241	4.162	4.000	-	4.000
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>131.304</b>	<b>4.241</b>	<b>4.162</b>	<b>4.000</b>	<b>-</b>	<b>4.000</b>

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

Initial Spares (\$ in Millions)	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	13,130.400	-	-	-	-	-

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Flyaway Cost																		
Recurring Cost																		
Logistics Products	-	-	0.555	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Next Generation Hardware (Manpack)	250.000	10	2.500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Advanced Processor	21,208.167	6	127.249	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Software Upgrades & Integration	-	-	1.000	-	-	4.241	-	-	4.162	-	-	-	-	-	-	-	-	-
Integration, fielding and logistics products updates of Signal of Interest Upgrades	-	-	-	-	-	-	-	-	-	-	-	4.000	-	-	-	-	-	4.000
<i>Subtotal: Recurring Cost</i>	-	-	131.304	-	-	4.241	-	-	4.162	-	-	4.000	-	-	-	-	-	4.000
<i>Subtotal: Flyaway Cost</i>	-	-	131.304	-	-	4.241	-	-	4.162	-	-	4.000	-	-	-	-	-	4.000
<b>Gross/Weapon System Cost</b>	<b>13,130.400</b>	<b>10</b>	<b>131.304</b>	<b>-</b>	<b>-</b>	<b>4.241</b>	<b>-</b>	<b>-</b>	<b>4.162</b>	<b>-</b>	<b>-</b>	<b>4.000</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>4.000</b>

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	-	-	-	-	-
	Total Obligation Authority	4.241	4.162	4.000	-	4.000
<b>Total:</b>	<b>Quantity</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>

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<b>Exhibit P-5, Cost Analysis:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 80	<b>P-1 Line Item Number / Title:</b> 9912BZ9750 / Mod of In-Svc Equip (INTEL SPT) (MIP)	<b>Item Number / Title [DODIC]:</b> BZ9751 / SPECIAL PURPOSE SYSTEMS (MIP)

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Secondary Distribution	Total Obligation Authority	4.241	4.162	4.000	-	4.000

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 80	<b>P-1 Line Item Number / Title:</b> 9912BZ9750 / Mod of In-Svc Equip (INTEL SPT) (MIP)	<b>Item Number / Title [DODIC]:</b> BZ9753 / Prophet Enhanced Modifications (MIP)

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity (Units in Each)	26	54	12	11	-	11
Gross/Weapon System Cost (\$ in Millions)	108.041	49.093	43.847	55.052	2.051	57.103
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	108.041	49.093	43.847	55.052	2.051	57.103
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>108.041</b>	<b>49.093</b>	<b>43.847</b>	<b>55.052</b>	<b>2.051</b>	<b>57.103</b>

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

Initial Spares (\$ in Millions)	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	4,155.423	909.130	3,653.917	5,004.727	-	5,191.182

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Flyaway Cost																		
Recurring Cost																		
Prophet Enhanced Legacy Modification <sup>(†)</sup>	6,340.917	12	76.091	1,200.000	12	14.400	1,200.000	12	14.400	1,200.000	11	13.200	-	-	-	1,200.000	11	13.200
Integration	-	-	6.344	-	-	6.408	-	-	4.590	-	-	3.146	-	-	-	-	-	3.146
Program Quality Management	-	-	2.850	-	-	2.934	-	-	2.935	-	-	3.124	-	-	-	-	-	3.124
GFE	-	-	0.465	-	-	0.727	-	-	0.780	-	-	0.819	-	-	-	-	-	0.819
Software Engineering	-	-	3.294	-	-	3.360	-	-	3.381	-	-	3.460	-	-	-	-	-	3.460
Project Management Costs	-	-	3.273	-	-	3.000	-	-	3.016	-	-	3.167	-	-	-	-	-	3.167
Training/Fielding/ Depot Support	-	-	9.334	-	-	9.414	11,446.000	1	11.446	-	-	9.885	-	-	2.051	-	-	11.936
Matrix Support	-	-	1.490	-	-	0.800	-	-	0.820	-	-	0.861	-	-	-	-	-	0.861
Manpack	-	-	-	191.667	42	8.050	-	-	2.479	-	-	2.390	-	-	-	-	-	2.390
Satellite On The Move (SOTM) Antenna	408.333	12	4.900	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Enhanced Signal Processing Kit & Fielding	-	-	-	-	-	-	-	-	-	1,000.000	15	15.000	-	-	-	1,000.000	15	15.000
<i>Subtotal: Recurring Cost</i>	-	-	108.041	-	-	49.093	-	-	43.847	-	-	55.052	-	-	2.051	-	-	57.103
<i>Subtotal: Flyaway Cost</i>	-	-	108.041	-	-	49.093	-	-	43.847	-	-	55.052	-	-	2.051	-	-	57.103

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 80	<b>P-1 Line Item Number / Title:</b> 9912BZ9750 / Mod of In-Svc Equip (INTEL SPT) (MIP)	<b>Item Number / Title [DODIC]:</b> BZ9753 / Prophet Enhanced Modifications (MIP)
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :		<b>MDAP/MAIS Code:</b>

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Gross/Weapon System Cost	4,155.423	26	108.041	909.130	54	49.093	3,653.917	12	43.847	5,004.727	11	55.052	-	-	2.051	5,191.182	11	57.103

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	54	12	11	-	11
	Total Obligation Authority	49.093	43.847	55.052	2.051	57.103
<b>Total:</b>	<b>Quantity</b>	<b>54</b>	<b>12</b>	<b>11</b>	<b>-</b>	<b>11</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>49.093</b>	<b>43.847</b>	<b>55.052</b>	<b>2.051</b>	<b>57.103</b>

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

**UNCLASSIFIED**

<b>Exhibit P-5a, Procurement History and Planning:</b> PB 2020 Army							<b>Date:</b> March 2019				
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 80			<b>P-1 Line Item Number / Title:</b> 9912BZ9750 / Mod of In-Svc Equip (INTEL SPT) (MIP)				<b>Item Number / Title [DODIC]:</b> BZ9753 / Prophet Enhanced Modifications (MIP)				

Cost Elements	OCO	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
Prophet Enhanced Legacy Modification <sup>(†)</sup>		2018	GD Mission Systems / Scottsdale, AZ	SS / FFP	APG, MD	Feb 2018	Nov 2018	12	1,200.000	N		
Prophet Enhanced Legacy Modification <sup>(†)</sup>		2019	GD Mission Systems / Scottsdale, AZ	SS / FFP	APG, MD	Jan 2019	Oct 2019	12	1,200.000	N		
Prophet Enhanced Legacy Modification <sup>(†)</sup>		2020	GD Mission Systems / Scottsdale, AZ	SS / FFP	APG, MD	Jan 2020	Oct 2020	11	1,200.000	N	Jan 2020	Aug 2016

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

**Remarks:**

FY 2020 BZ9753 Base procurement funding in the amount of \$55.052 million supports the modification of up to, but not limited to 11 legacy systems; procurement of up to, but not limited to 11 manpacks as a component of the 11 legacy modifications, associated support, integration, testing and fielding activities for these systems. Additionally, FY 2020 funding supports the procurement and fielding of up to 15 Enhanced Signal Processing (ESP) kits that will be installed on previously fielded Prophet Enhanced systems to provide capabilities against threats designated in the National Defense Strategy.

FY 2020 BZ9753 OCO procurement funding in the amount of \$2.051 million supports a Mobile Training Team (MTT) to conduct new equipment and refresher training.

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Exhibit P-21, Production Schedule: PB 2020 Army											Date: March 2019																			
Appropriation / Budget Activity / Budget Sub Activity:						P-1 Line Item Number / Title:											Item Number / Title [DODIC]:													
2035A / 02 / 80						9912BZ9750 / Mod of In-Svc Equip (INTEL SPT) (MIP)											BZ9753 / Prophet Enhanced Modifications (MIP)													
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
Prophet Enhanced Legacy Modification																														
Prior Years Deliveries: 12																														
1	2018	ARMY		12	0	12				A -	-	-	-	-	-	-	-	-	2	2	2	2	2	2				0		
1	2019	ARMY		12	0	12														A -	-	-	-	-	-	-	-	12		
1	2020	ARMY		11	0	11																						11		
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P

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<b>Exhibit P-21, Production Schedule:</b> PB 2020 Army															<b>Date:</b> March 2019														
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 80										<b>P-1 Line Item Number / Title:</b> 9912BZ9750 / Mod of In-Svc Equip (INTEL SPT) (MIP)										<b>Item Number / Title [DODIC]:</b> BZ9753 / Prophet Enhanced Modifications (MIP)									

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			
Prophet Enhanced Legacy Modification																																	
Prior Years Deliveries: 12																																	
1		2018	ARMY	12	12	0																							0				
1		2019	ARMY	12	0	12	2	2	2	2	2	2																	0				
1		2020	ARMY	11	0	11				A	-	-	-	-	-	-	-	3	3	3	2								0				
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P			



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<b>Exhibit P-21, Production Schedule:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 80		<b>P-1 Line Item Number / Title:</b> 9912BZ9750 / Mod of In-Svc Equip (INTEL SPT) (MIP)
		<b>Item Number / Title [DODIC]:</b> BZ9753 / Prophet Enhanced Modifications (MIP)

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Month)			Procurement Leadtime (Months)							
		MSR For 2020	1-8-5 For 2020	MAX For 2020	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	GD Mission Systems - Scottsdale, AZ	2	3	4	8	3	9	12	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).

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 80: Elect Equip - Tact Int Rel Act (TIARA)	<b>P-1 Line Item Number / Title:</b> 9925BK5275 / CI HUMINT Auto Reprting & Coll(CHARCS)(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: 0604321A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	437	2,354	12	-	-	-	-	-	-	-	-	2,803
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	325.354	22.275	0.296	-	-	-	-	-	-	-	-	347.925
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	325.354	22.275	0.296	-	-	-	-	-	-	-	-	347.925
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>325.354</b>	<b>22.275</b>	<b>0.296</b>	-	-	-	-	-	-	-	-	<b>347.925</b>

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

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	744.517	9.463	24.667	-	-	-	-	-	-	-	-	124.126

**Description:**

The Counterintelligence (CI) and Human Intelligence (HUMINT) Automated Reporting and Collection System (CHARCS) is the Army's CI and HUMINT tactical collection and reporting system. CHARCS provides automation support for information collection, reporting, investigations, source & interrogation operations and document exploitation. The CHARCS automation architecture extends from the individual HUMINT team soldier or CI agent to the Corps. CHARCS reports digital data such as maps, overlays, images, video, biometrics, scanned documents and audio files. These media are transmitted through secure networks and interfaces with the Distributed Common Ground Systems-Army (DCGS-A) for detailed analysis and creation of finished intelligence products. Collection and reporting teams at Military Intelligence (MI) battalions and their operational managers are equipped with one of two CHARCS systems. The first is the AN/PYQ-8 Individual Tactical Reporting Tool (ITRT), which provides collection and processing devices for individual HUMINT team member or CI agents. The second is the AN/PYQ-3 CI/HUMINT Automated Tool Set (CHATS), which provides the team leader (who normally directs 3-5 team members) and Operational Management Team (OMT) tools to process and manage team-collected information and a robust set of devices such as printers, scanners, and cameras to assist the collection mission. CHATS is also used by the Operational Management Team (OMT) that normally directs 3-5 collection and reporting teams. Each CHATS has an associated Mission Support Peripheral Sets and Kits (MS-PSK) or Collection Peripheral Sets and Kits (C-PSK).

The C-PSK provides specialized collection component capabilities to support CI/HUMINT collection missions. C-PSK capabilities are commercial-off-the-shelf (COTS) technologies and include video and camera equipment, global positioning system (GPS), and voice recording device. Phasing in of the Nett Warrior End User Device (EUD) to displace the C-PSK will begin in FY 2018 and complete in FY 2019. The EUD is a COTS Mobile Handheld device, managed by PEO Soldier, which provides all of the operational capacity of the C-PSK in one hardware device. The MS-PSK provides specialized collection component capabilities to support CI/HUMINT collection missions. MS-PSK capabilities are COTS technologies and include night vision photography & video, captured materiel tracking, digital media forensics software, and Document Exploitation (DOCEX) software.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	2,117	12	-	-	-	-	-	-
	Total Obligation Authority	21.168	0.296	-	-	-	-	-	-
ANG	Quantity	142	-	-	-	-	-	-	-
	Total Obligation Authority	0.669	-	-	-	-	-	-	-
AR	Quantity	95	-	-	-	-	-	-	-

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 80: Elect Equip - Tact Int Rel Act (TIARA)	<b>P-1 Line Item Number / Title:</b> 9925BK5275 / CI HUMINT Auto Reprting & Coll(CHARCS)(MIP)
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> 0604321A
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**Line Item MDAP/MAIS Code:** N/A

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
	Total Obligation Authority	0.438	-	-	-	-	-	-	-	-
<b>Total:</b>	<b>Quantity</b>	<b>2,354</b>	<b>12</b>	-	-	-	-	-	-	-
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>22.275</b>	<b>0.296</b>	-	-	-	-	-	-	-

**Justification:**

The CHARCS program does not have an FY 2020 funding request.

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

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 80: Elect Equip - Tact Int Rel Act (TIARA)	<b>P-1 Line Item Number / Title:</b> 9928B10001 / Close Access Target Reconnaissance (CATR)
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	24	21	-	-	-	-	-	-	-	-	-	45
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	12.982	6.440	-	-	-	-	-	-	-	-	-	19.422
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	12.982	6.440	-	-	-	-	-	-	-	-	-	19.422
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>12.982</b>	<b>6.440</b>	-	-	-	-	-	-	-	-	-	<b>19.422</b>

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

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	540.917	306.667	-	-	-	-	-	-	-	-	-	431.600

**Description:**

Close Access Target Reconnaissance (CATR) is a kit of electronic devices that acquires, collects, and transmits data to provide near real time feedback in order to validate, follow, locate, or track a target (i.e., tagging, tracking, and locating (TTL)). CATR will use electronic audio and or video recorders to obtain information which is used to validate movement and identify targets. In addition, CATR allows for threat monitoring that can be integrated into existing operational tools, help to paint a clearer picture of the battlefield, pinpoint possible target locations, and identify and exploit enemy movements and patterns.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	15	-	-	-	-	-	-	-
	Total Obligation Authority	5.281	-	-	-	-	-	-	-
ANG	Quantity	6	-	-	-	-	-	-	-
	Total Obligation Authority	1.159	-	-	-	-	-	-	-
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	<b>21</b>	-	-	-	-	-	-	-
	<b>Total Obligation Authority</b>	<b>6.440</b>	-	-	-	-	-	-	-

**Justification:**

Program has no FY 2020 funding request.

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

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 80: Elect Equip - Tact Int Rel Act (TIARA)	<b>P-1 Line Item Number / Title:</b> 9931B88605 / Machine Foreign Language Translation System-MFLTS
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> 0604321A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	33.290	0.567	-	-	-	-	-	-	-	-	-	33.857
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	33.290	0.567	-	-	-	-	-	-	-	-	-	33.857
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>33.290</b>	<b>0.567</b>	-	-	-	-	-	-	-	-	-	<b>33.857</b>

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

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

**Description:**

The Machine Foreign Language Translation System (MFLTS) develops, fields, and sustains a basic automated foreign speech and text translation capability for Army tactical systems to augment and compliment limited human linguistic resources. These integrated automated translation capabilities will be applicable across three different system configurations; a hand-held/wearable portable device, a laptop/mobile device, and in a networked/web-enabled system. The software modules will translate English from a prioritized list of languages in a prioritized collection of domains (e.g. medical, intelligence, base security). MFLTS is interoperable with Commercial Off-The-Shelf (COTS) and Government Off-The-Shelf (GOTS) automation equipment to include the Distributed Common Ground System-Army (DCGS-A) and Nett Warrior, and will be interoperable with a future version of the CI/HUMINT Automated Reporting and Collection System (CHARCS).

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	0.567	-	-	-	-	-	-	-	-
<b>Total:</b>									
<b>Secondary Distribution</b>									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	<b>0.567</b>	-	-	-	-	-	-	-	-

**Justification:**

Program has no FY 2020 funding request.

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

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 80: Elect Equip - Tact Int Rel Act (TIARA)	<b>P-1 Line Item Number / Title:</b> 9988BK5300 / Biometric Tactical Collection Devices (MIP)
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
<i>Procurement Quantity (Units in Each)</i>	-	-	-	-	-	-	-	-	-	-	-	-
<i>Gross/Weapon System Cost (\$ in Millions)</i>	6.804	5.180	5.370	-	1.800	1.800	3.800	2.000	2.000	2.000	-	28.954
<i>Less PY Advance Procurement (\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
<i>Net Procurement (P-1) (\$ in Millions)</i>	6.804	5.180	5.370	-	1.800	1.800	3.800	2.000	2.000	2.000	-	28.954
<i>Plus CY Advance Procurement (\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>6.804</b>	<b>5.180</b>	<b>5.370</b>	-	<b>1.800</b>	<b>1.800</b>	<b>3.800</b>	<b>2.000</b>	<b>2.000</b>	<b>2.000</b>	-	<b>28.954</b>

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

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

**Description:**

The Army Program of Record for biometrics tactical collection capability is presently the BAT-A. It consists of the BAT-A Kit, BAT-A Handheld, and BAT-A Web Service. This capability supports the Identity Dominance Mission and Army Force Protection Mission. The BAT-A system collects, matches, stores, and shares biometric and contextual information on Known & Suspected Terrorists, potential adversaries, host nation personnel, and third country nationals. Recipients of collected information include DoD organizations, other U.S. government agencies, and Coalition Partners. The BAT-A system is also used by Military Intelligence personnel, Infantry, and Military Police. The capability was originally deployed as a Quick Reaction Capability (QRC) and has been deployed in a combat zone for over 19 years. Today, BAT-A supports Operation Freedom's Sentinel.

The Next Generation Biometrics Collection Capability (NXGBCC) is the replacement system for current Biometrics Automated Toolset-Army tactical biometrics collection capability. NXGBCC will be an integrated system of Commercial-Off-The-Shelf (COTS) hardware and software, comprising a kit, data base, and transport architecture. NXGBCC will be capable of operating on multiple communications networks and achieve near real-time identity matching and data synchronization. NXGBCC will add to the number of biometric modalities collected, provide matches to the Warfighter in less than 3 minutes, increase the data sharing capability, and reduce weight, power, and cost. NXGBCC will use a Local Trusted Source composed of a distributed database capable of being used worldwide, data management software, forward biometric matching software, and an analysis portal. Also, the NXGBCC collection kit(s) will be composed of 1 or more collection devices, a credential/badge device, and document scanning device. In accordance with HQDA-G8 equipping plan, FY21-FY24 funding will enable the department to equip 2 Infantry Brigade Combat Teams and Training.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	-	-	-	-	-	-	-	-
	Total Obligation Authority	5.180	5.370	0.000	1.800	1.800	3.800	2.000	2.000
<b>Total: Secondary Distribution</b>	Quantity	-	-	-	-	-	-	-	-
	<b>Total Obligation Authority</b>	<b>5.180</b>	<b>5.370</b>	-	<b>1.800</b>	<b>1.800</b>	<b>3.800</b>	<b>2.000</b>	<b>2.000</b>

**Justification:**

**UNCLASSIFIED**

<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 80: Elect Equip - Tact Int Rel Act (TIARA)		<b>P-1 Line Item Number / Title:</b> 9988BK5300 / Biometric Tactical Collection Devices (MIP)
<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
<b>Line Item MDAP/MAIS Code:</b> N/A		
<p>FY 2020 OCO procurement in the amount of \$1.800 million continues to procure BAT-A Kit Hardware and BAT-A Handheld accessories for RESET/REFRESH activities supporting Operation Freedom's Sentinel. Requested funds will refresh 2 BAT-A Servers; Scanner Devices (150 Fingerprint and 150 Iris); 250 BAT-A laptops and obsolete peripherals with accessories; and will refresh BAT-A HH parts and accessories ensuring the availability of this mission critical capability.</p> <p>BAT-A requires both hardware reset and associated minor software integration to maintain operational viability. These devices have been deployed in combat operations for over 19 years, well beyond the standard 3 to 6 years of useful electronic equipment life. BAT-A is the Army's Biometric Program of Record and failure to reset these devices will degrade the mission effectiveness of this enabler of Identity Dominance and Force Protection.</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.</p>		

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 80: Elect Equip - Tact Int Rel Act (TIARA)	<b>P-1 Line Item Number / Title:</b> 9990BK5278 / Items Less Than \$5.0M (MIP)
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	438.546	-	0.410	-	-	-	-	-	-	-	-	438.956
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	438.546	-	0.410	-	-	-	-	-	-	-	-	438.956
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>438.546</b>	-	<b>0.410</b>	-	-	-	-	-	-	-	-	<b>438.956</b>

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

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

**Description:**

This program supports procurement of Trojan Special Purpose Integrated Remote Intelligence Terminals (Trojan SPIRIT) for the Stryker Brigades, Special Operations Forces (SOF), and Modular Force units; Army National Guard Wideband Imagery Dissemination System; and the Army Deployable Interoperable Node GIAT Operations (DINGO) System.

Trojan SPIRIT provides the Current Force, Stryker Brigades, SOF, and Modular Force units with dedicated, secure, high capacity, SCI-high intelligence data processing and communications. It provides a rapidly deployable, multi-level security, processor-to-processor, high capacity communications capability, and supports tactical to strategic reach-back, essential to split-based operations.

DINGO is a critical component to supporting the ability to produce, maintain, and update geospatial imagery to support wartime missions, including Weapons of Mass Destruction - Elimination (WMD-E) and Non-Combatant Evacuation (NEO). It supports split-based operations during crisis, contingency and wartime operations. The system processes Electro Optical (EO), Infrared (IR) and RADAR imagery. It also performs 3D modeling and is capable of processing Full Motion Video (FMV).

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	-	-	-	-	-	-	-	-
	Total Obligation Authority	-	0.410	-	-	-	-	-	-
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	-	-	-	-	-	-	-	-
	<b>Total Obligation Authority</b>	-	<b>0.410</b>	-	-	-	-	-	-

**Justification:**

The program does not have an FY 2020 funding request.

In accordance with Section 1815 of the FY08 NDAA, this item is necessary for use by the active components and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civilian authorities.



**UNCLASSIFIED**

<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 80: Elect Equip - Tact Int Rel Act (TIARA)		<b>P-1 Line Item Number / Title:</b> 9990BK5278 / Items Less Than \$5.0M (MIP)
<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
<b>Line Item MDAP/MAIS Code:</b> N/A		

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 83: Elect Equip - Electronic Warfare (EW)	<b>P-1 Line Item Number / Title:</b> 8387B05201 / Lightweight Counter Mortar Radar
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> 0604823A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	96	5	-	-	-	-	-	-	-	-	Continuing	Continuing
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	839.611	17.080	6.107	5.400	-	5.400	5.500	8.326	7.380	10.072	Continuing	Continuing
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	839.611	17.080	6.107	5.400	-	5.400	5.500	8.326	7.380	10.072	Continuing	Continuing
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>839.611</b>	<b>17.080</b>	<b>6.107</b>	<b>5.400</b>	<b>-</b>	<b>5.400</b>	<b>5.500</b>	<b>8.326</b>	<b>7.380</b>	<b>10.072</b>	<b>Continuing</b>	<b>Continuing</b>

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

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	8,745.948	3,416.000	-	-	-	-	-	-	-	-	Continuing	Continuing

**Description:**

The AN/TPQ-50 Lightweight Counter Mortar Radar (LCMR) is a highly mobile radar that automatically detects, classifies, tracks, and locates the point of origin of projectiles fired from mortar, artillery, and rocket systems with sufficient accuracy for first round fire for effect. It mitigates close combat radar coverage gaps by providing 360 degrees of azimuth coverage from ranges of 500 meters to 10 kilometers and is capable of being deployed in two configurations, standalone or vehicle mounted. The AN/TPQ-50 system interoperates with mission command systems to provide the maneuver commander increased counterfire radar flexibility. The AN/TPQ-50 is deployed as part of the Counter-Rocket, Artillery, Mortar (C-RAM) system of systems. It provides data to the Forward Area Air Defense Command and Control (FAAD C2) node for the sense and warn force protection capability. The AN/TPQ-50 is currently fielded to multiple Continental United States (CONUS) and Outside Continental United States (OCONUS) locations to include support to Operation Inherent Resolve (OIR) and Operation Freedom's Sentinel (OFS).

Army Acquisition Objective (AAO): 400

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	-	4.287	5.400	-	5.400	5.500	8.326	7.380	10.072
ANG	Quantity	5	-	-	-	-	-	-	-	-
	Total Obligation Authority	17.080	1.820	-	-	-	-	-	-	-
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	<b>5</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
	<b>Total Obligation Authority</b>	<b>17.080</b>	<b>6.107</b>	<b>5.400</b>	<b>-</b>	<b>5.400</b>	<b>5.500</b>	<b>8.326</b>	<b>7.380</b>	<b>10.072</b>

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 83: Elect Equip - Electronic Warfare (EW)	<b>P-1 Line Item Number / Title:</b> 8387B05201 / Lightweight Counter Mortar Radar
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> 0604823A
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**Line Item MDAP/MAIS Code:** N/A

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	B05201 / Lightweight Counter Mortar Radar	P-5a			96 / 839.611	5 / 17.080	- / 6.107	- / 5.400	- / -	- / 5.400
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>96 / 839.611</b>	<b>5 / 17.080</b>	<b>- / 6.107</b>	<b>- / 5.400</b>	<b>- / -</b>	<b>- / 5.400</b>

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

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

**Justification:**

Fiscal Year (FY) 2020 OPA Base funds of \$5.400 million will support the fielding of systems to United States Army units, engineering changes, information assurance and program support.

Including prior year procurement quantities, this program achieves the AAO of 400 by procuring the last five (5) systems in FY 2018.

Per BOIP change memo dated 8 Jun 16, current force structure is as follows:

- Twelve (12) radars per IFPC, Air Defense Artillery (ADA) Battalion
- Four (4) radars per Brigade Combat Team (BCT)
- Two (2) radars per Field Artillery Brigade (FAB)
- Two (2) radars per Division Artillery (DIVARTY)
- Two (2) radars per Special Troops Battalion, Ranger Regiment
- One (1) radar per Special Forces Battalion (SFB)
- One (1) radar per Support Battalion SF Group (SFG)
- One (1) radar per Ranger Battalion
- One (1) radar per Task Force

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

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 83		<b>P-1 Line Item Number / Title:</b> 8387B05201 / Lightweight Counter Mortar Radar
		<b>Item Number / Title [DODIC]:</b> B05201 / Lightweight Counter Mortar Radar

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity (Units in Each)	96	5	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	839.611	17.080	6.107	5.400	-	5.400
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	839.611	17.080	6.107	5.400	-	5.400
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>839.611</b>	<b>17.080</b>	<b>6.107</b>	<b>5.400</b>	<b>-</b>	<b>5.400</b>

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

Initial Spares (\$ in Millions)	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	8,745.948	3,416.000	-	-	-	-

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Flyaway Cost																		
Recurring Cost																		
Hardware AN/TPQ-50 (LCMR V3) <sup>(f)</sup>	1,266.248	395	500.168	1,221.000	5	6.105	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	500.168	-	-	6.105	-	-	-	-	-	-	-	-	-	-	-	-
Non Recurring Cost																		
Engineering Change Orders	-	-	13.466	-	-	-	-	-	0.092	-	-	0.029	-	-	-	-	-	0.029
Non-Recurring Production	-	-	29.434	-	-	2.443	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Non Recurring Cost</i>	-	-	42.900	-	-	2.443	-	-	0.092	-	-	0.029	-	-	-	-	-	0.029
<i>Subtotal: Flyaway Cost</i>	-	-	<b>543.068</b>	-	-	<b>8.548</b>	-	-	<b>0.092</b>	-	-	<b>0.029</b>	-	-	-	-	-	<b>0.029</b>
Logistics Cost																		
Recurring Cost																		
Integrated Logistics Support	-	-	-	-	-	0.157	-	-	2.205	-	-	0.699	-	-	-	-	-	0.699
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	0.157	-	-	2.205	-	-	0.699	-	-	-	-	-	0.699
<i>Subtotal: Logistics Cost</i>	-	-	-	-	-	<b>0.157</b>	-	-	<b>2.205</b>	-	-	<b>0.699</b>	-	-	-	-	-	<b>0.699</b>
Support - Acceptance Testing Cost																		
Acceptance Test	-	-	28.308	-	-	0.463	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - Acceptance Testing Cost</i>	-	-	<b>28.308</b>	-	-	<b>0.463</b>	-	-	-	-	-	-	-	-	-	-	-	-

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 83	<b>P-1 Line Item Number / Title:</b> 8387B05201 / Lightweight Counter Mortar Radar	<b>Item Number / Title [DODIC]:</b> B05201 / Lightweight Counter Mortar Radar

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
<b>Support - Contractor Logistics Support (CLS) Cost</b>																		
Oversight	-	-	50.037	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - Contractor Logistics Support (CLS) Cost</i>	-	-	<b>50.037</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Support - Fielding Cost</b>																		
Fielding	-	-	124.575	-	-	1.239	-	-	1.787	-	-	1.686	-	-	-	-	-	1.686
<i>Subtotal: Support - Fielding Cost</i>	-	-	<b>124.575</b>	-	-	<b>1.239</b>	-	-	<b>1.787</b>	-	-	<b>1.686</b>	-	-	-	-	-	<b>1.686</b>
<b>Support - Program Management Cost</b>																		
Government Management	-	-	49.879	-	-	2.382	-	-	0.375	-	-	0.723	-	-	-	-	-	0.723
Contractor Management	-	-	-	-	-	2.306	-	-	0.675	-	-	1.407	-	-	-	-	-	1.407
<i>Subtotal: Support - Program Management Cost</i>	-	-	<b>49.879</b>	-	-	<b>4.688</b>	-	-	<b>1.050</b>	-	-	<b>2.130</b>	-	-	-	-	-	<b>2.130</b>
<b>Support - System Engineering Cost</b>																		
System Engineering	-	-	43.744	-	-	1.985	-	-	0.973	-	-	0.856	-	-	-	-	-	0.856
<i>Subtotal: Support - System Engineering Cost</i>	-	-	<b>43.744</b>	-	-	<b>1.985</b>	-	-	<b>0.973</b>	-	-	<b>0.856</b>	-	-	-	-	-	<b>0.856</b>
<b>Gross/Weapon System Cost</b>	<b>8,745.948</b>	<b>96</b>	<b>839.611</b>	<b>3,416.000</b>	<b>5</b>	<b>17.080</b>	-	-	<b>6.107</b>	-	-	<b>5.400</b>	-	-	-	-	-	<b>5.400</b>

**Remarks:**

Fiscal Year (FY) 2020 support costs cover fielding, engineering, and obsolescence mitigation efforts.

FY 2019 government support costs cover information assurance (IA), engineering, software, and contracting support. FY 2019 contractor support covers systems engineering and technical assistance (SETA), production engineering, fielding, and test support.

Program management costs decreased from FY 2018 to FY 2019 as a result of carrying over \$1 million of FY 2018 to fund a portion of FY 2019 program management support.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	-	-	-	-	-
	Total Obligation Authority	-	4.287	5.400	-	5.400
ANG	Quantity	5	-	-	-	-
	Total Obligation Authority	17.080	1.820	-	-	-

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 83	<b>P-1 Line Item Number / Title:</b> 8387B05201 / Lightweight Counter Mortar Radar	<b>Item Number / Title [DODIC]:</b> B05201 / Lightweight Counter Mortar Radar

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :		<b>MDAP/MAIS Code:</b>				
<b>Secondary Distribution</b>		<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
<b>Total:</b>	<b>Quantity</b>	5	-	-	-	-
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	17.080	6.107	5.400	-	5.400

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

**UNCLASSIFIED**

<b>Exhibit P-5a, Procurement History and Planning:</b> PB 2020 Army							<b>Date:</b> March 2019					
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 83			<b>P-1 Line Item Number / Title:</b> 8387B05201 / Lightweight Counter Mortar Radar				<b>Item Number / Title [DODIC]:</b> B05201 / Lightweight Counter Mortar Radar					
<b>Cost Elements</b>	<b>O C O</b>	<b>FY</b>	<b>Contractor and Location</b>	<b>Method/Type or Funding Vehicle</b>	<b>Location of PCO</b>	<b>Award Date</b>	<b>Date of First Delivery</b>	<b>Qty (Each)</b>	<b>Unit Cost (\$ K)</b>	<b>Specs Avail Now?</b>	<b>Date Revision Available</b>	<b>RFP Issue Date</b>
Hardware AN/TPQ-50 (LCMR V3)		2018	SRCTec, Inc. / North Syracuse	SS / FFP	CECOM	Dec 2017	Dec 2018	5	1,221.000	Y		Feb 2013

**Remarks:**  
FY 2018 OPA Base funds of \$17,080 million support the procurement of 5 AN/TPQ-50 full rate production (FRP) systems, fielding of systems to United States Army units, engineering changes, information assurance and program support.

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 83: Elect Equip - Electronic Warfare (EW)	<b>P-1 Line Item Number / Title:</b> 8488K00002 / EW Planning & Management Tools (EWPMT)
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	1	1	-	-	-	-	-	-	-	-	2
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	9.900	5.805	5.875	7.568	-	7.568	7.857	0.793	-	-	-	37.798
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	9.900	5.805	5.875	7.568	-	7.568	7.857	0.793	-	-	-	37.798
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>9.900</b>	<b>5.805</b>	<b>5.875</b>	<b>7.568</b>	<b>-</b>	<b>7.568</b>	<b>7.857</b>	<b>0.793</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>37.798</b>

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

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	-	5,805.000	5,875.000	-	-	-	-	-	-	-	-	18,899.000

**Description:**

The Electronic Warfare Planning and Management Tool (EWPMT) is a software solution that provides the Commander, their staff (Electronic Warfare Officer (EWO) and Spectrum Manager), and the Cyber Electromagnetic Activities (CEMA) working group/cell the ability to control, manage, and dominate the Electromagnetic Spectrum (EMS) in order to fight in contested and congested EMS/Cyber environments. EWPMT will provide: capabilities to plan, coordinate, manage, and de-conflict Electronic Warfare (EW) activities, the ability for remote control & management of EW assets to conduct offensive and defensive Electronic Attack and cyber, EW targeting, enable maneuver through CEMA operations, and synchronize EW, Spectrum Management Operations (SMO) and CEMA across Intelligence, Operations, and Signals. EWPMT will integrate essential data elements to include but not limited to Mission Command, Intelligence, Fires, Signals to successfully execute Multi-Domain Operations and meet the Commander's needs and desired effects.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army									
Quantity	1	1	-	-	-	-	-	-	-
Total Obligation Authority	5.805	5.875	7.568	-	7.568	7.857	0.793	-	-
<b>Total:</b>									
<b>Secondary Distribution</b>									
Quantity	1	1	-	-	-	-	-	-	-
Total Obligation Authority	5.805	5.875	7.568	-	7.568	7.857	0.793	-	-



**UNCLASSIFIED**

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

**Appropriation / Budget Activity / Budget Sub Activity:**  
 2035A: Other Procurement, Army / BA 02: Communications and Electronics  
 Equipment / BSA 83: Elect Equip - Electronic Warfare (EW) **P-1 Line Item Number / Title:**  
 8488K00002 / EW Planning & Management Tools (EWPMT)

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

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

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	K00002 / EW Planning & Management Tools (EWPMT)				- / 9.900	1 / 5.805	1 / 5.875	- / 7.568	- / -	- / 7.568
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 9.900</b>	<b>1 / 5.805</b>	<b>1 / 5.875</b>	<b>- / 7.568</b>	<b>- / -</b>	<b>- / 7.568</b>

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

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

**Justification:**  
 FY 2020 base procurement dollars in the amount of \$7.568 million supports continuous Electronic Warfare Planning & Management Tools (EWPMT fielding) New Equipment Training (NET), delta training, Interim Contractor Support (ICS) and SETA support.

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>													<b>Date:</b> March 2019					
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 83						<b>P-1 Line Item Number / Title:</b> 8488K00002 / EW Planning & Management Tools (EWPMT)						<b>Item Number / Title [DODIC]:</b> K00002 / EW Planning & Management Tools (EWPMT)						
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :										<b>MDAP/MAIS Code:</b>								
<b>Resource Summary</b>				<b>Prior Years</b>		<b>FY 2018</b>		<b>FY 2019</b>		<b>FY 2020 Base</b>		<b>FY 2020 OCO</b>		<b>FY 2020 Total</b>				
Procurement Quantity ( <i>Units in Each</i> )				-		1		1		-		-		-				
Gross/Weapon System Cost ( <i>\$ in Millions</i> )				9.900		5.805		5.875		7.568		-		7.568				
Less PY Advance Procurement ( <i>\$ in Millions</i> )				-		-		-		-		-		-				
Net Procurement (P-1) ( <i>\$ in Millions</i> )				9.900		5.805		5.875		7.568		-		7.568				
Plus CY Advance Procurement ( <i>\$ in Millions</i> )				-		-		-		-		-		-				
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )				<b>9.900</b>		<b>5.805</b>		<b>5.875</b>		<b>7.568</b>		<b>-</b>		<b>7.568</b>				
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>																		
Initial Spares ( <i>\$ in Millions</i> )				-		-		-		-		-		-		-		
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )				-		5,805.000		5,875.000		-		-		-		-		
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
<b>Cost Elements</b>	<b>Prior Years</b>			<b>FY 2018</b>			<b>FY 2019</b>			<b>FY 2020 Base</b>			<b>FY 2020 OCO</b>			<b>FY 2020 Total</b>		
	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)
Software Cost																		
Recurring Cost																		
EWPMT Interim Contractor Support (ICS)	-	-	5.249	-	-	2.093	1,958.000	1	1.958	2,566.000	1	2.566	-	-	-	2,566.000	1	2.566
<i>Subtotal: Recurring Cost</i>	-	-	5.249	-	-	2.093	-	-	1.958	-	-	2.566	-	-	-	-	-	2.566
<i>Subtotal: Software Cost</i>	-	-	<b>5.249</b>	-	-	<b>2.093</b>	-	-	<b>1.958</b>	-	-	<b>2.566</b>	-	-	-	-	-	<b>2.566</b>
Logistics Cost																		
Recurring Cost																		
EWPMT New Equipment Training (NET)	-	-	3.861	-	-	3.277	-	-	3.442	-	-	3.941	-	-	-	-	-	3.941
<i>Subtotal: Recurring Cost</i>	-	-	3.861	-	-	3.277	-	-	3.442	-	-	3.941	-	-	-	-	-	3.941
<i>Subtotal: Logistics Cost</i>	-	-	<b>3.861</b>	-	-	<b>3.277</b>	-	-	<b>3.442</b>	-	-	<b>3.941</b>	-	-	-	-	-	<b>3.941</b>
Support - Program Management Cost																		
Contractor Management	-	-	0.790	-	-	0.435	-	-	0.475	-	-	1.061	-	-	-	-	-	1.061
<i>Subtotal: Support - Program Management Cost</i>	-	-	<b>0.790</b>	-	-	<b>0.435</b>	-	-	<b>0.475</b>	-	-	<b>1.061</b>	-	-	-	-	-	<b>1.061</b>
<b>Gross/Weapon System Cost</b>	-	-	<b>9.900</b>	<b>5,805.000</b>	<b>1</b>	<b>5.805</b>	<b>5,875.000</b>	<b>1</b>	<b>5.875</b>	-	-	<b>7.568</b>	-	-	-	-	-	<b>7.568</b>

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 83	<b>P-1 Line Item Number / Title:</b> 8488K00002 / EW Planning & Management Tools (EWPMT)	<b>Item Number / Title [DODIC]:</b> K00002 / EW Planning & Management Tools (EWPMT)

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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<b>Secondary Distribution</b>		<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Army	Quantity	1	1	-	-	-
	Total Obligation Authority	5.805	5.875	7.568	-	7.568
<b>Total:</b>	<b>Quantity</b>	<b>1</b>	<b>1</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>5.805</b>	<b>5.875</b>	<b>7.568</b>	<b>-</b>	<b>7.568</b>

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 83: Elect Equip - Electronic Warfare (EW)	<b>P-1 Line Item Number / Title:</b> 8489W60001 / Air Vigilance (AV) (MIP)
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ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0603766A, 0605766A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	15.957	5.348	8.497	8.953	-	8.953	8.169	8.530	8.701	8.875	-	73.030
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	15.957	5.348	8.497	8.953	-	8.953	8.169	8.530	8.701	8.875	-	73.030
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>15.957</b>	<b>5.348</b>	<b>8.497</b>	<b>8.953</b>	<b>-</b>	<b>8.953</b>	<b>8.169</b>	<b>8.530</b>	<b>8.701</b>	<b>8.875</b>	<b>-</b>	<b>73.030</b>

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

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

**Description:**

Air Vigilance systems collect critical intelligence data on emerging threat aerial systems. The intelligence data provides early warning of operations in restricted airspace to ensure force protection. An Air Vigilance system is comprised of a server unit configured and fielded with a single or multiple sub-component sensors. System Quantities are based upon server units. Operational details are classified.

Air Vigilance (AV) is software intensive Automated Information System (AIS) program with specialized hardware. The AV current Basis of Issue Plan (BOIP) is based upon the Full Deployment (FD) of this baseline (qty 1) software deployed across hardware sets comprised of 49 unit/pieces of equipment (10 servers and 39 sensors in various combinations/configurations) fielded to the Intelligence and Security Command (INSCOM) Military Intelligence Brigades.

"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 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	-	-	-	-	-	-	-	-
	Total Obligation Authority	5.348	8.497	8.953	-	8.953	8.169	8.530	8.701
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
	<b>Total Obligation Authority</b>	<b>5.348</b>	<b>8.497</b>	<b>8.953</b>	<b>-</b>	<b>8.953</b>	<b>8.169</b>	<b>8.530</b>	<b>8.701</b>

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 83: Elect Equip - Electronic Warfare (EW)	<b>P-1 Line Item Number / Title:</b> 8489W60001 / Air Vigilance (AV) (MIP)
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ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0603766A, 0605766A
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**Line Item MDAP/MAIS Code:** N/A

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	W60001 / Air Vigilance (AV) (MIP)	P-5a	A		- / 15.957	- / 5.348	- / 8.497	- / 8.953	- / -	- / 8.953
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 15.957</b>	<b>- / 5.348</b>	<b>- / 8.497</b>	<b>- / 8.953</b>	<b>- / -</b>	<b>- / 8.953</b>

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

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

**Justification:**  
 FY 2020 Base procurement dollars in the amount of \$8.953 million provide for Fielding and New Equipment Training of items procured in previous years and upgrades these systems to the sensor/processor Capability Drop 3 configuration, in accordance with the latest user and HQDA approved fielding plan. All funding is for the Active Component.

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>													<b>Date:</b> March 2019					
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 83						<b>P-1 Line Item Number / Title:</b> 8489W60001 / Air Vigilance (AV) (MIP)						<b>Item Number / Title [DODIC]:</b> W60001 / Air Vigilance (AV) (MIP)						
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A									<b>MDAP/MAIS Code:</b>									
<b>Resource Summary</b>				<b>Prior Years</b>		<b>FY 2018</b>		<b>FY 2019</b>		<b>FY 2020 Base</b>		<b>FY 2020 OCO</b>		<b>FY 2020 Total</b>				
Procurement Quantity (Units in Each)				-		-		-		-		-		-				
Gross/Weapon System Cost (\$ in Millions)				15.957		5.348		8.497		8.953		-		8.953				
Less PY Advance Procurement (\$ in Millions)				-		-		-		-		-		-				
Net Procurement (P-1) (\$ in Millions)				15.957		5.348		8.497		8.953		-		8.953				
Plus CY Advance Procurement (\$ in Millions)				-		-		-		-		-		-				
<b>Total Obligation Authority (\$ in Millions)</b>				<b>15.957</b>		<b>5.348</b>		<b>8.497</b>		<b>8.953</b>		<b>-</b>		<b>8.953</b>				
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>																		
Initial Spares (\$ in Millions)				-		-		-		-		-		-				
Gross/Weapon System Unit Cost (\$ in Thousands)				-		-		-		-		-		-				
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
<b>Cost Elements</b>	<b>Prior Years</b>			<b>FY 2018</b>			<b>FY 2019</b>			<b>FY 2020 Base</b>			<b>FY 2020 OCO</b>			<b>FY 2020 Total</b>		
	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>
Hardware Cost																		
Recurring Cost																		
Fielding and New Equipment Training	216.333	3	0.649	550.000	1	0.550	550.000	1	0.550	-	-	2.500	-	-	-	-	-	2.500
Systems Engineering	60.000	2	0.120	298.000	1	0.298	267.000	1	0.267	-	-	0.500	-	-	-	-	-	0.500
<i>Subtotal: Recurring Cost</i>	-	-	0.769	-	-	0.848	-	-	0.817	-	-	3.000	-	-	-	-	-	3.000
Non Recurring Cost																		
Sensor <sup>(f)</sup>	641.000	20	12.820	700.000	5	3.500	710.000	8	5.680	-	-	-	-	-	-	-	-	-
System Server <sup>(f)</sup>	228.800	5	1.144	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hardware Upgrades per CD enhancements/ improvements	-	-	1.224	100.000	10	1.000	-	-	2.000	-	-	5.953	-	-	-	-	-	5.953
<i>Subtotal: Non Recurring Cost</i>	-	-	15.188	-	-	4.500	-	-	7.680	-	-	5.953	-	-	-	-	-	5.953
<i>Subtotal: Hardware Cost</i>	-	-	15.957	-	-	5.348	-	-	8.497	-	-	8.953	-	-	-	-	-	8.953
<b>Gross/Weapon System Cost</b>	-	-	15.957	-	-	5.348	-	-	8.497	-	-	8.953	-	-	-	-	-	8.953
<b>Secondary Distribution</b>						<b>FY 2018</b>			<b>FY 2019</b>			<b>FY 2020 Base</b>		<b>FY 2020 OCO</b>		<b>FY 2020 Total</b>		
Army						Quantity			-			-		-		-		
						Total Obligation Authority			5.348			8.497		8.953		-		

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>				<b>Date:</b> March 2019		
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 83		<b>P-1 Line Item Number / Title:</b> 8489W60001 / Air Vigilance (AV) (MIP)		<b>Item Number / Title [DODIC]:</b> W60001 / Air Vigilance (AV) (MIP)		
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A			<b>MDAP/MAIS Code:</b>			
<b>Secondary Distribution</b>		<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
<b>Total:</b>	<b>Quantity</b>	-	-	-	-	-
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	5.348	8.497	8.953	-	8.953

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

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 83	<b>P-1 Line Item Number / Title:</b> 8489W60001 / Air Vigilance (AV) (MIP)	<b>Item Number / Title [DODIC]:</b> W60001 / Air Vigilance (AV) (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
Sensor		2016	Classified / Classified	C / FFP	Classified	Jan 2016	Mar 2016	8	600.000	N		
Sensor		2018	Classified / Classified	C / FFP	Classified	Jan 2018	Mar 2018	5	700.000	N		
Sensor		2019	Classified / Classified	C / FFP	Classified	Jan 2019	Mar 2019	8	710.000	N		
System Server		2016	Classified / Classified	C / FFP	Classified	Jan 2016	Mar 2016	2	280.000	N		
System Server		2017	Classified / Classified	C / FFP	Classified	Jan 2017	Mar 2017	3	228.000	N		



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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 83: Elect Equip - Electronic Warfare (EW)	<b>P-1 Line Item Number / Title:</b> 8490VA8000 / CREW
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	158	242	-	-	-	-	-	-	-	-	400
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	1,490.561	25.600	42.651	-	-	-	-	-	-	-	-	1,558.812
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	1,490.561	25.600	42.651	-	-	-	-	-	-	-	-	1,558.812
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>1,490.561</b>	<b>25.600</b>	<b>42.651</b>	-	-	-	-	-	-	-	-	<b>1,558.812</b>

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

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	-	162.025	176.244	-	-	-	-	-	-	-	-	3,897.030

**Description:**

The Counter Radio Controlled Improvised Explosive Devices (RCIED) Electronics Warfare (CREW) family of Electronic Counter Measure (ECM) systems are essential to provide force protection to Soldiers, fixed site locations and combat vehicle platforms for both Mounted and Dismounted Variants for 24/7 operations. CREW Dismounted capabilities are designed to protect Soldiers while conducting dismounted operations. Universal Test Set (UTS) is designed to test CREW systems before conduct of operations.

Operational Freedom's Sentinel (OFS) has requested dismounted systems to provide force protection for mission locations. These systems will be developed and fielded to the CENTCOM Area of Operation (AoR) in response to Joint Urgent Operation Needs (JUON) 0533 (classified JUONs). JUON 0533 was approved in Nov 2017. Modi II has been selected to fulfil this JUON's based on CONUS and OCONUS testing along with system availability to meet the JUON's requirements.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	158	242	-	-	-	-	-	-
	Total Obligation Authority	25.600	42.651	-	-	-	-	-	-
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	<b>158</b>	<b>242</b>	-	-	-	-	-	-
	<b>Total Obligation Authority</b>	<b>25.600</b>	<b>42.651</b>	-	-	-	-	-	-

**Justification:**

Program has no FY 2020 funding request.

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 83: Elect Equip - Electronic Warfare (EW)	<b>P-1 Line Item Number / Title:</b> 8491B05000 / Multi-Function Electronic Warfare (MFEW) Systems
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	2	-	2	5	4	4	-	-	15
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	-	-	-	6.420	-	6.420	21.522	24.109	25.196	14.322	-	91.569
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	-	-	-	6.420	-	6.420	21.522	24.109	25.196	14.322	-	91.569
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	-	-	-	<b>6.420</b>	-	<b>6.420</b>	<b>21.522</b>	<b>24.109</b>	<b>25.196</b>	<b>14.322</b>	-	<b>91.569</b>

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

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	3,210.000	-	3,210.000	4,304.400	6,027.250	6,299.000	-	-	6,104.600

**Description:**

The Multi-Function Electronic Warfare (MFEW) is a capability set that will provide BCT Commanders with an organic offensive Electronic Attack (EA) and Electronic Warfare Support (ES) capability. MFEW variants empower Commanders to shape the Electromagnetic Spectrum (EMS) to their advantage. MFEW will provide Commanders with an organic EW capability that dramatically improve a land force capabilities to seize, retain, and exploit an advantage within the EMS in order to execute successful unified land operations. These capabilities give the Commander a competitive advantage by denying or degrading the enemy's ability to conduct Command and Control (C2); Intelligence, Surveillance and Reconnaissance (ISR); and targeting, and allows the Commander to optimize effects within the EMS at the time and place of their choosing. These systems are networked with EWPMT and offensive cyber to enable remote operation and dynamic tasking or reprogramming.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army									
Quantity	-	-	2	-	2	5	4	4	-
Total Obligation Authority	-	-	6.420	-	6.420	21.522	24.109	25.196	14.322
<b>Total:</b>									
<b>Secondary Distribution</b>									
Quantity	-	-	2	-	2	5	4	4	-
Total Obligation Authority	-	-	6.420	-	6.420	21.522	24.109	25.196	14.322

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 83: Elect Equip - Electronic Warfare (EW)	<b>P-1 Line Item Number / Title:</b> 8491B05000 / Multi-Function Electronic Warfare (MFEW) Systems
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	B05001 / MFEW - Air	P-5a			- / -	- / -	- / -	2 / 6.420	- / -	2 / 6.420
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>2 / 6.420</b>	<b>- / -</b>	<b>2 / 6.420</b>

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

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

**Justification:**  
 FY 2020 base dollars in the amount of \$6.420 million will support MFEW Air Large procurement of long lead items. Funds in this budget line support a new start program.

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 83	<b>P-1 Line Item Number / Title:</b> 8491B05000 / Multi-Function Electronic Warfare (MFEW) Systems	<b>Item Number / Title [DODIC]:</b> B05001 / MFEW - Air

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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<b>Resource Summary</b>	<b>Prior Years</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Procurement Quantity <i>(Units in Each)</i>	-	-	-	2	-	2
Gross/Weapon System Cost <i>(\$ in Millions)</i>	-	-	-	6.420	-	6.420
Less PY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-
Net Procurement (P-1) <i>(\$ in Millions)</i>	-	-	-	6.420	-	6.420
Plus CY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-
<b>Total Obligation Authority</b> <i>(\$ in Millions)</i>	-	-	-	<b>6.420</b>	-	<b>6.420</b>

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

Initial Spares <i>(\$ in Millions)</i>	-	-	-	-	-	-
Gross/Weapon System Unit Cost <i>(\$ in Thousands)</i>	-	-	-	3,210.000	-	3,210.000

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

<b>Cost Elements</b>	<b>Prior Years</b>			<b>FY 2018</b>			<b>FY 2019</b>			<b>FY 2020 Base</b>			<b>FY 2020 OCO</b>			<b>FY 2020 Total</b>		
	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																		
Non Recurring Cost																		
MFEW Air Large long lead items <sup>(†)</sup>	-	-	-	-	-	-	-	-	-	3,210.000	2	6.420	-	-	-	3,210.000	2	6.420
<i>Subtotal: Non Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	6.420	-	-	-	-	-	6.420
<i>Subtotal: Hardware Cost</i>	-	-	-	-	-	-	-	-	-	-	-	<b>6.420</b>	-	-	-	-	-	<b>6.420</b>
<b>Gross/Weapon System Cost</b>	-	-	-	-	-	-	-	-	-	<b>3,210.000</b>	<b>2</b>	<b>6.420</b>	-	-	-	<b>3,210.000</b>	<b>2</b>	<b>6.420</b>

<b>Secondary Distribution</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Army					
Quantity	-	-	2	-	2
Total Obligation Authority	-	-	6.420	-	6.420
<b>Total: Secondary Distribution</b>					
Quantity	-	-	2	-	2
Total Obligation Authority	-	-	6.420	-	6.420

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

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<b>Exhibit P-5a, Procurement History and Planning:</b> PB 2020 Army							<b>Date:</b> March 2019				
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 83			<b>P-1 Line Item Number / Title:</b> 8491B05000 / Multi-Function Electronic Warfare (MFEW) Systems				<b>Item Number / Title [DODIC]:</b> B05001 / MFEW - Air				

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
MFEW Air Large long lead items		2020	TBS / TBD	TBD	TBD	Jun 2020	Sep 2020	2	3,210.000	N		

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 83: Elect Equip - Electronic Warfare (EW)	<b>P-1 Line Item Number / Title:</b> 9926BL5287 / Family of Persistent Surveillance Cap. (MIP)
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	16	-	-	-	-	-	-	-	-	16
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	178.493	19.935	20.050	-	71.493	71.493	71.493	-	-	-	-	361.464
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	178.493	19.935	20.050	-	71.493	71.493	71.493	-	-	-	-	361.464
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>178.493</b>	<b>19.935</b>	<b>20.050</b>	<b>-</b>	<b>71.493</b>	<b>71.493</b>	<b>71.493</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>361.464</b>

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

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	-	-	1,253.125	-	-	-	-	-	-	-	-	22,591.500

**Description:**

Persistent Surveillance Systems - Tethered (PSS-T) is a program of record comprised of 29 Large (formerly Persistent Threat Detection System (PTDS)) and 29 Medium (formerly Persistent Ground Surveillance System (PGSS)) sized Aerostats. PSS-T has been assigned to Army Program Executive Office for Intelligence, Electronic Warfare and Sensors (PEO IEW&S). Both tethered Aerostats are equipped with high resolution Electro-Optical/Infrared (EO/IR) camera systems and wide-area assessment sensors. Video collected by PSS-T is distributed to the Forward Operating Base and division commander information center as well as to quick reaction forces via Tactical Operations Center (TOC) Extension Kits, providing tactical commanders enhanced battlefield situational awareness.

PTDS - The baseline configuration includes the U.S. Army Research Lab's Unattended Transient Acoustic Measurement and Signature INTelligence (MASINT) System (UTAMS) which operationally cues the PTDS MX-20 EO/IR sensor to slew onto a target. The UTAMS is an acoustic sensor design consisting of sensor stations linked via radio to a base station. Each sensor station includes microphone arrays, signal processor, and display. The baseline PTDS also includes the Joint Synchronization Information Transmitter (JSIT) Mini-Tactical Common Data Link transmitter that transmits MX-20 video stream to ground forces equipped with One System Remote Video Terminal. Expendable-Unattended Ground Sensor (E-UGS) enhances the PTDS ability to detect enemy vehicle and footstep traffic and provides improved situational awareness and facilitates tactical response. PTDS continues to meet other urgent theater needs through system upgrades: adding High Antennas for Radio Communications (HARC) radio, the PRC-117G wide band radio, Tactical Targeting Network Technology (TTNT), Highband Networking Radio (HNR) as part of the aerial layer network extension architecture; transmitting weather data directly to Air Force Weather Agency (AFWA) via weather relay kits; added dual sensor capability; additional ground moving target indicator STARLite and wide area motion imagery Kestrel sensors, Persistent Surveillance Systems (PSS) Slew to Cue, coded laser target designation, and Survivability enhancements.

The PGSS has been a highly successful example of quickly delivering urgently needed capabilities to the Warfighter at remote forward operating bases (FOBs). PGSS continues to meet other urgent theater needs through system upgrades: adding HARC radio, the PRC-117G wide band radio, Quint Networking Technology (QNT), and micro-Enhanced Position Location Reporting System (EPLRS) as part of the aerial layer network extension architecture; transmitting weather data directly to AFWA via PGSS Weather Web, adding dual sensor capability; adding additional Vista, Kestrel, and wireless identification sensing platforms (WISP) sensors, PSS Slew to Cue, Precision Fires, coded laser target designation, and Survivability enhancements. Additionally, Expendable-Unattended Ground Sensor (E-UGS) enhances the PGSS ability to detect enemy vehicle and footstep traffic and provides improved situational awareness and facilitates tactical response.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army									
Quantity	-	16	-	-	-	-	-	-	-
Total Obligation Authority	19.935	20.050	0.000	71.493	71.493	71.493	-	-	-

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<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2020 Army							<b>Date:</b> March 2019		
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 83: Elect Equip - Electronic Warfare (EW)					<b>P-1 Line Item Number / Title:</b> 9926BL5287 / Family of Persistent Surveillance Cap. (MIP)				
<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A			<b>Program Elements for Code B Items:</b> N/A			<b>Other Related Program Elements:</b> N/A			
<b>Line Item MDAP/MAIS Code:</b> N/A									

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
<b>Total:</b>	<b>Quantity</b>	-	16	-	-	-	-	-	-	-
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	19.935	20.050	-	71.493	71.493	71.493	-	-	-

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**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 83: Elect Equip - Electronic Warfare (EW)	<b>P-1 Line Item Number / Title:</b> 9926BL5287 / Family of Persistent Surveillance Cap. (MIP)
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	BL5287 / Family of Persistent Surveillance Cap. (MIP)	P-5a, P-21	A		- / 178.493	- / 19.935	16 / 20.050	- / -	- / 71.493	- / 71.493
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 178.493</b>	<b>- / 19.935</b>	<b>16 / 20.050</b>	<b>- / -</b>	<b>- / 71.493</b>	<b>- / 71.493</b>

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

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

**Justification:**  
 FY 2020 Overseas Contingency Operations (OCO) Other Procurement Army (OPA) dollars in the amount of \$71.493 million supports Operation Freedom's Sentinel (OFS) and Operation Inherent Resolve (OIR) requirements. Of the \$71.493 million, \$53.620 million provides high dollar spares to support systems in OFS and \$17.873 million provides high dollar spares to support systems in OIR. High dollar spares kits include an Aerostat Envelope, Baseline Avionics Kit and MX Intelligence, Surveillance and Reconnaissance (ISR) cameras. The majority of funding is required for a large Surveillance and Reconnaissance (ISR) camera purchase.

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



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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>													<b>Date:</b> March 2019					
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 83						<b>P-1 Line Item Number / Title:</b> 9926BL5287 / Family of Persistent Surveillance Cap. (MIP)						<b>Item Number / Title [DODIC]:</b> BL5287 / Family of Persistent Surveillance Cap. (MIP)						
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A									<b>MDAP/MAIS Code:</b>									
<b>Resource Summary</b>				<b>Prior Years</b>		<b>FY 2018</b>		<b>FY 2019</b>		<b>FY 2020 Base</b>		<b>FY 2020 OCO</b>		<b>FY 2020 Total</b>				
Procurement Quantity (Units in Each)				-		-		16		-		-		-				
Gross/Weapon System Cost (\$ in Millions)				178.493		19.935		20.050		-		71.493		71.493				
Less PY Advance Procurement (\$ in Millions)				-		-		-		-		-		-				
Net Procurement (P-1) (\$ in Millions)				178.493		19.935		20.050		-		71.493		71.493				
Plus CY Advance Procurement (\$ in Millions)				-		-		-		-		-		-				
<b>Total Obligation Authority (\$ in Millions)</b>				<b>178.493</b>		<b>19.935</b>		<b>20.050</b>		<b>-</b>		<b>71.493</b>		<b>71.493</b>				
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>																		
Initial Spares (\$ in Millions)				-		-		-		-		-		-		-		
Gross/Weapon System Unit Cost (\$ in Thousands)				-		-		1,253.125		-		-		-		-		
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
<b>Cost Elements</b>	<b>Prior Years</b>			<b>FY 2018</b>			<b>FY 2019</b>			<b>FY 2020 Base</b>			<b>FY 2020 OCO</b>			<b>FY 2020 Total</b>		
	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>
Flyaway Cost																		
Recurring Cost																		
Aerostat Envelope <sup>(†)</sup>	4,592.679	28	128.595	861.400	10	8.614	861.500	16	13.784	-	-	-	861.500	10	8.615	861.500	10	8.615
Baseline Avionics Kits <sup>(†)</sup>	442.091	22	9.726	358.692	13	4.663	359.167	12	4.310	-	-	-	359.158	19	6.824	359.158	19	6.824
Tactical Common Data Link <sup>(†)</sup>	433.882	17	7.376	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pressurization Avionics Unit <sup>(†)</sup>	264.909	11	2.914	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
High Antenna Radio Communications (B-Kit) <sup>(†)</sup>	335.000	5	1.675	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ISR Turret (MX-15)	1,800.000	4	7.200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Envelope replacements <sup>(†)</sup>	801.571	7	5.611	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Program Management Office Support	-	-	1.740	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	<i>164.837</i>	-	-	<i>13.277</i>	-	-	<i>18.094</i>	-	-	<i>0.000</i>	-	-	<i>15.439</i>	-	-	<i>15.439</i>
<i>Subtotal: Flyaway Cost</i>	-	-	<i>164.837</i>	-	-	<i>13.277</i>	-	-	<i>18.094</i>	-	-	<i>0.000</i>	-	-	<i>15.439</i>	-	-	<i>15.439</i>
Hardware Cost																		
Non Recurring Cost																		
ISR Turret (MX-25) <sup>(†)</sup>	1,707.000	8	13.656	2,219.333	3	6.658	1,956.000	1	1.956	-	-	-	2,001.929	28	56.054	2,001.929	28	56.054

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 83		<b>P-1 Line Item Number / Title:</b> 9926BL5287 / Family of Persistent Surveillance Cap. (MIP)
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A		<b>MDAP/MAIS Code:</b>
<b>Item Number / Title [DODIC]:</b> BL5287 / Family of Persistent Surveillance Cap. (MIP)		

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
<i>Subtotal: Non Recurring Cost</i>	-	-	13.656	-	-	6.658	-	-	1.956	-	-	0.000	-	-	56.054	-	-	56.054
<i>Subtotal: Hardware Cost</i>	-	-	13.656	-	-	6.658	-	-	1.956	-	-	0.000	-	-	56.054	-	-	56.054
<b>Gross/Weapon System Cost</b>	-	-	178.493	-	-	19.935	1,253.125	16	20.050	-	-	-	-	-	71.493	-	-	71.493

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	-	16	-	-	-
	Total Obligation Authority	19.935	20.050	0.000	71.493	71.493
<b>Total:</b>	Quantity	-	16	-	-	-
<b>Secondary Distribution</b>	Total Obligation Authority	19.935	20.050	-	71.493	71.493

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

**UNCLASSIFIED**

<b>Exhibit P-5a, Procurement History and Planning: PB 2020 Army</b>							<b>Date:</b> March 2019				
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 83			<b>P-1 Line Item Number / Title:</b> 9926BL5287 / Family of Persistent Surveillance Cap. (MIP)				<b>Item Number / Title [DODIC]:</b> BL5287 / Family of Persistent Surveillance Cap. (MIP)				

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
Aerostat Envelope <sup>(†)</sup>		2016	Lockheed Martin / Akron, OH	SS / FFP	ACC-APG: APG, MD	Mar 2016	Nov 2016	8	804.000	N		
Aerostat Envelope <sup>(†)</sup>		2017	Bravura Information Technology / Aberdeen, MD	C / FFP	ACC-APG: APG, MD	Mar 2017	Nov 2017	12	876.000	N		
Aerostat Envelope <sup>(†)</sup>		2018	Bravura Information Technology / Aberdeen, MD	Option / FFP	ACC-APG: APG, MD	Mar 2018	Oct 2018	10	861.400	Y		
Aerostat Envelope <sup>(†)</sup>		2019	TBD / TBD	C / FFP	ACC-APG: APG,MD	May 2019	Dec 2019	16	861.500	Y		
Aerostat Envelope <sup>(†)</sup>	✓	2020	TBD / TBD	C / FFP	ACC-APG: APG,MD	May 2020	Dec 2020	10	861.500	Y		
Baseline Avionics Kits <sup>(†)</sup>		2016	Lockheed Martin / Akron, OH	SS / FFP	ACC-APG: APG, MD	Mar 2016	Nov 2016	8	309.000	N		
Baseline Avionics Kits <sup>(†)</sup>		2017	Bravura Information Technology / Aberdeen, MD	C / FFP	ACC-APG: APG, MD	Mar 2017	Nov 2017	10	379.800	N		
Baseline Avionics Kits <sup>(†)</sup>		2018	Bravura Information Technology / Aberdeen, MD	Option / FFP	ACC-APG: APG, MD	Mar 2018	Dec 2018	13	358.692	Y		
Baseline Avionics Kits <sup>(†)</sup>		2019	TBD / TBD	C / CPFF	ACC-APG: APG,MD	May 2019	Dec 2019	12	359.167	Y		
Baseline Avionics Kits <sup>(†)</sup>	✓	2020	TBD / TBD	C / CPFF	ACC-APG: APG,MD	May 2020	Dec 2020	19	359.158	Y		
Tactical Common Data Link		2016	Lockheed Martin / Akron, OH	SS / FFP	ACC-APG: APG, MD	Mar 2016	May 2017	8	161.000	N		
Tactical Common Data Link		2017	Bravura Information Technology / Aberdeen, MD	C / FFP	ACC-APG: APG, MD	Mar 2017	May 2018	5	268.000	N		
Pressurization Avionics Unit		2016	Lockheed Martin / Akron, OH	SS / FFP	ACC-APG: APG, MD	Mar 2016	Sep 2016	6	241.000	N		
Pressurization Avionics Unit		2017	Bravura Information Technology / Aberdeen, MD	C / FFP	ACC-APG: APG, MD	Mar 2017	Sep 2017	5	281.000	N		
High Antenna Radio Communications (B-Kit)		2017	Bravura Information Technology / Aberdeen, MD	C / FFP	ACC-APG: APG, MD	Mar 2017	Aug 2018	5	335.000	N		
Envelope replacements		2016	TCOM / Elizabeth City, NC	SS / FFP	NAVAIR: Lakehurst NJ	Mar 2016	Aug 2016	1	410.000	N		
Envelope replacements		2017	Bravura Information Technology / Aberdeen, MD	C / FFP	ACC-APG: APG, MD	Mar 2017	Aug 2017	1	415.000	N		
ISR Turret (MX-25) <sup>(†)</sup>		2017	L-3 Wescam / Burlington, ON	SS / FFP	ACC-APG: APG, MD	Aug 2017	Feb 2018	8	1,707.000	Y		
ISR Turret (MX-25) <sup>(†)</sup>		2018	L-3 Wescam / Burlington, ON	SS / FFP	ACC-APG: APG, MD	Jun 2018	Dec 2018	3	2,219.333	Y		
ISR Turret (MX-25) <sup>(†)</sup>		2019	L-3 Wescam / Burlington, ON	SS / FFP	ACC-APG: APG,MD	Aug 2019	Feb 2020	1	1,956.000	Y		
ISR Turret (MX-25) <sup>(†)</sup>	✓	2020	L-3 Wescam / Burlington, ON	SS / FFP	ACC-APG: APG,MD	Aug 2020	Feb 2021	28	2,001.929	Y		

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

**UNCLASSIFIED**

<b>Exhibit P-21, Production Schedule:</b> PB 2020 Army		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 2035A / 02 / 83	P-1 Line Item Number / Title: 9926BL5287 / Family of Persistent Surveillance Cap. (MIP)	Item Number / Title [DODIC]: BL5287 / Family of Persistent Surveillance Cap. (MIP)

Cost Elements <i>(Units in Each)</i>					Fiscal Year 2016														Fiscal Year 2017														BALANCE			
O 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						
Aerostat Envelope																																				
Prior Years Deliveries: 8																																				
1	2016	ARMY		8	0	8																														0
3	2017	ARMY		12	0	12																														12
3	2018	ARMY		10	0	10																														10
2	2019	ARMY		16	0	16																														16
✓ 2	2020	ARMY		10	0	10																														10
Baseline Avionics Kits																																				
Prior Years Deliveries: 4																																				
4	2016	ARMY		8	0	8																														0
6	2017	ARMY		10	0	10																														10
6	2018	ARMY		13	0	13																														13
5	2019	ARMY		12	0	12																														12
✓ 5	2020	ARMY		19	0	19																														19
ISR Turret (MX-25)																																				
7	2017	ARMY		8	0	8																														8
7	2018	ARMY		3	0	3																														3
7	2019	ARMY		1	0	1																														1
✓ 7	2020	ARMY		28	0	28																														28
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P						

**UNCLASSIFIED**

Exhibit P-21, Production Schedule: PB 2020 Army																							Date: March 2019										
Appropriation / Budget Activity / Budget Sub Activity: 2035A / 02 / 83										P-1 Line Item Number / Title: 9926BL5287 / Family of Persistent Surveillance Cap. (MIP)										Item Number / Title [DODIC]: BL5287 / Family of Persistent Surveillance Cap. (MIP)													
Cost Elements (Units in Each)						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			
Aerostat Envelope																																	
Prior Years Deliveries: 8																																	
	1	2016	ARMY	8	8	0																							0				
	3	2017	ARMY	12	0	12	-	6	-	6																			0				
	3	2018	ARMY	10	0	10																							0				
	2	2019	ARMY	16	0	16																							16				
✓	2	2020	ARMY	10	0	10																							10				
Baseline Avionics Kits																																	
Prior Years Deliveries: 4																																	
	4	2016	ARMY	8	8	0																							0				
	6	2017	ARMY	10	0	10	-	4	-	-	-	-	-	-	-	6													0				
	6	2018	ARMY	13	0	13																							0				
	5	2019	ARMY	12	0	12																							12				
✓	5	2020	ARMY	19	0	19																							19				
ISR Turret (MX-25)																																	
	7	2017	ARMY	8	0	8	-	-	-	-	2	-	2	-	2	-	2												0				
	7	2018	ARMY	3	0	3																							0				
	7	2019	ARMY	1	0	1																							1				
✓	7	2020	ARMY	28	0	28																							28				
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P			

**UNCLASSIFIED**

<b>Exhibit P-21, Production Schedule:</b> PB 2020 Army														<b>Date:</b> March 2019																											
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 83														<b>P-1 Line Item Number / Title:</b> 9926BL5287 / Family of Persistent Surveillance Cap. (MIP)														<b>Item Number / Title [DODIC]:</b> BL5287 / Family of Persistent Surveillance Cap. (MIP)													

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					
Aerostat Envelopes																																			
Prior Years Deliveries: 8																																			
	1	2016	ARMY	8	8	0																							0						
	3	2017	ARMY	12	12	0																							0						
	3	2018	ARMY	10	10	0																							0						
	2	2019	ARMY	16	0	16	-	-	2	2	2	2	2	2	2	2												0							
✓	2	2020	ARMY	10	0	10									A -	-	-	-	-	-	-	2	2	2	2	2		0							
Baseline Avionics Kits																																			
Prior Years Deliveries: 4																																			
	4	2016	ARMY	8	8	0																						0							
	6	2017	ARMY	10	10	0																						0							
	6	2018	ARMY	13	13	0																						0							
	5	2019	ARMY	12	0	12	-	-	3	4	4	1																0							
✓	5	2020	ARMY	19	0	19									A -	-	-	-	-	-	-	3	4	4	4	4		0							
ISR Turret (MX-25)																																			
	7	2017	ARMY	8	8	0																						0							
	7	2018	ARMY	3	3	0																						0							
	7	2019	ARMY	1	0	1	-	-	-	-	1																	0							
✓	7	2020	ARMY	28	0	28																						0							
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					

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<b>Exhibit P-21, Production Schedule:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 83		<b>P-1 Line Item Number / Title:</b> 9926BL5287 / Family of Persistent Surveillance Cap. (MIP)
		<b>Item Number / Title [DODIC]:</b> BL5287 / Family of Persistent Surveillance Cap. (MIP)

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Month)			Procurement Leadtime (Months)								
		MSR For 2020	1-8-5 For 2020	MAX For 2020	Initial				Reorder				
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	
1	Lockheed Martin - Akron, OH	1	25	50	0	0	0	0	0	0	0	0	0
2	TBD - TBD	1	20	50	0	5	4	9	0	0	0	0	0
3	Bravura Information Technology - Aberdeen, MD	1	40	100	0	2	3	5	0	0	0	0	0
4	Lockheed Martin - Akron, OH	1	25	50	0	0	0	0	0	0	0	0	0
5	TBD - TBD	1	20	50	0	5	4	9	0	0	0	0	0
6	Bravura Information Technology - Aberdeen, MD	1	40	100	0	2	3	5	0	0	0	0	0
7	L-3 Wescam - Burlington, ON	1	20	50	0	2	4	6	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 2020 Army **Date:** March 2019

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 83: Elect Equip - Electronic Warfare (EW)	<b>P-1 Line Item Number / Title:</b> 9996BL5283 / Counterintelligence/Security Countermeasures (MIP)
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	1,877.647	19.343	12.974	0.501	6.917	7.418	6.917	0.517	-	-	-	1,924.816
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	1,877.647	19.343	12.974	0.501	6.917	7.418	6.917	0.517	-	-	-	1,924.816
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>1,877.647</b>	<b>19.343</b>	<b>12.974</b>	<b>0.501</b>	<b>6.917</b>	<b>7.418</b>	<b>6.917</b>	<b>0.517</b>	-	-	-	<b>1,924.816</b>

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

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

**Description:**

Program is IDENTIFIED IN VOL II OF THE MILITARY INTELLIGENCE PROGRAM CONGRESSIONAL JUSTIFICATION BOOK.

This requirement provides for Counterintelligence/Human Intelligence (CI/HUMINT) Communication Enablers.

Program is used to support operations by deployed Multi-functional teams (MfTs). The Vigilant Pursuit (VP) capability provides multi-intelligence collection, exploitation, and analytic capabilities, delivering timely, relevant, actionable intelligence to facilitate decision making at the tactical edge. VP supports mission overwatch in the target area of interest by immediate triage of data on the objective, time-sensitive detection, and the cross tipping/cueing of HUMINT and Signals Intelligence (SIGINT). A VP system currently consists of 2 vehicles with integrated Multiple Intelligence (Multi-INT) Collection, Processing, Exploitation, and Dissemination capability packages.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	19.343	12.974	0.501	6.917	7.418	6.917	0.517	-	-
<b>Total:</b>									
<b>Secondary Distribution</b>									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	<b>19.343</b>	<b>12.974</b>	<b>0.501</b>	<b>6.917</b>	<b>7.418</b>	<b>6.917</b>	<b>0.517</b>	-	-

**Justification:**

FY2020 BASE procurement funding in the amount of \$0.501 million provides resources for the procurement of Identity Intelligence (I2) mission critical equipment.

FY2020 OCO procurement funding in the amount of \$0.764 million provides resources for the procurement of mission critical hardware and systems, including deployable counterintelligence and HUMINT communications and threat equipment including non-MTOE automation equipment that is required by deployed CI and HUMINT soldiers.



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<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 83: Elect Equip - Electronic Warfare (EW)		<b>P-1 Line Item Number / Title:</b> 9996BL5283 / Counterintelligence/Security Countermeasures (MIP)
<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
<b>Line Item MDAP/MAIS Code:</b> N/A		
<p>FY2020 OCO procurement funding in the amount of \$6.153 million is required to refit 6 sets (12 total vehicles) of equipment for employment against ever changing communications and emitter capabilities. This funding purchases commercial components of hardware packages necessary to upgrade and refactor the Multi-Int capabilities to collect against continually changing threats. This procurement also allows for the refactoring of the capability package to be installed on different vehicle types and allows units to tailor the hardware to support mission or concept of support specific requirements.</p>		

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 83: Elect Equip - Electronic Warfare (EW)	<b>P-1 Line Item Number / Title:</b> 9997BL5285 / CI Modernization (MIP)
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	9.264	0.285	0.486	0.121	-	0.121	0.560	0.565	0.427	0.439	-	12.147
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	9.264	0.285	0.486	0.121	-	0.121	0.560	0.565	0.427	0.439	-	12.147
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>9.264</b>	<b>0.285</b>	<b>0.486</b>	<b>0.121</b>	<b>-</b>	<b>0.121</b>	<b>0.560</b>	<b>0.565</b>	<b>0.427</b>	<b>0.439</b>	<b>-</b>	<b>12.147</b>

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

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

**Description:**

The Counterintelligence (CI) Modernization effort provides resources for the sustainment of the CI information technology infrastructure used by the CI components of the Army. This architecture and infrastructure includes shared databases, workstations, global communications, and adequate connectivity for CI agents and specialists.

HQDA G-2 and the Intelligence and Security Command (INSCOM) Security Operations Center (ISOC) are charged with integrating, informing, and leveraging security and counterintelligence authorities in support of the Department of the Army Insider Threat Program mission to continuously deter, detect, and mitigate insider threats to Army information, networks, facilities, and personnel. Equipment/Hardware systems support Intel and security lines of effort that provide data and information to the Army Insider Threat Program.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	0.285	0.486	0.121	-	0.121	0.560	0.565	0.427	0.439
<b>Total:</b>									
<b>Secondary Distribution</b>									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	<b>0.285</b>	<b>0.486</b>	<b>0.121</b>	<b>-</b>	<b>0.121</b>	<b>0.560</b>	<b>0.565</b>	<b>0.427</b>	<b>0.439</b>

**Justification:**

FY 2020 Base Funding is in the amount of \$0.121 million procures lifecycle Automated Data Processing (ADP) Capital Equipment Replacement Program (CERP) support and communications equipment for worldwide Army Counterintelligence (CI) operations conducted by over 1,200 personnel.

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

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 86: Elect Equip - Tactical Surv. (Tac Surv)	<b>P-1 Line Item Number / Title:</b> 0125WK5057 / Sentinel Mods
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> 0214400A, 0604820A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	461.991	100.491	77.752	115.210	20.000	135.210	92.429	68.838	78.788	164.800	Continuing	Continuing
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	461.991	100.491	77.752	115.210	20.000	135.210	92.429	68.838	78.788	164.800	Continuing	Continuing
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>461.991</b>	<b>100.491</b>	<b>77.752</b>	<b>115.210</b>	<b>20.000</b>	<b>135.210</b>	<b>92.429</b>	<b>68.838</b>	<b>78.788</b>	<b>164.800</b>	<b>Continuing</b>	<b>Continuing</b>

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

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	2,321.563	2,337.000	1,586.776	1,888.689	-	2,216.557	763.876	447.000	1,575.760	2,891.228	Continuing	Continuing

**Description:**

This system is a component of the overall Air and Missile Defense (AMD) architecture and will provide for an incrementally fielded Integrated Air and Missile Defense Fire Control System/capability for the composite Army Air and Missile Defense Brigades. The Sentinel system is a key component of the Army Integrated Air and Missile Defense (AIAMD) architecture, providing critical air surveillance of the forward areas.

Sentinel (AN/MPQ-64A3) consists of a radar-based sensor with its prime mover/power, Identification Friend or Foe (IFF), and Forward Area Air Defense (FAAD) Command, Control and Intelligence (C2I) interfaces. The radar is deployed in both an air defense role and a sense and warn role for Counter-Rocket, Artillery, and Mortar (C-RAM) missions. The sensor is an advanced three-dimensional battlefield X-Band air defense phased-array radar with an instrumented range of 75 km. Sentinel is capable of operating day or night, in adverse weather conditions, in the battlefield environments of dust, smoke, aerosols, and enemy countermeasures. It provides 360-degree azimuth coverage for acquisition tracking. Sentinel contributes to the digital battlefield by automatically detecting, classifying, identifying and reporting targets (cruise missiles, unmanned aircraft systems, rotary wing and fixed wing aircraft). Sentinel acquires targets sufficiently forward of the battle area to allow weapons reaction time and allow engagement at optimum ranges. Sentinel's integrated IFF reduces the potential for fratricide of US and Coalition aircraft.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	-	-	-	-	-	-	-	-
	Total Obligation Authority	99.149	60.391	93.743	20.000	113.743	65.404	34.858	62.264
ANG	Quantity	-	-	-	-	-	-	-	-
	Total Obligation Authority	1.342	17.361	21.467	-	21.467	27.025	33.980	16.524
<b>Total:</b> <b>Secondary Distribution</b>	<b>Quantity</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
	<b>Total Obligation Authority</b>	<b>100.491</b>	<b>77.752</b>	<b>115.210</b>	<b>20.000</b>	<b>135.210</b>	<b>92.429</b>	<b>68.838</b>	<b>78.788</b>

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 86: Elect Equip - Tactical Surv. (Tac Surv)	<b>P-1 Line Item Number / Title:</b> 0125WK5057 / Sentinel Mods
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> 0214400A, 0604820A
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**Line Item MDAP/MAIS Code:** N/A

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-3a	WK5057 / Sentinel Mods (Operational)				- / 461.991	- / 100.491	- / 77.752	- / 115.210	- / 20.000	- / 135.210
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 461.991</b>	<b>- / 100.491</b>	<b>- / 77.752</b>	<b>- / 115.210</b>	<b>- / 20.000</b>	<b>- / 135.210</b>

Exhibits Schedule					FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-3a	WK5057 / Sentinel Mods (Operational)				- / 92.429	- / 68.838	- / 78.788	- / 164.800	Continuing	Continuing
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 92.429</b>	<b>- / 68.838</b>	<b>- / 78.788</b>	<b>- / 164.800</b>	<b>Continuing</b>	<b>Continuing</b>

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

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

**Justification:**  
 FY 2020 Base procurement dollars in the amount of \$115.210 million procure 50 Analog to Digital Converters (ADC) for the Electronic Attack/Electronic Protect (EA/EP) countermeasures capability, 50 Signal Data Processor (SDP) kits and 11 new production AN/MPQ-64A3 radar systems. FY 2020 OCO procurement dollars in the amount of \$20.0 million procure 3 new production AN/MPQ-64A3 radar systems.

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

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<b>Exhibit P-3a, Individual Modification: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86	<b>P-1 Line Item Number / Title:</b> 0125WK5057 / Sentinel Mods	<b>Modification Number / Title:</b> WK5057 / Sentinel Mods

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :						<b>MDAP/MAIS Code:</b>						
<b>Resource Summary</b>	<b>Prior Years</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>To Complete</b>	<b>Total</b>
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	461.991	100.491	77.752	115.210	20.000	135.210	92.429	68.838	78.788	164.800	Continuing	Continuing
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	461.991	100.491	77.752	115.210	20.000	135.210	92.429	68.838	78.788	164.800	Continuing	Continuing
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>461.991</b>	<b>100.491</b>	<b>77.752</b>	<b>115.210</b>	<b>20.000</b>	<b>135.210</b>	<b>92.429</b>	<b>68.838</b>	<b>78.788</b>	<b>164.800</b>	<b>Continuing</b>	<b>Continuing</b>
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	2,321.563	2,337.000	1,586.776	1,888.689	-	2,216.557	763.876	447.000	1,575.760	2,891.228	Continuing	Continuing

**Description:**

FY20 funds address the following:

The Electronic Attack/Electronic Protect (EA/EP) addresses the electronic countermeasures (ECM) gap. This effort procures Analog to Digital Converters (ADC) in order to address more extensive EA/EP signatures from evolving threats.

The Signal Data Processor (SDP) Upgrade is a redesign of the SDP backplane to provide higher data throughput to remove current limitations and an upgraded set of SDP cards to remove obsolescence. Provides for new SDP kit to address obsolescence issues and allow for additional Electronic Protect capability.

The Enhanced Sentinel [AN/MPQ-64A3] consists of a radar-based sensor with its prime mover/power, Identification Friend or Foe [IFF], and Forward Area Air Defense [FAAD] Command, Control and Intelligence [C2I] interfaces. The radar is deployed in both an air defense role and a sense and warn role for Counter-Rocket, Artillery, and Mortar [C-RAM] missions. The sensor is advanced three-dimensional battlefield X-Band air defense phased-array radar with an instrumented range of 75 km. The Enhanced Sentinel is capable of operating day or night, in adverse weather conditions, in the battlefield environments of dust, smoke, aerosols and enemy countermeasures. It provides 360-degree azimuth coverage for acquisition tracking. The Enhanced Sentinel contributes to the digital battlefield by automatically detecting, classifying, identifying and reporting targets [cruise missiles, unmanned aircraft systems, rotary wing and fixed wing aircraft]. Enhanced Sentinel acquires targets sufficiently forward of the battle area to allow weapons reaction time and engagement at optimum ranges. The Sentinel's integrated IFF reduces the potential for fratricide of US and Coalition aircraft. Additional Sentinel A3 radar systems will be procured to support both the Interim Maneuver Short-range Air Defense (IM-SHORAD) battalions and the European Deterrence Initiative (EDI).

Additional Procurement efforts:

Improved Sentinel Modifications include waveform upgrades for the Receiver/Exciter and Target Classification upgrades/replacement of the current Sentinel transmitter with Power Amplifier Modules [PAM]. The Exciter upgrades will provide low level Radio Frequency [RF] signals sufficient to support the acquisition and tracking of cruise missile targets and the generation of target classification waveforms. Receiver upgrades accomplish receipt and signal conditioning of low level RF signals prior to Analog/Digital [A/D] conversion sufficient to support the acquisition and tracking of cruise missile targets and target classification. Variable rotation rate provides capability to slow the antenna rotation, increasing time on target to acquire and track small cruise missile targets and to provide flexible antenna positioning capability for target classification waveforms. Target classification efforts include software implementation of target classification capability to support beyond visual range engagements.

The TPX-57 Mode 5 Identification Friend or Foe (IFF) modification kit replaces the current TPX-56 IFF. It also consists of a new router, enhanced Radar Control Terminal (eRCT), Signal Data Processor (SDP) box, and multiple circuit card assemblies. These modifications convert existing A1 radars to the A3 configuration. Mode 5 provides improvements over Mode 4 in crypto sensitivity, range performance, probability of identification, expanded reply data including position reports, elimination of garbled returns from closely spaced aircraft, friend from foe identification capability, lethal interrogation capability, reduced

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<b>Exhibit P-3a, Individual Modification: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86	<b>P-1 Line Item Number / Title:</b> 0125WK5057 / Sentinel Mods	<b>Modification Number / Title:</b> WK5057 / Sentinel Mods

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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interference with Civil Air Traffic Control systems, and selective interrogation capability. Incorporation of Mode 5 into the Sentinel system is critical to retaining the cooperative target identification capability and Sentinel effectiveness on the current/future battlefield, allowing Sentinel to remain operationally effective in Air Defense operations and Homeland Defense missions. The addition of the eRCT, SDP cards and corresponding SDP box funds the mitigation of obsolescence issues; reliability, availability, and maintainability issues; and operational and hardware issues identified with fielded Sentinel radars. The eRCT enables remote operations and includes a tactical data recorder needed for Sentinel to support Counter-Rocket, Artillery, and Mortar (C-RAM) requirements. The addition of an Ethernet Router is required to meet Information Assurance requirements for the eRCT and to add Command and Control connectivity to the Sentinel system.

The Common Platform Upgrade will modify the current Sentinel prime mover to a common Army platform to meet Brigade Combat Team (BCT) force protection, as well as meet Integrated Air and Missile Defense Battle Command System (IBCS) system requirements. Transition to a common Army platform is in compliance with Acquisition Decision Memorandum dated August 2011. The current Sentinel platform does not meet the force protection requirements as defined by the BCT maneuver mission and IBCS operational requirements.

The North Finding Module (NFM) Upgrade will enhance the system's emplacement accuracy, resulting in improved fire control support and replacement of the obsolete NFM.

The Mode S effort will upgrade existing Sentinel Identification Friend or Foe (IFF) to address objective requirement to interrogate IFF Mode S. In the US, commercial aircraft must transition to Mode S capable units by 2020. Without the Mode S upgrade, Sentinel will have to rely on aircraft transponders responding to the legacy mode 3/A interrogations. The data available in the Mode S response will be valuable in identifying the aircraft and correlating Sentinel tracks with civil aviation tracks/data and other track data sources. Incorporates the Resiliency and Software Assurance Modification (RSAM) to address the delayed M-Code Global Positioning System (GPS) capability requirement with the new interrogator.

The Adjunct Sensor effort will upgrade existing Sentinel capabilities to provide additional technology for the detection and identification of current and emerging threats. The Adjunct sensor improves system performance and reduces adversary countermeasure abilities by improving system electronic protect capabilities.

The Active Electronically Scanned Array (AESA) (Sentinel A4) is the next generation of radar technology to replace the current phase and frequency scanned array used by Sentinel today. The AESA Antenna will provide increased capability including extended range for ground-based surveillance and situational awareness, faster and more accurate Non-Cooperative Target Recognition (NCTR) for clearing fires and preventing fratricide, improved Fire Control (FC) quality track accuracy, and management of larger track loads. The AESA will also provide improved operation in severe/urban clutter. The system will detect and track small targets, such as Unmanned Aircraft Systems (UAS) and Cruise Missiles, in clutter and will detect and track slow targets, such as UAS and Rotary Wing (RW) aircraft, at low altitudes in clutter. The system will detect, track, and classify Rocket, Artillery, and Mortar (RAM) threats, support the Army Integrated Air and Missile Defense (AIAMD) architecture, and contribute sensor support for current and future Indirect Fire Protection Capability Increment 2 mission requirements. Eight (8) Low-Rate Initial Production (LRIP) assets are to be produced in FY24.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	99.149	60.391	93.743	20.000	113.743	65.404	34.858	62.264	150.830
ANG	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	1.342	17.361	21.467	-	21.467	27.025	33.980	16.524	13.970
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	-	-	-	-	-	-	-	-	-
	<b>Total Obligation Authority</b>	<b>100.491</b>	<b>77.752</b>	<b>115.210</b>	<b>20.000</b>	<b>135.210</b>	<b>92.429</b>	<b>68.838</b>	<b>78.788</b>	<b>164.800</b>

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<b>Exhibit P-3a, Individual Modification: PB 2020 Army</b>										<b>Date:</b> March 2019			
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86					<b>P-1 Line Item Number / Title:</b> 0125WK5057 / Sentinel Mods					<b>Modification Number / Title:</b> WK5057 / Sentinel Mods			
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :							<b>MDAP/MAIS Code:</b>						
<b>Models of Systems Affected:</b> Sentinel [AN/MPQ-64]				<b>Modification Type:</b> Operational				<b>Related RDT&amp;E PEs:</b>					
Financial Plan	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
<b>Procurement</b>													
<b>Modification Item 1 of 10: Improved Sentinel</b>													
A Kits													
Recurring													
Equipment	143 / 228.092	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	143 / 228.092	
Engineering Services	- / 1.822	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 1.822	
Govt Program Management/Admin Support	- / 1.746	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 1.746	
Other Flyaway Support	- / 5.484	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 5.484	
<b>Subtotal: Recurring</b>	<b>143 / 237.144</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>143 / 237.144</b>	
<b>Subtotal: Improved Sentinel</b>	<b>143 / 237.144</b>	<b>- / -</b>	<b>- / -</b>	<b>- / 0.000</b>	<b>- / -</b>	<b>- / 0.000</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>143 / 237.144</b>	
<b>Modification Item 2 of 10: TPX-57 (Mode 5 IFF)</b>													
A Kits													
Recurring													
Equipment	143 / 81.013	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	143 / 81.013	
Engineering Services	- / 1.871	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 1.871	
Govt Program Management/Admin Support	- / 4.449	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 4.449	
Other Flyaway Support	- / 10.768	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 10.768	
Initial Spares	- / 6.760	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 6.760	
<b>Subtotal: Recurring</b>	<b>143 / 104.861</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>143 / 104.861</b>	
<b>Subtotal: TPX-57 (Mode 5 IFF)</b>	<b>143 / 104.861</b>	<b>- / -</b>	<b>- / -</b>	<b>- / 0.000</b>	<b>- / -</b>	<b>- / 0.000</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>143 / 104.861</b>	
<b>Modification Item 3 of 10: Common Platform Upgrade</b>													
A Kits													
Recurring													
Equipment	147 / 58.238	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	147 / 58.238	
Engineering Services	- / 1.103	- / 0.120	- / 0.019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 1.242	
Govt Program Management/Admin Support	- / 3.585	- / 0.043	- / 0.027	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 3.655	
Other Flyaway Support	- / 9.155	- / 0.540	- / 0.289	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 9.984	
Initial Spares	- / 2.744	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 2.744	
<b>Subtotal: Recurring</b>	<b>147 / 74.825</b>	<b>- / 0.703</b>	<b>- / 0.335</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>147 / 75.863</b>	
<b>Subtotal: Common Platform Upgrade</b>	<b>147 / 74.825</b>	<b>- / 0.703</b>	<b>- / 0.335</b>	<b>- / 0.000</b>	<b>- / -</b>	<b>- / 0.000</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>147 / 75.863</b>	
<b>Modification Item 4 of 10: North Finding Module</b>													
A Kits													

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<b>Exhibit P-3a, Individual Modification: PB 2020 Army</b>										<b>Date: March 2019</b>			
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86					<b>P-1 Line Item Number / Title:</b> 0125WK5057 / Sentinel Mods					<b>Modification Number / Title:</b> WK5057 / Sentinel Mods			
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :							<b>MDAP/MAIS Code:</b>						
<b>Models of Systems Affected:</b> Sentinel [AN/MPQ-64]				<b>Modification Type:</b> Operational				<b>Related RDT&amp;E PEs:</b>					
Financial Plan	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
<b>Recurring</b>													
Equipment	199 / 31.180	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	199 / 31.180
Engineering Services	- / 0.756	- / 0.120	- / 0.029	- / 0.174	- / -	- / 0.174	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 1.079
Govt Program Management / Admin Support	- / 1.828	- / 0.074	- / 0.120	- / 0.046	- / -	- / 0.046	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 2.068
Other Flyaway Support	- / 4.645	- / 0.540	- / 0.549	- / 0.559	- / -	- / 0.559	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 6.293
Initial Spares	- / 0.731	- / 0.744	- / 0.745	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 2.220
<b>Subtotal: Recurring</b>	<b>199 / 39.140</b>	<b>- / 1.478</b>	<b>- / 1.443</b>	<b>- / 0.779</b>	<b>- / -</b>	<b>- / 0.779</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>199 / 42.840</b>
<b>Subtotal: North Finding Module</b>	<b>199 / 39.140</b>	<b>- / 1.478</b>	<b>- / 1.443</b>	<b>- / 0.779</b>	<b>- / -</b>	<b>- / 0.779</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>199 / 42.840</b>
<b>Modification Item 5 of 10: Electronic Attack/Electronic Protect (ADC)</b>													
<b>A Kits</b>													
<b>Recurring</b>													
Equipment	- / -	31 / 0.731	42 / 1.007	50 / 1.221	- / -	50 / 1.221	42 / 1.043	34 / 0.860	- / -	- / -	- / 0.000	199 / 4.862	
Engineering Services	- / -	- / 0.279	- / 0.077	- / 0.521	- / -	- / 0.521	- / 0.306	- / 0.591	- / 0.113	- / -	- / 0.000	- / 1.887	
Govt Program Management	- / -	- / 0.103	- / 0.088	- / 0.117	- / -	- / 0.117	- / 0.098	- / 0.099	- / 0.045	- / -	- / 0.000	- / 0.550	
Other Flyaway Costs	- / -	- / 1.297	- / 0.624	- / 0.832	- / -	- / 0.832	- / 0.629	- / 0.629	- / 0.450	- / -	- / 0.000	- / 4.461	
Initial Spares	- / -	- / 0.034	- / 0.047	- / 0.057	- / -	- / 0.057	- / 0.048	- / 0.040	- / -	- / -	- / 0.000	- / 0.226	
<b>Subtotal: Recurring</b>	<b>- / -</b>	<b>31 / 2.444</b>	<b>42 / 1.843</b>	<b>50 / 2.748</b>	<b>- / -</b>	<b>50 / 2.748</b>	<b>42 / 2.124</b>	<b>34 / 2.219</b>	<b>- / 0.608</b>	<b>- / -</b>	<b>- / -</b>	<b>199 / 11.986</b>	
<b>Subtotal: Electronic Attack/Electronic Protect (ADC)</b>	<b>- / -</b>	<b>31 / 2.444</b>	<b>42 / 1.843</b>	<b>50 / 2.748</b>	<b>- / -</b>	<b>50 / 2.748</b>	<b>42 / 2.124</b>	<b>34 / 2.219</b>	<b>- / 0.608</b>	<b>- / -</b>	<b>- / -</b>	<b>199 / 11.986</b>	
<b>Modification Item 6 of 10: Signal Data Processor</b>													
<b>A Kits</b>													
<b>Recurring</b>													
Equipment	- / -	31 / 18.860	42 / 25.412	50 / 30.467	- / -	50 / 30.467	42 / 26.334	34 / 22.345	- / -	- / -	- / 0.000	199 / 123.418	
Engineering Services	- / -	- / 0.279	- / 0.067	- / 0.463	- / -	- / 0.463	- / 0.315	- / 0.609	- / 0.113	- / -	- / 0.000	- / 1.846	
Govt Program Management	- / -	- / 1.099	- / 1.125	- / 1.828	- / -	- / 1.828	- / 1.596	- / 1.471	- / 0.253	- / -	- / 0.000	- / 7.372	
Other Flyaway Support	- / -	- / 2.252	- / 1.924	- / 2.287	- / -	- / 2.287	- / 1.977	- / 1.762	- / 0.450	- / -	- / 0.000	- / 10.652	
Initial Spares	- / -	- / 0.874	- / 1.177	- / 1.411	- / -	- / 1.411	- / 1.220	- / 1.021	- / -	- / -	- / 0.000	- / 5.703	
<b>Subtotal: Recurring</b>	<b>- / -</b>	<b>31 / 23.364</b>	<b>42 / 29.705</b>	<b>50 / 36.456</b>	<b>- / -</b>	<b>50 / 36.456</b>	<b>42 / 31.442</b>	<b>34 / 27.208</b>	<b>- / 0.816</b>	<b>- / -</b>	<b>- / -</b>	<b>199 / 148.991</b>	
<b>Subtotal: Signal Data Processor</b>	<b>- / -</b>	<b>31 / 23.364</b>	<b>42 / 29.705</b>	<b>50 / 36.456</b>	<b>- / -</b>	<b>50 / 36.456</b>	<b>42 / 31.442</b>	<b>34 / 27.208</b>	<b>- / 0.816</b>	<b>- / -</b>	<b>- / -</b>	<b>199 / 148.991</b>	
<b>Modification Item 7 of 10: Mode S</b>													
<b>A Kits</b>													
<b>Recurring</b>													
Equipment	- / -	- / -	- / -	- / -	- / -	- / -	79 / 19.513	120 / 28.574	- / -	- / -	- / 0.000	199 / 48.087	



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<b>Exhibit P-3a, Individual Modification: PB 2020 Army</b>										<b>Date: March 2019</b>				
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86					<b>P-1 Line Item Number / Title:</b> 0125WK5057 / Sentinel Mods					<b>Modification Number / Title:</b> WK5057 / Sentinel Mods				
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :							<b>MDAP/MAIS Code:</b>							
<b>Models of Systems Affected:</b> Sentinel [AN/MPQ-64]				<b>Modification Type:</b> Operational				<b>Related RDT&amp;E PEs:</b>						
Financial Plan	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total		
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)		
Engineering Services	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.306	- / 0.591	- / 0.113	- / 0.113	- / 0.000	- / 1.123		
Govt Program Management	- / -	- / -	- / -	- / -	- / -	- / -	- / 1.101	- / 1.322	- / 0.046	- / 0.050	- / 0.000	- / 2.519		
Other Flyaway Support	- / -	- / -	- / -	- / -	- / -	- / -	- / 1.061	- / 2.088	- / 0.450	- / 0.217	- / 0.000	- / 3.816		
Initial Spares	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.904	- / 1.323	- / -	- / -	- / 0.000	- / 2.227		
<b>Subtotal: Recurring</b>	- / -	- / -	- / -	- / -	- / -	- / -	79 / 22.885	120 / 33.898	- / 0.609	- / 0.380	- / -	199 / 57.772		
<b>Subtotal: Mode S</b>	- / -	- / -	- / -	- / 0.000	- / -	- / 0.000	79 / 22.885	120 / 33.898	- / 0.609	- / 0.380	- / -	199 / 57.772		
<b>Modification Item 8 of 10: Adjunct Sensor</b>														
A Kits														
Recurring														
Equipment	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	45 / 32.614	45 / 33.202	Continuing	Continuing		
Engineering Services	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.113	- / 0.500	Continuing	Continuing		
Govt Program Management	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 1.815	- / 1.934	Continuing	Continuing		
Other Flyaway Support	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 2.171	- / 3.581	Continuing	Continuing		
Initial Spares	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 1.511	- / 1.538	Continuing	Continuing		
<b>Subtotal: Recurring</b>	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	45 / 38.224	45 / 40.755	Continuing	Continuing		
<b>Subtotal: Adjunct Sensor</b>	- / -	- / -	- / -	- / 0.000	- / -	- / 0.000	- / -	- / -	45 / 38.224	45 / 40.755	Continuing	Continuing		
<b>Modification Item 9 of 10: Active Electronically Scanned Array (AESA) A4</b>														
A Kits														
Recurring														
Equipment	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	8 / 55.372	Continuing	Continuing		
Government Program Management	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 12.931	Continuing	Continuing		
Other Flyaway Support	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 18.632	Continuing	Continuing		
Initial Spares	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 5.020	Continuing	Continuing		
<b>Subtotal: Recurring</b>	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	8 / 91.955	Continuing	Continuing		
<b>Subtotal: Active Electronically Scanned Array (AESA) A4</b>	- / -	- / -	- / -	- / 0.000	- / -	- / 0.000	- / -	- / -	- / -	8 / 91.955	Continuing	Continuing		
<b>Modification Item 10 of 10: Enhanced Sentinel AN/MPQ-64A3 Production</b>														
A Kits														
Recurring														
Equipment	- / -	12 / 55.162	7 / 34.133	11 / 55.373	3 / 15.323	14 / 70.696	6 / 25.642	- / -	5 / 25.283	4 / 23.904	- / 0.000	48 / 234.820		
Engineering Services	- / -	- / 0.510	- / 0.315	- / 0.511	- / 0.141	- / 0.652	- / 0.232	- / -	- / 0.233	- / 0.221	- / 0.000	- / 2.163		

**UNCLASSIFIED**

<b>Exhibit P-3a, Individual Modification: PB 2020 Army</b>										<b>Date:</b> March 2019		
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86					<b>P-1 Line Item Number / Title:</b> 0125WK5057 / Sentinel Mods					<b>Modification Number / Title:</b> WK5057 / Sentinel Mods		
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :							<b>MDAP/MAIS Code:</b>					
<b>Models of Systems Affected:</b> Sentinel [AN/MPQ-64]				<b>Modification Type:</b> Operational				<b>Related RDT&amp;E PEs:</b>				
<b>Financial Plan</b>	<b>Prior Years</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>To Complete</b>	<b>Total</b>
	<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>
Govt Program Management	- / -	- / 13.462	- / 11.842	- / 13.475	- / 10.962	- / 14.437	- / 11.575	- / -	- / 1.587	- / 1.500	- / 0.000	- / 14.403
Initial Spares	- / -	- / 13.600	- / 12.228	- / 13.615	- / 11.000	- / 14.615	- / 11.638	- / -	- / 1.650	- / 1.560	- / 0.000	- / 15.291
Other Flyaway Support	- / -	- / 19.266	- / 15.234	- / 19.302	- / 12.574	- / 11.876	- / 14.217	- / -	- / 14.247	- / 14.015	- / 0.000	- / 38.855
<i>Subtotal: Recurring</i>	- / -	12 / 72.000	7 / 43.752	11 / 72.276	3 / 20.000	14 / 92.276	6 / 33.304	- / -	5 / 33.000	4 / 31.200	- / -	48 / 305.532
<i>Subtotal: Enhanced Sentinel AN/MPQ-64A3 Production</i>	- / -	12 / 72.000	7 / 43.752	11 / 72.276	3 / 20.000	14 / 92.276	6 / 33.304	- / -	5 / 33.000	4 / 31.200	- / -	48 / 305.532
<i>Subtotal: Procurement, All Modification Items</i>	632 / 455.970	74 / 99.989	91 / 77.078	111 / 112.259	3 / 20.000	114 / 132.259	169 / 89.755	188 / 63.325	50 / 73.257	57 / 164.290	Continuing	Continuing
<b>Installation</b>												
<i>Modification Item 1 of 10: Improved Sentinel</i>	143 / 4.481	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	143 / 4.481
<i>Modification Item 2 of 10: TPX-57 (Mode 5 IFF)</i>	143 / 1.001	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	143 / 1.001
<i>Modification Item 3 of 10: Common Platform Upgrade</i>	70 / 0.539	48 / 0.309	29 / 0.174	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	147 / 1.022
<i>Modification Item 4 of 10: North Finding Module</i>	- / -	30 / 0.193	120 / 0.500	49 / 0.326	- / -	49 / 0.326	- / -	- / -	- / -	- / -	- / -	199 / 1.019
<i>Modification Item 5 of 10: Electronic Attack/Electronic Protect (ADC)</i>	- / -	- / -	- / -	31 / 0.233	- / -	31 / 0.233	31 / 0.238	61 / 0.448	76 / 0.449	- / -	- / -	199 / 1.368
<i>Modification Item 6 of 10: Signal Data Processor</i>	- / -	- / -	- / -	31 / 2.392	- / -	31 / 2.392	31 / 2.436	61 / 4.605	76 / 4.614	- / -	- / -	199 / 14.047
<i>Modification Item 7 of 10: Mode S</i>	- / -	- / -	- / -	- / -	- / -	- / -	- / -	66 / 0.460	103 / 0.468	30 / 0.150	- / -	199 / 1.078
<i>Modification Item 8 of 10: Adjunct Sensor</i>	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	45 / 0.360	154 / 1.308	199 / 1.668
<i>Modification Item 9 of 10: Active Electronically Scanned Array (AESA) A4</i>	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	199 / 0.000	199 / 0.000
<i>Subtotal: Installation</i>	356 / 6.021	78 / 0.502	149 / 0.674	111 / 2.951	- / -	111 / 2.951	62 / 2.674	188 / 5.513	255 / 5.531	75 / 0.510	353 / 1.308	1,627 / 25.684
<b>Total</b>												
<b>Total Cost (Procurement + Support + Installation)</b>	<b>461.991</b>	<b>100.491</b>	<b>77.752</b>	<b>115.210</b>	<b>20.000</b>	<b>135.210</b>	<b>92.429</b>	<b>68.838</b>	<b>78.788</b>	<b>164.800</b>	<b>Continuing</b>	<b>Continuing</b>

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86	<b>P-1 Line Item Number / Title:</b> 0125WK5057 / Sentinel Mods	<b>Modification Number / Title:</b> WK5057 / Sentinel Mods
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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**Modification Item 1 of 10:** Improved Sentinel

**Manufacturer Information**

Manufacturer Name: Thales Raytheon Systems	Manufacturer Location: Fullerton, CA
Administrative Leadtime (in Months): 7	Production Leadtime (in Months): 21

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

**Installation Information**

**Method of Implementation:** Contractor Facility

Installation Cost	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	143 / 4.481	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	143 / 4.481
FY 2018	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
FY 2019	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
FY 2020	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
FY 2021	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
FY 2022	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
FY 2023	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
FY 2024	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
To Complete	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
<b>Total</b>	143 / 4.481	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	143 / 4.481

**Installation Schedule**

PYS	FY 2018	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				TC	Tot				
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4						
In	143	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	143
Out	143	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	143

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86	<b>P-1 Line Item Number / Title:</b> 0125WK5057 / Sentinel Mods	<b>Modification Number / Title:</b> WK5057 / Sentinel Mods
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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**Modification Item 2 of 10:** TPX-57 (Mode 5 IFF)

**Manufacturer Information**

Manufacturer Name: Thales Raytheon Systems	Manufacturer Location: Fullerton, CA
Administrative Leadtime (in Months): 3	Production Leadtime (in Months): 12

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

**Installation Information**

**Method of Implementation:** Contractor Facility

Installation Cost	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	143 / 1.001	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	143 / 1.001
FY 2018	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
FY 2019	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
FY 2020	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
FY 2021	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
FY 2022	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
FY 2023	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
FY 2024	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
To Complete	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
<b>Total</b>	143 / 1.001	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	143 / 1.001

**Installation Schedule**

	PYS	FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				TC	Tot
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	143	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	143
Out	143	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	143

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86	<b>P-1 Line Item Number / Title:</b> 0125WK5057 / Sentinel Mods	<b>Modification Number / Title:</b> WK5057 / Sentinel Mods
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**ID Code** (A=Service Ready, B=Not Service Ready) : **MDAP/MAIS Code:**

**Modification Item 3 of 10:** Common Platform Upgrade

**Manufacturer Information**

Manufacturer Name: Letterkenny Army Depot	Manufacturer Location: Chambersburg, PA
Administrative Leadtime (in Months): 3	Production Leadtime (in Months): 15

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

**Installation Information**

**Method of Implementation:** Depot

Installation Cost	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	70 / 0.539	48 / 0.309	29 / 0.174	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	147 / 1.022
FY 2018	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
FY 2019	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
FY 2020	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
FY 2021	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
FY 2022	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
FY 2023	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
FY 2024	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
To Complete	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
<b>Total</b>	<b>70 / 0.539</b>	<b>48 / 0.309</b>	<b>29 / 0.174</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>147 / 1.022</b>

**Installation Schedule**

PYS	FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				TC	Tot	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
In	147	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Out	70	12	12	12	12	7	7	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86	<b>P-1 Line Item Number / Title:</b> 0125WK5057 / Sentinel Mods	<b>Modification Number / Title:</b> WK5057 / Sentinel Mods
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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**Modification Item 4 of 10:** North Finding Module

**Manufacturer Information**

Manufacturer Name: Honeywell	Manufacturer Location: Clearwater, Fl
Administrative Leadtime (in Months): 8	Production Leadtime (in Months): 12

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

**Installation Information**

**Method of Implementation:** Field Install

Installation Cost	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	- / -	30 / 0.193	120 / 0.500	49 / 0.326	- / -	49 / 0.326	- / -	- / -	- / -	- / -	- / -	199 / 1.019
FY 2018	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
FY 2019	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
FY 2020	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
FY 2021	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
FY 2022	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
FY 2023	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
FY 2024	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
To Complete	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
<b>Total</b>	- / -	30 / 0.193	120 / 0.500	49 / 0.326	- / -	49 / 0.326	- / -	- / -	- / -	- / -	- / -	199 / 1.019

**Installation Schedule**

	PYS	FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				TC	Tot
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	79	30	30	30	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Out	-	7	7	8	8	30	30	30	30	30	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86	<b>P-1 Line Item Number / Title:</b> 0125WK5057 / Sentinel Mods	<b>Modification Number / Title:</b> WK5057 / Sentinel Mods
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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**Modification Item 5 of 10:** Electronic Attack/Electronic Protect (ADC)

**Manufacturer Information**

Manufacturer Name: Raytheon	Manufacturer Location: Fullerton, CA
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Administrative Leadtime (in Months): 9	Production Leadtime (in Months): 15
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Dates	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Contract Dates	Jun 2018	Jun 2019	Jun 2020	Jun 2021	Jun 2022		
Delivery Dates	Oct 2019	Oct 2020	Oct 2021	Oct 2022	Oct 2023		

**Installation Information**

**Method of Implementation:** Contractor Facility

Installation Cost	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2018	- / -	- / -	- / -	31 / 0.233	- / -	31 / 0.233	- / -	- / -	- / -	- / -	- / -	31 / 0.233
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	31 / 0.238	11 / 0.081	- / -	- / -	- / -	42 / 0.319
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	50 / 0.367	- / -	- / -	- / -	50 / 0.367
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	42 / 0.248	- / -	- / -	42 / 0.248
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	34 / 0.201	- / -	- / -	34 / 0.201
FY 2023	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
FY 2024	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
To Complete	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
<b>Total</b>	- / -	- / -	- / -	31 / 0.233	- / -	31 / 0.233	31 / 0.238	61 / 0.448	76 / 0.449	- / -	- / -	199 / 1.368

**Installation Schedule**

	PYS	FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				TC	Tot
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	-	8	8	8	7	10	10	10	12	15	15	10	10	10	10	10	12	10	10	10	4	-	-	-	-	-	-	-	-	-	-
Out	-	-	-	-	-	-	-	-	-	8	8	8	7	8	8	8	7	15	15	15	16	19	19	19	19	-	-	-	-	-	-

**UNCLASSIFIED**

<b>Exhibit P-3a, Individual Modification: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86	<b>P-1 Line Item Number / Title:</b> 0125WK5057 / Sentinel Mods	<b>Modification Number / Title:</b> WK5057 / Sentinel Mods

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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**Modification Item 6 of 10:** Signal Data Processor

**Manufacturer Information**

Manufacturer Name: Raytheon	Manufacturer Location: Fullerton, CA
Administrative Leadtime (in Months): 9	Production Leadtime (in Months): 15

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

**Installation Information**

**Method of Implementation:** Contractor Facility

Installation Cost	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2018	- / -	- / -	- / -	31 / 2.392	- / -	31 / 2.392	- / -	- / -	- / -	- / -	- / -	31 / 2.392
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	31 / 2.436	11 / 0.830	- / -	- / -	- / -	42 / 3.266
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	50 / 3.775	- / -	- / -	- / -	50 / 3.775
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	42 / 2.550	- / -	- / -	42 / 2.550
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	34 / 2.064	- / -	- / -	34 / 2.064
FY 2023	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
FY 2024	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
To Complete	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
Total	- / -	- / -	- / -	31 / 2.392	- / -	31 / 2.392	31 / 2.436	61 / 4.605	76 / 4.614	- / -	- / -	199 / 14.047

**Installation Schedule**

	PYS	FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				TC	Tot
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	-	8	8	8	7	10	10	10	12	15	15	10	10	10	10	10	12	10	10	10	4	-	-	-	-	-	-	-	-	-	-
Out	-	-	-	-	-	-	-	-	-	8	8	8	7	8	8	8	7	15	15	15	16	19	19	19	19	-	-	-	-	-	-



**UNCLASSIFIED**

<b>Exhibit P-3a, Individual Modification: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86	<b>P-1 Line Item Number / Title:</b> 0125WK5057 / Sentinel Mods	<b>Modification Number / Title:</b> WK5057 / Sentinel Mods

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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**Modification Item 7 of 10:** Mode S

**Manufacturer Information**

Manufacturer Name: Raytheon	Manufacturer Location: Fullerton, CA
Administrative Leadtime (in Months): 3	Production Leadtime (in Months): 12

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

**Installation Information**

**Method of Implementation:** Contractor Facility

Installation Cost	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2018	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
FY 2019	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
FY 2020	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	66 / 0.460	13 / 0.059	- / -	- / -	79 / 0.519
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	90 / 0.409	- / -	- / -	90 / 0.409
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	30 / 0.150	- / -	30 / 0.150
FY 2024	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
To Complete	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
Total	- / -	- / -	- / -	- / -	- / -	- / -	- / -	66 / 0.460	103 / 0.468	30 / 0.150	- / -	199 / 1.078

**Installation Schedule**

	PYS	FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				TC	Tot
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	-	-	-	-	-	-	-	-	-	-	-	-	-	20	20	20	19	23	23	23	21	7	7	8	8	-	-	-	-	-	199
Out	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	16	17	17	26	26	26	25	15	15	-	-	-	199

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86	<b>P-1 Line Item Number / Title:</b> 0125WK5057 / Sentinel Mods	<b>Modification Number / Title:</b> WK5057 / Sentinel Mods
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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**Modification Item 8 of 10:** Adjunct Sensor

**Manufacturer Information**

Manufacturer Name: TBD	Manufacturer Location: TBD
Administrative Leadtime (in Months): 3	Production Leadtime (in Months): 12

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

**Installation Information**

**Method of Implementation:** Field Install

Installation Cost	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2018	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
FY 2019	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
FY 2020	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
FY 2021	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
FY 2022	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	45 / 0.360	- / -	45 / 0.360
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	45 / 0.367	45 / 0.367
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	109 / 0.941	109 / 0.941
Total	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	45 / 0.360	154 / 1.308	199 / 1.668

**Installation Schedule**

PYS	FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				TC	Tot
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	11	11	12	11	11	11	12	109	199
Out	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	11	11	12	154	199

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86	<b>P-1 Line Item Number / Title:</b> 0125WK5057 / Sentinel Mods	<b>Modification Number / Title:</b> WK5057 / Sentinel Mods
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**ID Code** (A=Service Ready, B=Not Service Ready) : **MDAP/MAIS Code:**

**Modification Item 9 of 10:** Active Electronically Scanned Array (AESAs) A4

**Manufacturer Information**

Manufacturer Name: TBD Manufacturer Location: TBD

Administrative Leadtime (in Months): 3 Production Leadtime (in Months): 15

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

**Installation Information**

**Method of Implementation:** Contractor Facility

Installation Cost	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2018	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
FY 2019	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
FY 2020	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
FY 2021	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
FY 2022	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
FY 2023	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
FY 2024	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
To Complete	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	199 / 0.000	199 / 0.000
Total	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	199 / 0.000	199 / 0.000

**Installation Schedule**

	PYS	FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				TC	Tot
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	199	199
Out	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	199	199

**UNCLASSIFIED**

<b>Exhibit P-3a, Individual Modification:</b> PB 2020 Army						<b>Date:</b> March 2019	
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86			<b>P-1 Line Item Number / Title:</b> 0125WK5057 / Sentinel Mods			<b>Modification Number / Title:</b> WK5057 / Sentinel Mods	
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :					<b>MDAP/MAIS Code:</b>		
<b>Modification Item 10 of 10:</b> Enhanced Sentinel AN/MPQ-64A3 Production							
<b>Manufacturer Information</b>							
Manufacturer Name: Raytheon				Manufacturer Location: Fullerton, CA			
Administrative Leadtime (in Months): 3				Production Leadtime (in Months): 12			
<b>Dates</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
Contract Dates	Sep 2018	Apr 2019	Apr 2020	Apr 2021		Apr 2023	Apr 2024
Delivery Dates	Sep 2019	Apr 2020	Apr 2021	Apr 2022		Apr 2024	Apr 2025
<b>Installation Information</b>							
<b>Method of Implementation (Organic):</b> Contractor Facility					<b>Installation Quantity:</b> 0		

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 86: Elect Equip - Tactical Surv. (Tac Surv)	<b>P-1 Line Item Number / Title:</b> 0140KA3500 / Night Vision Devices
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> 0604710A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	4,346.169	182.619	153.451	236.604	3.676	240.280	1,129.174	1,320.259	382.950	430.056	-	8,184.958
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	4,346.169	182.619	153.451	236.604	3.676	240.280	1,129.174	1,320.259	382.950	430.056	-	8,184.958
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>4,346.169</b>	<b>182.619</b>	<b>153.451</b>	<b>236.604</b>	<b>3.676</b>	<b>240.280</b>	<b>1,129.174</b>	<b>1,320.259</b>	<b>382.950</b>	<b>430.056</b>	<b>-</b>	<b>8,184.958</b>

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

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	475.043	44.357	21.319	25.972	-	26.375	24.325	23.809	26.389	28.243	-	50.780

**Description:**

Night Vision Devices (KA3500) is a summary budget line including the following programs:

(1) K36400 - The Enhanced Night Vision Goggle (ENVG) is a lightweight, helmet mounted device that expands a Soldier's Situational Awareness (SA) and lethality by fusing image intensification and long wave infrared into a single, integrated image and integrates the sight picture/reticle from the Family of Weapon Sights - Individual (FWS-I) and operational graphics from NETT Warrior into the ENVG. Adversaries currently have access to image intensified night vision goggle technology but not a fused system. The ENVG enables superior combat overmatch capability by, for example, providing dismounted Brigade Combat Team Warfighters the capability to observe and maneuver in all weather conditions, through obscurants, during limited visibility, and under all lighting conditions including total darkness while enabling rapid detection and engagement with rifle-mounted aiming lasers. The ENVG and future variants, incorporating technological optical advances, supports the tactical level of war; enabling the individual Soldier to see, understand, and act first; permitting superior tactical mobility and decisive engagement during limited visibility conditions.

(2) B53800 - This program provides funding to procure the Laser Target Locator Module (LTLM) and laser aiming devices. LTLM is a lightweight, handheld, laser target locator module with day and thermal sight capability as well as an internal Global Positioning System (GPS) receiver. LTLM provides the dismounted observer or Scout a fully digital, handheld system to accurately determine target location and the ability to call for fire during all weather and lighting conditions. LTLM improves speed, accuracy, and safety of use over previous systems of this type (e.g., Laser Target Locator System (LTLS)).

(3) K36401- The Monocular Night Vision Device (MNVD) is a lightweight, handheld or head/helmet-mounted night vision goggle consisting of a single objective lens assembly, state-of-the-art image intensifier technology, and an eyepiece lens assembly. The MNVD supports the tactical level of war; enabling the individual Soldier to see, understand, and act first, permitting superior tactical mobility and decisive engagement during limited visibility conditions.

(4) K36402 - Heads Up Display (HUD) is a hardware platform and component of the Integrated Visual Augmentation System (IVAS), which combines HUD and Synthetic Training Environment (STE) squad capability so that Soldiers/Marines can Fight, Rehearse, and Train on the same system. HUD is a low-profile, see-through display system providing 24/7 advanced squad situational awareness (SA) in all operating environments, fused day/night vision capabilities, day/night rapid target acquisition, eye protection, and hearing protection/enhancement. HUD displays augmented reality information (Blue force tracking, Navigation, etc.) intuitively in three-dimensional space from mission planning data and real-time data from the tactical network. HUD enables Synthetic Training Environment (STE) squad capability to perform live mixed reality training and rehearsing so that Soldiers/Marines can Fight, Rehearse and Train on the same system and HUD enables squad lethality metrics. HUD government-owned architecture enables rapid introduction of new and improved capabilities.

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 86: Elect Equip - Tactical Surv. (Tac Surv)	<b>P-1 Line Item Number / Title:</b> 0140KA3500 / Night Vision Devices
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> 0604710A
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**Line Item MDAP/MAIS Code:** N/A

(5) K35000 - Multi-Function laser devices are small, lightweight Infrared (IR) and/or integrated with visible (red, green, white light, etc.) pointers/illuminators that may have the capability to measure, mark, sense/detect and/or defeat. These lasers are capable of being hand held, tripod mounted or can be mounted on most small arms, individual and crew served weapon systems. The Multi-Function laser devices may be compatible with currently fielded Soldier products and could provide target direction and hand-off during both day and nighttime operations.

Funding in these projects align with the National Defense Strategy.

The ENVG Army Acquisition Objective (AAO) is estimated 108,251.

The LTLM AAO is 13,012.

The MNVD AAO is 512,938.

The HUD AAO is estimated 108,251.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	172.028	140.566	214.602	3.676	218.278	1,120.826	1,299.674	361.960	413.468
ANG	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	10.591	12.885	21.205	-	21.205	8.348	20.585	20.990	16.588
AR	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	-	-	0.797	-	0.797	-	-	-	-
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	-	-	-	-	-	-	-	-	-
	<b>Total Obligation Authority</b>	<b>182.619</b>	<b>153.451</b>	<b>236.604</b>	<b>3.676</b>	<b>240.280</b>	<b>1,129.174</b>	<b>1,320.259</b>	<b>382.950</b>	<b>430.056</b>

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 86: Elect Equip - Tactical Surv. (Tac Surv)	<b>P-1 Line Item Number / Title:</b> 0140KA3500 / Night Vision Devices
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> 0604710A
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**Line Item MDAP/MAIS Code:** N/A

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	B53800 / Laser Target Locator Systems	P-5a, P-21	A		- / 905.296	- / 37.975	- / 32.704	- / 24.354	- / -	- / 24.354
P-5	K36400 / Helmet Mounted Enhanced Vision Devices	P-5a, P-21			8,200 / 3,440.873	3,611 / 144.644	4,287 / 112.251	3,318 / 129.485	- / -	3,318 / 129.485
P-5	K36401 / Night Vision AN/PVS-14 Mods	P-5a, P-21			- / -	- / -	2,444 / 8.496	1,863 / 6.540	- / 3.676	1,863 / 10.216
P-5	K36402 / IVAS/Heads Up Display	P-5a			- / -	- / -	- / -	3,287 / 76.225	- / -	3,287 / 76.225
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 4,346.169</b>	<b>- / 182.619</b>	<b>- / 153.451</b>	<b>- / 236.604</b>	<b>- / 3.676</b>	<b>- / 240.280</b>

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

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

**Justification:**  
 FY 2020 Base procurement dollars in the amount of \$236.604 million support the procurement of 3,318 Enhanced Night Vision Goggles, 3,287 Heads Up Display systems, 642 Laser Target Location Modules, and 1,863 Monocular Night Vision Devices, laser devices and associated fielding costs.

FY 2020 OCO procurement dollars in the amount of \$3.676 million support the procurement of 1,047 Monocular Night Vision Devices, laser devices and associated fielding costs.

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.64,256

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>													<b>Date:</b> March 2019					
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86						<b>P-1 Line Item Number / Title:</b> 0140KA3500 / Night Vision Devices						<b>Item Number / Title [DODIC]:</b> B53800 / Laser Target Locator Systems						
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A									<b>MDAP/MAIS Code:</b>									
<b>Resource Summary</b>				<b>Prior Years</b>		<b>FY 2018</b>		<b>FY 2019</b>		<b>FY 2020 Base</b>		<b>FY 2020 OCO</b>		<b>FY 2020 Total</b>				
Procurement Quantity (Units in Each)				-		-		-		-		-		-				
Gross/Weapon System Cost (\$ in Millions)				905.296		37.975		32.704		24.354		-		24.354				
Less PY Advance Procurement (\$ in Millions)				-		-		-		-		-		-				
Net Procurement (P-1) (\$ in Millions)				905.296		37.975		32.704		24.354		-		24.354				
Plus CY Advance Procurement (\$ in Millions)				-		-		-		-		-		-				
<b>Total Obligation Authority (\$ in Millions)</b>				<b>905.296</b>		<b>37.975</b>		<b>32.704</b>		<b>24.354</b>		<b>-</b>		<b>24.354</b>				
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>																		
Initial Spares (\$ in Millions)				-		-		-		-		-		-				
Gross/Weapon System Unit Cost (\$ in Thousands)				953.947		75.049		70.030		37.935		-		37.935				
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
<b>Cost Elements</b>	<b>Prior Years</b>			<b>FY 2018</b>			<b>FY 2019</b>			<b>FY 2020 Base</b>			<b>FY 2020 OCO</b>			<b>FY 2020 Total</b>		
	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>
Flyaway Cost																		
Recurring Cost																		
Project Management	-	-	38.720	-	-	2.907	-	-	2.486	-	-	2.526	-	-	-	-	-	2.526
Systems Engineering Support	-	-	6.413	-	-	1.952	-	-	1.273	-	-	1.290	-	-	-	-	-	1.290
Fielding and NET	-	-	5.782	-	-	1.661	-	-	1.350	-	-	1.040	-	-	-	-	-	1.040
Subtotal: Recurring Cost	-	-	50.915	-	-	6.520	-	-	5.109	-	-	4.856	-	-	-	-	-	4.856
Subtotal: Flyaway Cost	-	-	50.915	-	-	6.520	-	-	5.109	-	-	4.856	-	-	-	-	-	4.856
Hardware Cost																		
Recurring Cost																		
Laser Target Locator <sup>(†)</sup>	88.456	9,570	846.526	28.352	1,091	30.932	29.237	933	27.278	29.935	642	19.218	-	-	-	29.935	642	19.218
Tripods	-	-	7.549	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ancillary Spares	0.067	4,600	0.307	-	-	0.523	-	-	0.317	-	-	0.280	-	-	-	-	-	0.280
Subtotal: Recurring Cost	-	-	854.381	-	-	31.455	-	-	27.595	-	-	19.498	-	-	-	-	-	19.498
Subtotal: Hardware Cost	-	-	854.381	-	-	31.455	-	-	27.595	-	-	19.498	-	-	-	-	-	19.498
<b>Gross/Weapon System Cost</b>	<b>953.947</b>	<b>-</b>	<b>905.296</b>	<b>75.049</b>	<b>-</b>	<b>37.975</b>	<b>70.030</b>	<b>-</b>	<b>32.704</b>	<b>37.935</b>	<b>-</b>	<b>24.354</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>37.935</b>	<b>-</b>	<b>24.354</b>
<b>Secondary Distribution</b>						<b>FY 2018</b>		<b>FY 2019</b>		<b>FY 2020 Base</b>		<b>FY 2020 OCO</b>		<b>FY 2020 Total</b>				
Army						Quantity		-		-		-		-				
						Total Obligation Authority		27.384		19.819		2.352		-				



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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86	<b>P-1 Line Item Number / Title:</b> 0140KA3500 / Night Vision Devices	<b>Item Number / Title [DODIC]:</b> B53800 / Laser Target Locator Systems
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**ID Code** (A=Service Ready, B=Not Service Ready) : A **MDAP/MAIS Code:**

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
ANG	Quantity	-	-	-	-	-
	Total Obligation Authority	10.591	12.885	21.205	-	21.205
AR	Quantity	-	-	-	-	-
	Total Obligation Authority	-	-	0.797	-	0.797
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	-	-	-	-	-
	<b>Total Obligation Authority</b>	<b>37.975</b>	<b>32.704</b>	<b>24.354</b>	-	<b>24.354</b>

(†) indicates the presence of a P-5a

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86	<b>P-1 Line Item Number / Title:</b> 0140KA3500 / Night Vision Devices	<b>Item Number / Title [DODIC]:</b> B53800 / Laser Target Locator 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
Laser Target Locator <sup>(†)</sup>		2018	Optics 1, Inc / Bedford, NH	C / IDIQ	ACC APG	Aug 2018	Apr 2019	1,091	28.352	Y		
Laser Target Locator <sup>(†)</sup>		2019	Optics 1, Inc / Bedford, NH	C / IDIQ	ACC APG	Mar 2019	Nov 2019	933	29.237	Y		
Laser Target Locator <sup>(†)</sup>		2020	Optics 1, Inc / Bedford, NH	C / IDIQ	ACC APG	Mar 2020	Nov 2020	642	29.935	Y		

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

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86	<b>P-1 Line Item Number / Title:</b> 0140KA3500 / Night Vision Devices	<b>Item Number / Title [DODIC]:</b> B53800 / Laser Target Locator Systems
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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					
Laser Target Locator																																				
Prior Years Deliveries: 9570																																				
	1	2018	ARMY	1,091	0	1,091												A	-	-	-	-	-	-	-	-	-	75	80	106	110	120	120	480		
	1	2019	ARMY	933	0	933																					A	-	-	-	-	-	-	-	-	933
	1	2020	ARMY	642	0	642																													642	
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P						

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86	<b>P-1 Line Item Number / Title:</b> 0140KA3500 / Night Vision Devices	<b>Item Number / Title [DODIC]:</b> B53800 / Laser Target Locator Systems
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Cost Elements <i>(Units in Each)</i>					Fiscal Year 2020													Fiscal Year 2021												B A L A N C E		
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEP T P R I O R T O 1 O C T 2 0 1 9	BAL D U E A S O F 1 O C T	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	
Laser Target Locator																																
Prior Years Deliveries: 9570																																
	1	2018	ARMY	1,091	611	480	120	120	120	120																			0			
	1	2019	ARMY	933	0	933	-	5	5	5	120	120	120	100	100	100	100	80	78										0			
	1	2020	ARMY	642	0	642							A	-	-	-	-	-	-	70	70	70	62	62	62	62	62	62	60	0		
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P		

**UNCLASSIFIED**

<b>Exhibit P-21, Production Schedule:</b> PB 2020 Army								<b>Date:</b> March 2019				
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86				<b>P-1 Line Item Number / Title:</b> 0140KA3500 / Night Vision Devices				<b>Item Number / Title [DODIC]:</b> B53800 / Laser Target Locator Systems				
MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Month)			Procurement Leadtime (Months)							
		MSR For 2020	1-8-5 For 2020	MAX For 2020	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	Optics 1, Inc - Bedford, NH	35	120	240	2	10	8	18	2	5	8	13

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

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

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86	<b>P-1 Line Item Number / Title:</b> 0140KA3500 / Night Vision Devices	<b>Item Number / Title [DODIC]:</b> K36400 / Helmet Mounted Enhanced Vision Devices

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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<b>Resource Summary</b>	<b>Prior Years</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Procurement Quantity <i>(Units in Each)</i>	8,200	3,611	4,287	3,318	-	3,318
Gross/Weapon System Cost <i>(\$ in Millions)</i>	3,440.873	144.644	112.251	129.485	-	129.485
Less PY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-
Net Procurement (P-1) <i>(\$ in Millions)</i>	3,440.873	144.644	112.251	129.485	-	129.485
Plus CY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-
<b>Total Obligation Authority</b> <i>(\$ in Millions)</i>	<b>3,440.873</b>	<b>144.644</b>	<b>112.251</b>	<b>129.485</b>	<b>-</b>	<b>129.485</b>

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

Initial Spares <i>(\$ in Millions)</i>	-	-	-	-	-	-
Gross/Weapon System Unit Cost <i>(\$ in Thousands)</i>	419.619	40.056	26.184	39.025	-	39.025

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

<b>Cost Elements</b>	<b>Prior Years</b>			<b>FY 2018</b>			<b>FY 2019</b>			<b>FY 2020 Base</b>			<b>FY 2020 OCO</b>			<b>FY 2020 Total</b>		
	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																		
I2 Tubes	-	-	37.244	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Engineering Support	-	-	20.941	-	-	3.388	-	-	3.743	-	-	3.878	-	-	-	-	-	3.878
Project Management Admin	-	-	145.782	-	-	3.911	-	-	3.524	-	-	3.699	-	-	-	-	-	3.699
Fielding	-	-	2,551.387	-	-	1.833	-	-	2.200	-	-	1.140	-	-	-	-	-	1.140
Ancillary Support	-	-	63.746	-	-	3.393	-	-	2.487	-	-	2.577	-	-	-	-	-	2.577
Contract Data Requirements Lists	-	-	21.979	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Test Measurement Diagnostics Equipment (TMDE)	-	-	8.819	-	-	0.902	-	-	-	-	-	0.425	-	-	-	-	-	0.425
Helmet Mount Assemblies	-	-	3.336	-	-	26.253	-	-	15.606	-	-	-	-	-	-	-	-	-
Laser Target Locator	-	-	1.686	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
JUONs	-	-	3.760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	<i>2,858.680</i>	-	-	<i>39.680</i>	-	-	<i>27.560</i>	-	-	<i>11.719</i>	-	-	-	-	-	<i>11.719</i>
<i>Subtotal: Flyaway Cost</i>	-	-	<i>2,858.680</i>	-	-	<i>39.680</i>	-	-	<i>27.560</i>	-	-	<i>11.719</i>	-	-	-	-	-	<i>11.719</i>
Hardware Cost																		
Recurring Cost																		

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86	<b>P-1 Line Item Number / Title:</b> 0140KA3500 / Night Vision Devices	<b>Item Number / Title [DODIC]:</b> K36400 / Helmet Mounted Enhanced Vision Devices
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :		<b>MDAP/MAIS Code:</b>

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Enhance Night Vision Goggles (ENVG) System <sup>(†)</sup>	12.079	48,197	582.193	26.136	4,016	104.964	23.964	3,534	84.690	22.004	2,712	59.674	-	-	-	22.004	2,712	59.674
Enhance Night Vision Goggles (ENVG) System (Full and Open) <sup>(†)</sup>	-	-	-	-	-	-	-	-	-	95.861	606	58.092	-	-	-	95.861	606	58.092
<i>Subtotal: Recurring Cost</i>	-	-	582.172	-	-	104.962	-	-	84.689	-	-	117.767	-	-	-	-	-	117.767
<i>Subtotal: Hardware Cost</i>	-	-	582.172	-	-	104.962	-	-	84.689	-	-	117.767	-	-	-	-	-	117.767
<b>Gross/Weapon System Cost</b>	<b>419.619</b>	<b>8,200</b>	<b>3,440.873</b>	<b>40.056</b>	<b>3,611</b>	<b>144.644</b>	<b>26.184</b>	<b>4,287</b>	<b>112.251</b>	<b>39.025</b>	<b>3,318</b>	<b>129.485</b>	-	-	-	<b>39.025</b>	<b>3,318</b>	<b>129.485</b>

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	
Army	Quantity		3,611	4,287	3,318	-	3,318
	Total Obligation Authority		144.644	112.251	129.485	-	129.485
<b>Total:</b>	<b>Quantity</b>		<b>3,611</b>	<b>4,287</b>	<b>3,318</b>	<b>-</b>	<b>3,318</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>		<b>144.644</b>	<b>112.251</b>	<b>129.485</b>	<b>-</b>	<b>129.485</b>

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

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<b>Exhibit P-5a, Procurement History and Planning:</b> PB 2020 Army							<b>Date:</b> March 2019				
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86			<b>P-1 Line Item Number / Title:</b> 0140KA3500 / Night Vision Devices				<b>Item Number / Title [DODIC]:</b> K36400 / Helmet Mounted Enhanced Vision Devices				

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
Enhance Night Vision Goggles (ENVG) System <sup>(†)</sup>		2018	L3 Technologies / Londonderry, NH	C / IDDQ	ACC-APG	May 2018	Dec 2018	4,016	26.136	Y		
Enhance Night Vision Goggles (ENVG) System <sup>(†)</sup>		2019	L3 Technologies / Londonderry, NH	C / IDIQ	ACC-APG	Feb 2019	Dec 2019	3,534	23.964	Y		
Enhance Night Vision Goggles (ENVG) System <sup>(†)</sup>		2020	L3 Technologies / Londonderry, NH	C / IDIQ	ACC-APG	Nov 2019	Jun 2020	2,712	22.004	Y		
Enhance Night Vision Goggles (ENVG) System (Full and Open) <sup>(†)</sup>		2020	TBD (ENVG F&O) / TBD	C / IDDQ	ACC-APG	May 2020	Mar 2021	606	95.861	Y		

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

**Remarks:**  
The FY 2020 Full and Open procures qualification systems. The unit cost is higher because it includes non-recurring engineering costs over a smaller quantity.



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<b>Exhibit P-21, Production Schedule:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86		<b>P-1 Line Item Number / Title:</b> 0140KA3500 / Night Vision Devices
		<b>Item Number / Title [DODIC]:</b> K36400 / Helmet Mounted Enhanced Vision Devices

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																					
Enhance Night Vision Goggles (ENVG) System																																																				
Prior Years Deliveries: 48197																																																				
1		2018	ARMY	4,016	0	4,016																							A	-	-	-	-	-	-	-	-	-	211	225	240	275	275	290	325	375	375	430	995			
1		2019	ARMY	3,534	0	3,534																																												3,534		
1		2020	ARMY	2,712	0	2,712																																												2,712		
Enhance Night Vision Goggles (ENVG) System (Full and Open)																																																				
2		2020	ARMY	606	0	606																																														606
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P																						

**UNCLASSIFIED**

<b>Exhibit P-21, Production Schedule:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86		<b>P-1 Line Item Number / Title:</b> 0140KA3500 / Night Vision Devices
		<b>Item Number / Title [DODIC]:</b> K36400 / Helmet Mounted Enhanced Vision Devices

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
Enhance Night Vision Goggles (ENVG) System																															
Prior Years Deliveries: 48197																															
1		2018	ARMY	4,016	3,021	995	485	510																						0	
1		2019	ARMY	3,534	0	3,534	-	-	522	576	617	617	617	585																0	
1		2020	ARMY	2,712	0	2,712		A -	-	-	-	-	-	-	470	433	360	295	260	260	230	202	202							0	
Enhance Night Vision Goggles (ENVG) System (Full and Open)																															
2		2020	ARMY	606	0	606									A -	-	-	-	-	-	-	-	-	-	-	202	202	202			0
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	

**UNCLASSIFIED**

<b>Exhibit P-21, Production Schedule:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86		<b>P-1 Line Item Number / Title:</b> 0140KA3500 / Night Vision Devices
		<b>Item Number / Title [DODIC]:</b> K36400 / Helmet Mounted Enhanced Vision Devices

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Month)			Procurement Leadtime (Months)							
		MSR For 2020	1-8-5 For 2020	MAX For 2020	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	L3 Technologies - Londonderry, NH	200	500	1,300	2	7	7	14	2	2	7	9
2	TBD (ENVG F&O) - TBD	200	500	1,300	2	7	10	17	2	4	10	14

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

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

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86	<b>P-1 Line Item Number / Title:</b> 0140KA3500 / Night Vision Devices	<b>Item Number / Title [DODIC]:</b> K36401 / Night Vision AN/PVS-14 Mods

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity (Units in Each)	-	-	2,444	1,863	-	1,863
Gross/Weapon System Cost (\$ in Millions)	-	-	8.496	6.540	3.676	10.216
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	-	-	8.496	6.540	3.676	10.216
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	-	-	<b>8.496</b>	<b>6.540</b>	<b>3.676</b>	<b>10.216</b>

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

Initial Spares (\$ in Millions)	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	-	-	3.476	3.510	-	5.484

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Flyaway Cost																		
Recurring Cost																		
Monocular Night Vision Device (MNVD) Hardware <sup>(t)</sup>	-	-	-	-	-	-	2.598	2,444	6.350	3.374	1,863	6.285	3.374	1,047	3.533	3.374	2,910	9.818
Program Management Support	-	-	-	-	-	-	-	-	0.531	-	-	0.157	-	-	0.100	-	-	0.257
Government Engineering Support	-	-	-	-	-	-	-	-	1.615	-	-	0.098	-	-	0.043	-	-	0.141
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	8.496	-	-	6.541	-	-	3.676	-	-	10.216
<i>Subtotal: Flyaway Cost</i>	-	-	-	-	-	-	-	-	8.496	-	-	6.541	-	-	3.676	-	-	10.216
<b>Gross/Weapon System Cost</b>	-	-	-	-	-	-	3.476	2,444	8.496	3.510	1,863	6.540	-	-	3.676	5.484	1,863	10.216

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	-	2,444	1,863	-	1,863
	Total Obligation Authority	-	8.496	6.540	3.676	10.216
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	-	<b>2,444</b>	<b>1,863</b>	-	<b>1,863</b>
	<b>Total Obligation Authority</b>	-	<b>8.496</b>	<b>6.540</b>	<b>3.676</b>	<b>10.216</b>

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

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86	<b>P-1 Line Item Number / Title:</b> 0140KA3500 / Night Vision Devices	<b>Item Number / Title [DODIC]:</b> K36401 / Night Vision AN/PVS-14 Mods
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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
Monocular Night Vision Device (MNVD) Harware <sup>(†)</sup>		2019	TBD / TBD	C / IDIQ	ACC-APG	Dec 2018	Jun 2019	2,444	2.598	Y		
Monocular Night Vision Device (MNVD) Harware <sup>(†)</sup>		2020	TBD / TBD	C / IDIQ	ACC-APG	Nov 2019	May 2020	2,910	3.374	Y		

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

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

**Appropriation / Budget Activity / Budget Sub Activity:** 2035A / 02 / 86 **P-1 Line Item Number / Title:** 0140KA3500 / Night Vision Devices **Item Number / Title [DODIC]:** K36401 / Night Vision AN/PVS-14 Mods

Cost Elements <i>(Units in Each)</i>						Fiscal Year 2019													Fiscal Year 2020													BALANCE	
O C 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			
Monocular Night Vision Device (MNVD) Harware																																	
	1	2019	ARMY	2,444	0	2,444			A -	-	-	-	-	-	-	150	165	180	180	210	210	225	240	240	240	240	240	164		0			
	1	2020	ARMY	2,910	0	2,910															A -	-	-	-	-	-	86	260	260	260	260	1,784	
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P			

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

**Appropriation / Budget Activity / Budget Sub Activity:** 2035A / 02 / 86 **P-1 Line Item Number / Title:** 0140KA3500 / Night Vision Devices **Item Number / Title [DODIC]:** K36401 / Night Vision AN/PVS-14 Mods

Cost Elements <i>(Units in Each)</i>						Fiscal Year 2021												Fiscal Year 2022												BALANCE	
O C 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
Monocular Night Vision Device (MNVD) Harware																															
	1	2019	ARMY	2,444	2,444	0																							0		
	1	2020	ARMY	2,910	1,126	1,784	260	260	260	254	250	250	250																0		
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	

**UNCLASSIFIED**

<b>Exhibit P-21, Production Schedule:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86		<b>P-1 Line Item Number / Title:</b> 0140KA3500 / Night Vision Devices
		<b>Item Number / Title [DODIC]:</b> K36401 / Night Vision AN/PVS-14 Mods

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Month)			Procurement Leadtime (Months)							
		MSR For 2020	1-8-5 For 2020	MAX For 2020	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	TBD - TBD	10	500	2,000	3	2	6	8	3	1	6	7

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

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



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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86	<b>P-1 Line Item Number / Title:</b> 0140KA3500 / Night Vision Devices	<b>Item Number / Title [DODIC]:</b> K36402 / IVAS/Heads Up Display

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	3,287	-	3,287
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	-	-	-	76.225	-	76.225
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	-	-	-	76.225	-	76.225
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	-	-	-	<b>76.225</b>	-	<b>76.225</b>

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

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	23.190	-	23.190

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Flyaway Cost																		
Recurring Cost																		
HUD Systems <sup>(t)</sup>	-	-	-	-	-	-	-	-	-	20.165	3,287	66.282	-	-	-	20.165	3,287	66.282
Initial Spares	-	-	-	-	-	-	-	-	-	-	-	6.628	-	-	-	-	-	6.628
Fielding	-	-	-	-	-	-	-	-	-	-	-	3.315	-	-	-	-	-	3.315
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	76.225	-	-	-	-	-	76.225
<i>Subtotal: Flyaway Cost</i>	-	-	-	-	-	-	-	-	-	-	-	76.225	-	-	-	-	-	76.225
<b>Gross/Weapon System Cost</b>	-	-	-	-	-	-	-	-	-	<b>23.190</b>	<b>3,287</b>	<b>76.225</b>	-	-	-	<b>23.190</b>	<b>3,287</b>	<b>76.225</b>

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	-	-	3,287	-	3,287
	-	-	76.225	-	76.225
<b>Total:</b>	-	-	<b>3,287</b>	-	<b>3,287</b>
<b>Secondary Distribution</b>	-	-	<b>76.225</b>	-	<b>76.225</b>

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

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86	<b>P-1 Line Item Number / Title:</b> 0140KA3500 / Night Vision Devices	<b>Item Number / Title [DODIC]:</b> K36402 / IVAS/Heads Up Display
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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
HUD Systems		2020	TBD / TBD	C / FFP	TBD	Sep 2020	Mar 2021	3,287	20.165	N		

**Remarks:**  
Heads Up Display (HUD) previously noted under baby SSN K36400 was realigned in PROBE to reflect funding under new baby SSN K36401.

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 86: Elect Equip - Tactical Surv. (Tac Surv)	<b>P-1 Line Item Number / Title:</b> 0142K38300 / Long Range Advanced Scout Surveillance System
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	4	120	150	-	274
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	1,405.275	-	2.861	-	-	-	-	2.075	39.585	50.570	-	1,500.366
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	1,405.275	-	2.861	-	-	-	-	2.075	39.585	50.570	-	1,500.366
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>1,405.275</b>	<b>-</b>	<b>2.861</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>2.075</b>	<b>39.585</b>	<b>50.570</b>	<b>-</b>	<b>1,500.366</b>

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

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	518.750	329.875	337.133	-	5,475.788

**Description:**

The Long Range Advanced Scout Surveillance System (LRAS3) is a long range reconnaissance and surveillance system which operates in both a stationary vehicle mounted configuration and in an autonomous dismounted configuration. The LRAS3 is a multi-function, line-of-sight target acquisition common sensor suite which provides real-time target detection, recognition, and identification capability 24 hours a day in all weather conditions. LRAS3 also automatically determines Far Target Location (FTL) coordinates for any target ranged to by the operator. LRAS3 enables information superiority by interfacing with Joint Battle Command-Platform (JBC-P) to provide target acquisition and FTL information. LRAS3 utilizes the Horizontal Technology Integration (HTI) Second Generation Forward Looking Infrared (SGF) thermal sensor, enabling 24 hour a day operation in adverse weather and penetration of battlefield obscurants. LRAS3 significantly increases the survivability of forces through its standoff capability, allowing them to continue their mission as the eyes of the maneuver commander on the battlefield. The LRAS3 is a key enabling technology and has been a critical combat overmatch capability for the Army units in combat in Afghanistan. The LRAS3 continues to support requirements from Operation Freedom Sentinel, for example, the Mine Resistant Ambush Protected (MRAP) All Terrain Vehicle (M-ATV) and developing a networked-enabled (netted sensors) technology insertion capability. The current LRAS3 Army Acquisition Objective (AAO) is 2,894 systems.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army									
Quantity	-	-	-	-	-	-	4	120	150
Total Obligation Authority	-	2.861	-	-	-	-	2.075	39.585	50.570
<b>Total:</b>									
<b>Secondary Distribution</b>									
Quantity	-	-	-	-	-	-	4	120	150
Total Obligation Authority	-	2.861	-	-	-	-	2.075	39.585	50.570

**Justification:**

The program has no FY 2020 funding request.

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 86: Elect Equip - Tactical Surv. (Tac Surv)	<b>P-1 Line Item Number / Title:</b> 0155K35110 / Small Tactical Optical Rifle Mounted MLRF
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> 0604710A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	1,250	626	1,500	1,626	-	1,626	338	1,470	2,092	2,843	Continuing	Continuing
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	142.879	16.157	21.238	22.623	-	22.623	10.607	21.377	26.087	31.845	Continuing	Continuing
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	142.879	16.157	21.238	22.623	-	22.623	10.607	21.377	26.087	31.845	Continuing	Continuing
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>142.879</b>	<b>16.157</b>	<b>21.238</b>	<b>22.623</b>	<b>-</b>	<b>22.623</b>	<b>10.607</b>	<b>21.377</b>	<b>26.087</b>	<b>31.845</b>	<b>Continuing</b>	<b>Continuing</b>

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

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

**Description:**

The Small Tactical Optical Rifle Mounted (STORM) Micro-Laser Rangefinder (MLRF) is a weapon-mounted, multi-function laser system. It provides an eye safe laser rangefinder, digital compass, Infrared (IR) and visible aiming lights, and an IR illuminator for far target location with continuous range, accuracy, weight and power performance enhanced capabilities. STORM can support various laser range finders for squad and unit level formations. When connected to a Precision Lightweight Global Receiver/Defense Advanced Global Positioning System (GPS) Receiver (PLGR/DAGR), the STORM provides range and direction information to develop accurate and timely far target locations. The STORM addresses the lack of depth perception for night applications through use of its IR illuminator and rangefinder. A Squad-specific variant that eliminates the digital compass to further reduce size, weight and power, and a Sniper-specific variant that includes a ballistic calculator have been developed.

Funding in this project aligns with the National Defense Strategy.

The Army Acquisition Objective (AAO) for this program is 24,163.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	
Army	Quantity	399	947	1,604	-	1,604	338	1,470	2,092	2,843
	Total Obligation Authority	12.133	13.403	22.317	-	22.317	10.607	21.377	26.087	31.845
ANG	Quantity	227	553	-	-	-	-	-	-	-
	Total Obligation Authority	4.024	7.835	-	-	-	-	-	-	-
AR	Quantity	-	-	22	-	22	-	-	-	-
	Total Obligation Authority	-	-	0.306	-	0.306	-	-	-	-
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	<b>626</b>	<b>1,500</b>	<b>1,626</b>	<b>-</b>	<b>1,626</b>	<b>338</b>	<b>1,470</b>	<b>2,092</b>	<b>2,843</b>
	<b>Total Obligation Authority</b>	<b>16.157</b>	<b>21.238</b>	<b>22.623</b>	<b>-</b>	<b>22.623</b>	<b>10.607</b>	<b>21.377</b>	<b>26.087</b>	<b>31.845</b>

**UNCLASSIFIED**

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

**Appropriation / Budget Activity / Budget Sub Activity:**  
 2035A: Other Procurement, Army / BA 02: Communications and Electronics  
 Equipment / BSA 86: Elect Equip - Tactical Surv. (Tac Surv)

**P-1 Line Item Number / Title:**  
 0155K35110 / Small Tactical Optical Rifle Mounted MLRF

**ID Code** (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0604710A

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

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	K35110 / Small Tactical Optical Rifle Mounted MLRF	P-5a, P-21	A		1,250 / 142.879	626 / 16.157	1,500 / 21.238	1,626 / 22.623	- / -	1,626 / 22.623
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>1,250 / 142.879</b>	<b>626 / 16.157</b>	<b>1,500 / 21.238</b>	<b>1,626 / 22.623</b>	<b>- / -</b>	<b>1,626 / 22.623</b>

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

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

**Justification:**

FY 2020 Base procurement dollars in the amount of \$22.623 million supports the procurement of 1,626 STORM systems for fielding to small unit leaders and Snipers.

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

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86	<b>P-1 Line Item Number / Title:</b> 0155K35110 / Small Tactical Optical Rifle Mounted MLRF	<b>Item Number / Title [DODIC]:</b> K35110 / Small Tactical Optical Rifle Mounted MLRF

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A	<b>MDAP/MAIS Code:</b>
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<b>Resource Summary</b>	<b>Prior Years</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Procurement Quantity (Units in Each)	1,250	626	1,500	1,626	-	1,626
Gross/Weapon System Cost (\$ in Millions)	142.879	16.157	21.238	22.623	-	22.623
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	142.879	16.157	21.238	22.623	-	22.623
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>142.879</b>	<b>16.157</b>	<b>21.238</b>	<b>22.623</b>	<b>-</b>	<b>22.623</b>

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

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

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

<b>Cost Elements</b>	<b>Prior Years</b>			<b>FY 2018</b>			<b>FY 2019</b>			<b>FY 2020 Base</b>			<b>FY 2020 OCO</b>			<b>FY 2020 Total</b>		
	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)
<b>Flyaway Cost</b>																		
<b>Recurring Cost</b>																		
Program Management	-	-	18.366	-	-	2.592	-	-	2.586	-	-	2.638	-	-	-	-	-	2.638
Systems Engineering Support	-	-	6.843	-	-	1.373	-	-	1.584	-	-	1.614	-	-	-	-	-	1.614
Fielding & NET	-	-	1.664	-	-	1.962	-	-	2.257	-	-	2.302	-	-	-	-	-	2.302
Ancillary Parts	-	-	-	-	-	-	-	-	-	-	-	0.400	-	-	-	-	-	0.400
<i>Subtotal: Recurring Cost</i>	-	-	<i>26.873</i>	-	-	<i>5.927</i>	-	-	<i>6.427</i>	-	-	<i>6.954</i>	-	-	-	-	-	<i>6.954</i>
<i>Subtotal: Flyaway Cost</i>	-	-	<i>26.873</i>	-	-	<i>5.927</i>	-	-	<i>6.427</i>	-	-	<i>6.954</i>	-	-	-	-	-	<i>6.954</i>

<b>Hardware Cost</b>																		
<b>Recurring Cost</b>																		
STORM Hardware (L3) <sup>(†)</sup>	13.195	8,792	116.009	11.267	908	10.230	-	-	-	-	-	-	-	-	-	-	-	-
STORM Hardware (L3 Production Verification) <sup>(†)</sup>	-	-	-	-	-	-	20.000	150	3.000	-	-	-	-	-	-	-	-	-
STORM Hardware (Optics 1 Production Verification) <sup>(†)</sup>	-	-	-	-	-	-	20.000	150	3.000	-	-	-	-	-	-	-	-	-
STORM Hardware (Optics 1 PY2) <sup>(†)</sup>	-	-	-	-	-	-	12.788	689	8.811	-	-	-	-	-	-	-	-	-

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86	<b>P-1 Line Item Number / Title:</b> 0155K35110 / Small Tactical Optical Rifle Mounted MLRF	<b>Item Number / Title [DODIC]:</b> K35110 / Small Tactical Optical Rifle Mounted MLRF
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A		<b>MDAP/MAIS Code:</b>

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
STORM Hardware (TBD) <sup>(†)</sup>	-	-	-	-	-	-	-	-	-	9.637	1,626	15.669	-	-	-	9.637	1,626	15.669
<i>Subtotal: Recurring Cost</i>	-	-	116.010	-	-	10.230	-	-	14.811	-	-	15.670	-	-	-	-	-	15.670
<i>Subtotal: Hardware Cost</i>	-	-	116.010	-	-	10.230	-	-	14.811	-	-	15.670	-	-	-	-	-	15.670
<b>Gross/Weapon System Cost</b>	-	1,250	142.879	-	626	16.157	-	1,500	21.238	-	1,626	22.623	-	-	-	-	1,626	22.623

**Remarks:**

- 1) Quantities in the P-5 schedule for FY18 and FY19 are accurate and do not tie to the locked numbers from the RFS feed in the P-40.
- 2) FY19 STORM Hardware (L3) is the initial production verification systems and the unit cost is higher due to the inclusion of contractor qualification testing costs. Range pricing for full rate production systems are below \$10K per system.
- 3) FY19 STORM Hardware (Optics 1) includes a procurement of the production verification systems (higher cost due to inclusion of contractor qualification costs) and a second procurement at range pricing below \$11K per system in contract year 2.
- 4) FY20 STORM Hardware is currently TBD due to expected competition between the qualified vendors.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	399	947	1,604	-	1,604
	Total Obligation Authority	12.133	13.403	22.317	-	22.317
ANG	Quantity	227	553	-	-	-
	Total Obligation Authority	4.024	7.835	-	-	-
AR	Quantity	-	-	22	-	22
	Total Obligation Authority	-	-	0.306	-	0.306
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	<b>626</b>	<b>1,500</b>	<b>1,626</b>	<b>-</b>	<b>1,626</b>
	<b>Total Obligation Authority</b>	<b>16.157</b>	<b>21.238</b>	<b>22.623</b>	<b>-</b>	<b>22.623</b>

(†) indicates the presence of a P-5a

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<b>Exhibit P-5a, Procurement History and Planning:</b> PB 2020 Army							<b>Date:</b> March 2019				
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86			<b>P-1 Line Item Number / Title:</b> 0155K35110 / Small Tactical Optical Rifle Mounted MLRF				<b>Item Number / Title [DODIC]:</b> K35110 / Small Tactical Optical Rifle Mounted MLRF				

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
STORM Hardware (L3)		2018	L3 Insight / Londonderry, NH	C / IDIQ	ACC-APG	Mar 2019	Nov 2019	908	11.267	Y		
STORM Hardware (L3 Production Verification)		2019	L3 Insight / Londonderry, NH	C / IDIQ	ACC-APG	May 2019	Dec 2019	150	20.000	Y		
STORM Hardware (Optics 1 Production Verification)		2019	Optics 1 / Bedford, NH	C / IDIQ	ACC-APG	May 2019	Dec 2019	150	20.000	Y		
STORM Hardware (Optics 1 PY2)		2019	Optics 1 / Bedford, NH	C / IDIQ	ACC-APG	Jul 2019	Feb 2020	689	12.788	N		
STORM Hardware (TBD) <sup>(†)</sup>		2020	TBD / TBD	C / IDIQ	ACC-APG	May 2020	Dec 2020	1,626	9.637	Y		

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

**Remarks:**

The current IDIQ contract with L3 Communications expires September 2019. A competitive contract was awarded in June 2018 to two vendors, L3 Communications and Optics 1, for the new STORM variant reducing size, weight and cost of the system. After the integration and qualification of the new systems, future procurements / Delivery Orders will be competed.

System quantities are locked; quantities associated with FY18 Storm Hardware (L3) and FY19 STORM Hardware (Optics 1 PY2) should be 908 and 989 respectively.



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<b>Exhibit P-21, Production Schedule:</b> PB 2020 Army																							<b>Date:</b> March 2019													
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86											<b>P-1 Line Item Number / Title:</b> 0155K35110 / Small Tactical Optical Rifle Mounted MLRF											<b>Item Number / Title [DODIC]:</b> K35110 / Small Tactical Optical Rifle Mounted MLRF														
<b>Cost Elements</b> <i>(Units in Each)</i>						<b>Fiscal Year 2019</b>											<b>Fiscal Year 2020</b>											<b>B A L A N C E</b>								
<b>O C C O</b>	<b>M F R #</b>	<b>FY</b>	<b>SERVICE</b>	<b>PROC QTY</b>	<b>ACCEPT PRIOR TO 1 OCT 2018</b>	<b>BAL DUE AS OF 1 OCT</b>	<b>Calendar Year 2019</b>											<b>Calendar Year 2020</b>																		
							<b>O C T</b>	<b>N O V</b>	<b>D E C</b>	<b>J A N</b>	<b>F E B</b>	<b>M A R</b>	<b>A P R</b>	<b>M A Y</b>	<b>J U N</b>	<b>J U L</b>	<b>A U G</b>	<b>S E P</b>	<b>O C T</b>	<b>N O V</b>	<b>D E C</b>	<b>J A N</b>	<b>F E B</b>	<b>M A R</b>	<b>A P R</b>	<b>M A Y</b>	<b>J U N</b>		<b>J U L</b>	<b>A U G</b>	<b>S E P</b>					
STORM Hardware (TBD)																																				
	1	2020	ARMY	1,626	0	1,626																							A	-	-	-	-	-	1,626	
							<b>O C T</b>	<b>N O V</b>	<b>D E C</b>	<b>J A N</b>	<b>F E B</b>	<b>M A R</b>	<b>A P R</b>	<b>M A Y</b>	<b>J U N</b>	<b>J U L</b>	<b>A U G</b>	<b>S E P</b>	<b>O C T</b>	<b>N O V</b>	<b>D E C</b>	<b>J A N</b>	<b>F E B</b>	<b>M A R</b>	<b>A P R</b>	<b>M A Y</b>	<b>J U N</b>	<b>J U L</b>	<b>A U G</b>	<b>S E P</b>						

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<b>Exhibit P-21, Production Schedule:</b> PB 2020 Army															<b>Date:</b> March 2019														
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86										<b>P-1 Line Item Number / Title:</b> 0155K35110 / Small Tactical Optical Rifle Mounted MLRF										<b>Item Number / Title [DODIC]:</b> K35110 / Small Tactical Optical Rifle Mounted MLRF									

Cost Elements <i>(Units in Each)</i>						Fiscal Year 2021												Fiscal Year 2022												BALANCE	
O C 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
STORM Hardware (TBD)																															
	1	2020	ARMY	1,626	0	1,626	-	-	100	100	135	135	135	135	135	150	150	150	150	151										0	
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	

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<b>Exhibit P-21, Production Schedule:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86		<b>P-1 Line Item Number / Title:</b> 0155K35110 / Small Tactical Optical Rifle Mounted MLRF
		<b>Item Number / Title [DODIC]:</b> K35110 / Small Tactical Optical Rifle Mounted MLRF

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Month)			Procurement Leadtime (Months)							
		MSR For 2020	1-8-5 For 2020	MAX For 2020	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	TBD - TBD	40	150	300	2	9	8	17	2	7	8	15

**Remarks:**  
The current IDIQ contract with L3 Communications expires September 2019. A competitive contract was awarded in June 2018 to two vendors, L3 Communications and Optics 1, for the new STORM variant reducing size, weight and cost of the system. After the integration and qualification of the new systems, future procurements / Delivery Orders will be competed.

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

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 86: Elect Equip - Tactical Surv. (Tac Surv)	<b>P-1 Line Item Number / Title:</b> 0162WC5200 / RADIATION MONITORING SYSTEMS
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	39.547	-	17.393	-	-	-	-	-	-	-	-	56.940
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	39.547	-	17.393	-	-	-	-	-	-	-	-	56.940
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>39.547</b>	-	<b>17.393</b>	-	-	-	-	-	-	-	-	<b>56.940</b>

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

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

**Description:**

The Joint Personal Dosimeter - Individual (JPD-I) will provide a sensor to record and retrieve a Service member's radiation exposure from occupational to tactical levels. This capability provides a Joint solution reducing life-cycle costs while also address lessons learned from Operation Tomodachi. The JPD-I is intended to replace DoD's legacy dosimeters and the Army's PDR-75 reader with the DT-236 watch). The JPD-I will provide a sensor to record and retrieve a Service member's real time indication of total dose, situational awareness with data transfer from the dosimeter to computer, and is accredited through the National Voluntary Laboratory Accreditation Program (NVLAP) to obtain Dose of Record for Warfighter's Medical Records.

Funds in this program have been realigned to program Radiological Detection Systems, SSN M01280.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	-	-	-	-	-	-	-	-
	Total Obligation Authority	-	14.585	-	-	-	-	-	-
ANG	Quantity	-	-	-	-	-	-	-	-
	Total Obligation Authority	-	1.768	-	-	-	-	-	-
AR	Quantity	-	-	-	-	-	-	-	-
	Total Obligation Authority	-	1.040	-	-	-	-	-	-
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	-	-	-	-	-	-	-	-
	<b>Total Obligation Authority</b>	-	<b>17.393</b>	-	-	-	-	-	-

**Justification:**

Program has no FY 2020 request.

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 86: Elect Equip - Tactical Surv. (Tac Surv)	<b>P-1 Line Item Number / Title:</b> 0173BZ0501 / Indirect Fire Protection Family Of Systems
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> 0604741A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	715	305	424	-	-	-	-	-	-	-	-	1,444
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	449.011	666.113	291.497	29.127	-	29.127	0.703	-	-	-	-	1,436.451
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	449.011	666.113	291.497	29.127	-	29.127	0.703	-	-	-	-	1,436.451
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>449.011</b>	<b>666.113</b>	<b>291.497</b>	<b>29.127</b>	<b>-</b>	<b>29.127</b>	<b>0.703</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>1,436.451</b>

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

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	627.987	2,183.977	687.493	-	-	-	-	-	-	-	-	994.772

**Description:**

The Rocket, Artillery, Mortar (RAM) Warn program (H30503) provides early, localized warning of indirect fire (IDF) threats to all maneuver brigade combat teams (BCT). It employs the Air Defense Airspace Management (ADAM) Cell already resident in the BCT Headquarters as the command and control (C2) element; uses the existing radars in the target acquisition platoon of the fires battalion as the sense element; and adds enhanced warning devices, controllers, and dedicated communications devices between the existing radars, ADAM Cell, and warning systems. Army Pre-positioned Stocks (APS) equipment sets are available to supplement the fielded capability based on mission needs. Timely warning will enable those BCT personnel in the hazard area of an inbound IDF threat to seek cover or a prone position prior to impact, thus reducing casualties. RAM Warn was approved for entry into the full rate production (FRP) acquisition phase in April 2014 based on successful completion of low rate initial production (LRIP) exit criteria. Insertion of the Huntsman Secure Network Radio (HSNR) with embedded encryption will address radio obsolescence and provide operational benefits, including simplified training and setup procedures, due to elimination of the KG-175D network encryption device.

The C-RAM Intercept program (H30504) provides a counter-RAM capability to the Indirect Fire Protection Capability (IFPC)/Avenger battalions, 5-5 and 2-44 Air Defense Artillery (ADA), to defend against and defeat enduring indirect fire threats. This capability is provided by fielding existing Land-based Phalanx Weapon System (LPWS) guns previously produced as a part of the C-RAM quick reaction capability for theater operations; the guns undergo reset prior to fielding. C-RAM Intercept transitioned to an acquisition program with the approval of the C-RAM Intercept CPD on 22 Aug 2013 and the Army Acquisition Executive's approval of an Acquisition Decision Memorandum (ADM) on 23 August 2013, authorizing the program's entry into the acquisition management system as a post-Milestone C, Acquisition Category (ACAT) III program under the management of the Program Executive Officer, Missiles and Space. Initial issue of LPWS assets to the IFPC/Avenger battalions is ongoing. Full Materiel Release for LPWS with Spiral 6.4.1 is projected for 1QFY22. Full Operational Capability (FOC) is to be determined based on continued deployment of limited LPWS assets in multiple theaters.

The Counter-Unmanned Aircraft Systems (C-UAS) effort (H30505) is in response to Joint Urgent Operational Need (JUON) CC-0558 to support identification, development, testing, evaluation, and integration of technologies to provide an overall evolutionary capability to defeat small UAS threats at 89 U.S. Central Command (CENTCOM) sites. The C-UAS effort provides warfighters with the ability to comprehensively detect, track, identify, and defeat enemy Groups 1 and 2 lightweight, low altitude, commercial off-the-shelf (COTS) UASs.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army									
Quantity	112	283	-	-	-	-	-	-	-
Total Obligation Authority	640.695	278.097	29.127	-	29.127	0.703	-	-	-

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<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2020 Army							<b>Date:</b> March 2019		
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 86: Elect Equip - Tactical Surv. (Tac Surv)					<b>P-1 Line Item Number / Title:</b> 0173BZ0501 / Indirect Fire Protection Family Of Systems				
<b>ID Code</b> (A=Service Ready, B=Not Service Ready):			<b>Program Elements for Code B Items:</b> N/A			<b>Other Related Program Elements:</b> 0604741A			
<b>Line Item MDAP/MAIS Code:</b> N/A									

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
ANG	Quantity	193	141	-	-	-	-	-	-	-
	Total Obligation Authority	25.418	13.400	-	-	-	-	-	-	-
<b>Total:</b> Secondary Distribution	<b>Quantity</b>	<b>305</b>	<b>424</b>	-	-	-	-	-	-	-
	<b>Total Obligation Authority</b>	<b>666.113</b>	<b>291.497</b>	<b>29.127</b>	-	<b>29.127</b>	<b>0.703</b>	-	-	-

**UNCLASSIFIED**

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

**Appropriation / Budget Activity / Budget Sub Activity:** 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 86: Elect Equip - Tactical Surv. (Tac Surv) **P-1 Line Item Number / Title:** 0173BZ0501 / Indirect Fire Protection Family Of Systems

**ID Code** (A=Service Ready, B=Not Service Ready): **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0604741A

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

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	H30503 / Rocket, Artillery, Mortar (RAM) Warn				712 / 149.064	241 / 31.380	399 / 34.393	- / -	- / -	- / -
P-5	H30504 / C-RAM Enhancements				3 / 160.197	6 / 63.000	- / 6.304	- / 9.127	- / -	- / 9.127
P-5	H30505 / Counter Unmanned Aerial Systems (C-UAS) Efforts				- / 139.750	58 / 571.733	25 / 250.800	- / 20.000	- / -	- / 20.000
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>715 / 449.011</b>	<b>305 / 666.113</b>	<b>424 / 291.497</b>	<b>- / 29.127</b>	<b>- / -</b>	<b>- / 29.127</b>

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

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

**Justification:**  
 FY 2020 Base procurement dollars (H30504) in the amount of \$9.127 million continue interim contractor logistics support for fielded systems and continue efforts required for transition to sustainment in 1QFY23 (i.e., 5-5 and 2-44 ADA maintainer new equipment training and establishment of CASCOT institutional training base).  
  
 FY 2020 Base procurement dollars in the amount of \$20.000 million were programmed on H30505 for C-UAS capability at CONUS high priority sites (in support of Joint Emergent Operational Need (JEON) ST-0008).  
  
 In accordance with Section 1815 of the FY 2008 National Defense Authorization Act (P.L. 110-181), this item is necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities.

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86	<b>P-1 Line Item Number / Title:</b> 0173BZ0501 / Indirect Fire Protection Family Of Systems	<b>Item Number / Title [DODIC]:</b> H30503 / Rocket, Artillery, Mortar (RAM) Warn

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity <i>(Units in Each)</i>	712	241	399	-	-	-
Gross/Weapon System Cost <i>(\$ in Millions)</i>	149.064	31.380	34.393	-	-	-
Less PY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-
Net Procurement (P-1) <i>(\$ in Millions)</i>	149.064	31.380	34.393	-	-	-
Plus CY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-
<b>Total Obligation Authority</b> <i>(\$ in Millions)</i>	<b>149.064</b>	<b>31.380</b>	<b>34.393</b>	-	-	-

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

Initial Spares <i>(\$ in Millions)</i>	-	-	-	-	-	-
Gross/Weapon System Unit Cost <i>(\$ in Thousands)</i>	209.360	130.207	86.198	-	-	-

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Flyaway Cost																		
Recurring Cost																		
Hardware & Integration - RAM Warn BCT	92.621	1,320	122.260	68.797	241	16.580	71.386	399	28.483	-	-	-	-	-	-	-	-	-
CONUS High Priority C-UAS Sites	-	-	-	-	-	10.000	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	122.260	-	-	26.580	-	-	28.483	-	-	-	-	-	-	-	-	-
<i>Subtotal: Flyaway Cost</i>	-	-	122.260	-	-	26.580	-	-	28.483	-	-	-	-	-	-	-	-	-
Support - Fielding Cost																		
Fielding	-	-	15.806	-	-	3.090	-	-	3.180	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - Fielding Cost</i>	-	-	15.806	-	-	3.090	-	-	3.180	-	-	-	-	-	-	-	-	-
Support - Program Management Cost																		
Government Management	-	-	10.998	-	-	1.710	-	-	2.730	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - Program Management Cost</i>	-	-	10.998	-	-	1.710	-	-	2.730	-	-	-	-	-	-	-	-	-
<b>Gross/Weapon System Cost</b>	<b>209.360</b>	<b>712</b>	<b>149.064</b>	<b>130.207</b>	<b>241</b>	<b>31.380</b>	<b>86.198</b>	<b>399</b>	<b>34.393</b>	-	-	-	-	-	-	-	-	-



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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86	<b>P-1 Line Item Number / Title:</b> 0173BZ0501 / Indirect Fire Protection Family Of Systems	<b>Item Number / Title [DODIC]:</b> H30503 / Rocket, Artillery, Mortar (RAM) Warn

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

Cost Element Breakout	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Hardware & Integration - RAM Warn BCT	92.621	1,320	122.260	68.797	241	16.580	71.386	399	28.483	-	-	-	-	-	-	-	-	-
Hardware & Integration - RAM Warn EDI	53.375	80	4.270	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hardware & Integration - RAM Warn BCT Secure Comms	95.153	1,240	117.990	68.797	241	16.580	71.386	399	28.483	-	-	-	-	-	-	-	-	-

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	48	258	-	-	-
	Total Obligation Authority	5.962	20.993	-	-	-
ANG	Quantity	193	141	-	-	-
	Total Obligation Authority	25.418	13.400	-	-	-
<b>Total:</b>	<b>Quantity</b>	<b>241</b>	<b>399</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>31.380</b>	<b>34.393</b>	<b>-</b>	<b>-</b>	<b>-</b>

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86	<b>P-1 Line Item Number / Title:</b> 0173BZ0501 / Indirect Fire Protection Family Of Systems	<b>Item Number / Title [DODIC]:</b> H30504 / C-RAM Enhancements
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**ID Code** (A=Service Ready, B=Not Service Ready) : **MDAP/MAIS Code:**

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity (Units in Each)	3	6	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	160.197	63.000	6.304	9.127	-	9.127
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	160.197	63.000	6.304	9.127	-	9.127
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>160.197</b>	<b>63.000</b>	<b>6.304</b>	<b>9.127</b>	<b>-</b>	<b>9.127</b>

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

Initial Spares (\$ in Millions)	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	53,399.000	10,500.000	-	-	-	-

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Flyaway Cost																		
Recurring Cost																		
Hardware & Integration	893.229	48	42.875	10,500.000	6	63.000	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	42.875	-	-	63.000	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Flyaway Cost</i>	-	-	42.875	-	-	63.000	-	-	-	-	-	-	-	-	-	-	-	-
Support - Fielding Cost																		
Fielding	-	-	104.443	-	-	-	-	-	5.800	-	-	8.397	-	-	-	-	-	8.397
<i>Subtotal: Support - Fielding Cost</i>	-	-	104.443	-	-	-	-	-	5.800	-	-	8.397	-	-	-	-	-	8.397
Support - Program Management Cost																		
Government Management	-	-	12.879	-	-	-	-	-	0.504	-	-	0.730	-	-	-	-	-	0.730
<i>Subtotal: Support - Program Management Cost</i>	-	-	12.879	-	-	-	-	-	0.504	-	-	0.730	-	-	-	-	-	0.730
<b>Gross/Weapon System Cost</b>	<b>53,399.000</b>	<b>3</b>	<b>160.197</b>	<b>10,500.000</b>	<b>6</b>	<b>63.000</b>	<b>-</b>	<b>-</b>	<b>6.304</b>	<b>-</b>	<b>-</b>	<b>9.127</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>9.127</b>

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	6	-	-	-	-
	Total Obligation Authority	63.000	6.304	9.127	-	9.127
<b>Total:</b>	<b>Quantity</b>	<b>6</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>			<b>Date:</b> March 2019			
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86		<b>P-1 Line Item Number / Title:</b> 0173BZ0501 / Indirect Fire Protection Family Of Systems		<b>Item Number / Title [DODIC]:</b> H30504 / C-RAM Enhancements		
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :			<b>MDAP/MAIS Code:</b>			
<b>Secondary Distribution</b>		<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	63.000	6.304	9.127	-	9.127

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**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86	<b>P-1 Line Item Number / Title:</b> 0173BZ0501 / Indirect Fire Protection Family Of Systems	<b>Item Number / Title [DODIC]:</b> H30505 / Counter Unmanned Aerial Systems (C-UAS) Efforts

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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<b>Resource Summary</b>	<b>Prior Years</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Procurement Quantity (Units in Each)	-	58	25	-	-	-
Gross/Weapon System Cost (\$ in Millions)	139.750	571.733	250.800	20.000	-	20.000
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	139.750	571.733	250.800	20.000	-	20.000
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>139.750</b>	<b>571.733</b>	<b>250.800</b>	<b>20.000</b>	<b>-</b>	<b>20.000</b>

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

Initial Spares (\$ in Millions)	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	-	9,857.466	10,032.000	-	-	-

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

<b>Cost Elements</b>	<b>Prior Years</b>			<b>FY 2018</b>			<b>FY 2019</b>			<b>FY 2020 Base</b>			<b>FY 2020 OCO</b>			<b>FY 2020 Total</b>		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
<b>Flyaway Cost</b>																		
<b>Recurring Cost</b>																		
Fixed/Mobile Production & Integration	2,278.087	23	52.396	3,675.086	58	213.155	4,286.960	25	107.174	-	-	-	-	-	-	-	-	-
Kinetic Defeat Production & Integration	-	-	9.863	-	-	92.944	-	-	47.100	-	-	-	-	-	-	-	-	-
Sensor Procurement & Integration	-	-	31.213	-	-	190.553	-	-	25.280	-	-	-	-	-	-	-	-	-
Dismounted/Handheld Systems Procurement & Integration	-	-	12.696	-	-	4.554	-	-	2.000	-	-	-	-	-	-	-	-	-
CONUS High Priority Sites	-	-	-	-	-	10.000	-	-	-	-	-	20.000	-	-	-	-	-	20.000
<i>Subtotal: Recurring Cost</i>	-	-	<i>106.168</i>	-	-	<i>511.206</i>	-	-	<i>181.554</i>	-	-	<i>20.000</i>	-	-	-	-	-	<i>20.000</i>
<b>Subtotal: Flyaway Cost</b>	-	-	<b>106.168</b>	-	-	<b>511.206</b>	-	-	<b>181.554</b>	-	-	<b>20.000</b>	-	-	-	-	-	<b>20.000</b>
<b>Support - Fielding Cost</b>																		
Fielding	-	-	23.660	-	-	49.269	-	-	58.567	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - Fielding Cost</i>	-	-	<i>23.660</i>	-	-	<i>49.269</i>	-	-	<i>58.567</i>	-	-	-	-	-	-	-	-	-
<b>Support - Program Management Cost</b>																		
Government Management	-	-	9.922	-	-	11.258	-	-	10.679	-	-	-	-	-	-	-	-	-

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86	<b>P-1 Line Item Number / Title:</b> 0173BZ0501 / Indirect Fire Protection Family Of Systems	<b>Item Number / Title [DODIC]:</b> H30505 / Counter Unmanned Aerial Systems (C-UAS) Efforts
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :		<b>MDAP/MAIS Code:</b>

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
<i>Subtotal: Support - Program Management Cost</i>	-	-	9.922	-	-	11.258	-	-	10.679	-	-	-	-	-	-	-	-	-
<b>Gross/Weapon System Cost</b>	-	-	139.750	9,857.466	58	571.733	10,032.000	25	250.800	-	-	20.000	-	-	-	-	-	20.000

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	58	25	-	-	-
	Total Obligation Authority	571.733	250.800	20.000	-	20.000
<b>Total:</b>	Quantity	58	25	-	-	-
<b>Secondary Distribution</b>	Total Obligation Authority	571.733	250.800	20.000	-	20.000

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 86: Elect Equip - Tactical Surv. (Tac Surv)	<b>P-1 Line Item Number / Title:</b> 0177K22001 / FAMILY OF WEAPON SIGHTS (FWS)
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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: 0603774A, 0604710A
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Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	4,306	4,436	8,488	7,759	-	7,759	8,348	7,993	9,217	9,743	Continuing	Continuing
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	81.730	59.105	126.038	120.883	-	120.883	158.731	158.272	176.109	190.390	Continuing	Continuing
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	81.730	59.105	126.038	120.883	-	120.883	158.731	158.272	176.109	190.390	Continuing	Continuing
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>81.730</b>	<b>59.105</b>	<b>126.038</b>	<b>120.883</b>	<b>-</b>	<b>120.883</b>	<b>158.731</b>	<b>158.272</b>	<b>176.109</b>	<b>190.390</b>	<b>Continuing</b>	<b>Continuing</b>

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

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	18.980	13.324	14.849	15.580	-	15.580	19.014	19.801	19.107	19.541	Continuing	Continuing

**Description:**

Family of Weapon Sights (FWS) is a family of weapon sights that enable combat forces to acquire and engage targets with small arms and to conduct surveillance and fire control under day/night obscurants, no-light, and adverse weather conditions. The family utilizes advancements in thermal and low light level sensors to produce Individual (I), Crew-Served (CS), and Sniper (S) weapon sights operable in-line with a day optic or in stand-alone mode. This project integrates smaller pixel focal plane arrays in multiple large format sizes to improve sensitivity, clarity, and range, while simultaneously reducing the size, weight and power consumption of all variants. The FWS-I variant is a weapon mounted long-wave infrared sensor that enables Soldiers to fire quickly and accurately from any carry position and with significantly reduced exposure to enemy fire by providing a wireless zeroed weapon aimpoint in the Soldier's Enhanced Night Vision Goggle (ENVG) goggle or day display on the helmet. Leveraging the success of the Individual variant development, the FWS-CS variant operates as the primary sight. The FWS-CS system includes a wireless Helmet Mount Display (HMD) and provides the Soldier with input from a laser range finder device, resulting in a more accurate aimpoint that adjusts automatically for range, ammunition characteristics, and vertical angle. The FWS-S variant mounts in-line with the Sniper's direct view optic providing a thermal imagery capability to the host weapon at the weapon's maximum effective range, plus 20% overmatch. FWS-S provides Snipers a large format display with increased pixel density that enables accurate long range engagements while maintaining day sight, extending the lethality and provide exceptional observation. This budget line also supports Thermal Weapon Sight parts obsolescence through the Future Years.

FWS-I Army Acquisition Objective (AAO) is 36,443

FWS-CS AAO is 25,310

FWS-S AAO is 3,645

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	3,484	7,358	5,902	-	5,902	5,326	7,255	9,217	9,743
	Total Obligation Authority	47.653	107.586	100.964	-	100.964	93.728	128.084	176.109	190.390
ANG	Quantity	952	1,130	1,695	-	1,695	3,022	738	-	-
	Total Obligation Authority	11.452	18.452	18.181	-	18.181	65.003	30.188	-	-
AR	Quantity	-	-	162	-	162	-	-	-	-
	Total Obligation Authority	-	-	1.738	-	1.738	-	-	-	-

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 86: Elect Equip - Tactical Surv. (Tac Surv)	<b>P-1 Line Item Number / Title:</b> 0177K22001 / FAMILY OF WEAPON SIGHTS (FWS)
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready): B	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> 0603774A, 0604710A
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**Line Item MDAP/MAIS Code:** N/A

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
<b>Total:</b>	Quantity	4,436	8,488	7,759	-	7,759	8,348	7,993	9,217	9,743
<b>Secondary Distribution</b>	Total Obligation Authority	59.105	126.038	120.883	-	120.883	158.731	158.272	176.109	190.390

**UNCLASSIFIED**

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

**Appropriation / Budget Activity / Budget Sub Activity:**  
 2035A: Other Procurement, Army / BA 02: Communications and Electronics  
 Equipment / BSA 86: Elect Equip - Tactical Surv. (Tac Surv)

**P-1 Line Item Number / Title:**  
 0177K22001 / FAMILY OF WEAPON SIGHTS (FWS)

**ID Code** (A=Service Ready, B=Not Service Ready): B **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0603774A, 0604710A

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

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	K22002 / FWS-INDIVIDUAL	P-5a, P-21	B		4,306 / 81.730	4,436 / 59.105	8,488 / 94.932	7,602 / 81.541	- / -	7,602 / 81.541
P-5	K22003 / FWS-CREW SERVED	P-5a, P-21	B		- / -	- / -	- / 31.106	157 / 39.342	- / -	157 / 39.342
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>4,306 / 81.730</b>	<b>4,436 / 59.105</b>	<b>8,488 / 126.038</b>	<b>7,759 / 120.883</b>	<b>- / -</b>	<b>7,759 / 120.883</b>

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

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

**Justification:**

FY2020 Base procurement dollars in the amount of \$81.541 millions supports the procurement of 7,602 FWS-I production systems.

FY 2020 Base procurement dollars in the amount of \$39.342 millions supports the procurement of 110 FWS-CS in a Low Rate Initial Production (LRIP) award.

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



**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86		<b>P-1 Line Item Number / Title:</b> 0177K22001 / FAMILY OF WEAPON SIGHTS (FWS)
		<b>Item Number / Title [DODIC]:</b> K22002 / FWS-INDIVIDUAL

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : B	<b>MDAP/MAIS Code:</b>
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Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity (Units in Each)	4,306	4,436	8,488	7,602	-	7,602
Gross/Weapon System Cost (\$ in Millions)	81.730	59.105	94.932	81.541	-	81.541
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	81.730	59.105	94.932	81.541	-	81.541
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>81.730</b>	<b>59.105</b>	<b>94.932</b>	<b>81.541</b>	<b>-</b>	<b>81.541</b>

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

Initial Spares (\$ in Millions)	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	18.980	13.324	11.184	10.726	-	10.726

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Flyaway Cost																		
Recurring Cost																		
FWS - I Hardware (LRIP Assets)	-	-	53.853	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FWS - I Hardware (FRP Assets) <sup>(f)</sup>	-	-	-	8.926	4,436	39.596	8.492	9,109	77.354	8.557	7,602	65.054	-	-	-	8.557	7,602	65.054
Program Management Support	-	-	3.154	-	-	2.221	-	-	1.600	-	-	1.700	-	-	-	-	-	1.700
Government Engineering Support	-	-	4.837	-	-	2.546	-	-	1.739	-	-	1.801	-	-	-	-	-	1.801
FWS-I Fielding	-	-	11.409	-	-	2.203	-	-	1.500	-	-	1.500	-	-	-	-	-	1.500
Engineering Change Proposal	-	-	2.829	-	-	4.360	-	-	2.321	-	-	2.200	-	-	-	-	-	2.200
Testing	-	-	1.071	-	-	-	-	-	0.773	-	-	0.800	-	-	-	-	-	0.800
Ancillary Support	-	-	4.577	-	-	3.779	-	-	2.064	-	-	1.390	-	-	-	-	-	1.390
FWS-I Spares	-	-	-	-	-	4.400	-	-	7.581	-	-	7.100	-	-	-	-	-	7.100
<i>Subtotal: Recurring Cost</i>	-	-	<i>81.730</i>	-	-	<i>59.105</i>	-	-	<i>94.932</i>	-	-	<i>81.541</i>	-	-	-	-	-	<i>81.541</i>
<i>Subtotal: Flyaway Cost</i>	-	-	<i>81.730</i>	-	-	<i>59.105</i>	-	-	<i>94.932</i>	-	-	<i>81.541</i>	-	-	-	-	-	<i>81.541</i>
<b>Gross/Weapon System Cost</b>	<b>18.980</b>	<b>4,306</b>	<b>81.730</b>	<b>13.324</b>	<b>4,436</b>	<b>59.105</b>	<b>11.184</b>	<b>8,488</b>	<b>94.932</b>	<b>10.726</b>	<b>7,602</b>	<b>81.541</b>	-	-	-	<b>10.726</b>	<b>7,602</b>	<b>81.541</b>

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	3,484	7,358	5,745	-	5,745

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86	<b>P-1 Line Item Number / Title:</b> 0177K22001 / FAMILY OF WEAPON SIGHTS (FWS)	<b>Item Number / Title [DODIC]:</b> K22002 / FWS-INDIVIDUAL
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**ID Code** (A=Service Ready, B=Not Service Ready) : B **MDAP/MAIS Code:**

<b>Secondary Distribution</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
	Total Obligation Authority	47.653	82.290	61.622	61.622
ANG	Quantity	952	1,130	1,695	1,695
	Total Obligation Authority	11.452	12.642	18.181	18.181
AR	Quantity	-	-	162	162
	Total Obligation Authority	-	-	1.738	1.738
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	<b>4,436</b>	<b>8,488</b>	<b>7,602</b>	<b>7,602</b>
	<b>Total Obligation Authority</b>	<b>59.105</b>	<b>94.932</b>	<b>81.541</b>	<b>81.541</b>

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

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86	<b>P-1 Line Item Number / Title:</b> 0177K22001 / FAMILY OF WEAPON SIGHTS (FWS)	<b>Item Number / Title [DODIC]:</b> K22002 / FWS-INDIVIDUAL
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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
FWS - I Hardware (FRP Assets) <sup>(†)</sup>		2018	DRS,RSTA, Inc. / Melbourne, FL	C / IDIQ	ACC-APG	Aug 2018	Aug 2019	4,436	8.926	Y		
FWS - I Hardware (FRP Assets) <sup>(†)</sup>		2019	BAE Systems / Austin, TX	C / IDIQ	ACC-APG	Jun 2019	Dec 2019	4,554	8.492	Y		
FWS - I Hardware (FRP Assets) <sup>(†)</sup>		2019	DRS,RSTA, Inc. / Melbourne, FL	C / IDIQ	ACC-APG	Jun 2019	Dec 2019	4,555	8.492	Y		
FWS - I Hardware (FRP Assets) <sup>(†)</sup>		2020	BAE Systems / Austin, TX	C / IDIQ	ACC-APG	May 2020	Dec 2020	3,801	8.557	Y		
FWS - I Hardware (FRP Assets) <sup>(†)</sup>		2020	DRS,RSTA, Inc. / Melbourne, FL	C / IDIQ	ACC-APG	May 2020	Dec 2020	3,801	8.557	Y		

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



**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86	<b>P-1 Line Item Number / Title:</b> 0177K22001 / FAMILY OF WEAPON SIGHTS (FWS)	<b>Item Number / Title [DODIC]:</b> K22002 / FWS-INDIVIDUAL
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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			
FWS - I Hardware (FRP Assets)																																	
	2	2018	ARMY	4,436	1,545	2,891	963	964	964																				0				
	1	2019	ARMY	4,554	0	4,554	-	-	400	400	400	400	400	400	425	425	425	425	454										0				
	2	2019	ARMY	4,555	0	4,555	-	-	400	400	400	400	400	400	425	425	425	425	455										0				
	1	2020	ARMY	3,801	0	3,801								A -	-	-	-	-	-	-	300	300	300	300	300	300	300	300	325	325	325	726	
	2	2020	ARMY	3,801	0	3,801								A -	-	-	-	-	-	-	300	300	300	300	300	300	300	300	300	325	325	325	726

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86	<b>P-1 Line Item Number / Title:</b> 0177K22001 / FAMILY OF WEAPON SIGHTS (FWS)	<b>Item Number / Title [DODIC]:</b> K22002 / FWS-INDIVIDUAL
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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
FWS - I Hardware (FRP Assets)																															
	2	2018	ARMY	4,436	4,436	0																							0		
	1	2019	ARMY	4,554	4,554	0																							0		
	2	2019	ARMY	4,555	4,555	0																							0		
	1	2020	ARMY	3,801	3,075	726	350	376																					0		
	2	2020	ARMY	3,801	3,075	726	350	376																					0		
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86	<b>P-1 Line Item Number / Title:</b> 0177K22001 / FAMILY OF WEAPON SIGHTS (FWS)	<b>Item Number / Title [DODIC]:</b> K22002 / FWS-INDIVIDUAL
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MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Month)			Procurement Leadtime (Months)								
		MSR For 2020	1-8-5 For 2020	MAX For 2020	Initial				Reorder				
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	
1	BAE Systems - Austin, TX	10	750	1,200	2	8	7	15	2	7	7	14	
2	DRS,RSTA, Inc. - Melbourne, FL	10	750	1,200	2	10	12	22	2	8	7	15	

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

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

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>					<b>Date:</b> March 2019			
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86			<b>P-1 Line Item Number / Title:</b> 0177K22001 / FAMILY OF WEAPON SIGHTS (FWS)			<b>Item Number / Title [DODIC]:</b> K22003 / FWS-CREW SERVED		
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : B				<b>MDAP/MAIS Code:</b>				
<b>Resource Summary</b>			<b>Prior Years</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Procurement Quantity ( <i>Units in Each</i> )			-	-	-	157	-	157
Gross/Weapon System Cost ( <i>\$ in Millions</i> )			-	-	31.106	39.342	-	39.342
Less PY Advance Procurement ( <i>\$ in Millions</i> )			-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )			-	-	31.106	39.342	-	39.342
Plus CY Advance Procurement ( <i>\$ in Millions</i> )			-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )			-	-	<b>31.106</b>	<b>39.342</b>	-	<b>39.342</b>
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>								
Initial Spares ( <i>\$ in Millions</i> )			-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )			-	-	-	250.586	-	250.586

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Flyaway Cost																		
Recurring Cost																		
Project Management Support	-	-	-	-	-	-	-	-	0.766	-	-	1.864	-	-	-	-	-	1.864
FWS-CS Hardware Qualification System <sup>(†)</sup>	-	-	-	-	-	-	158.924	119	18.912	210.100	110	23.111	-	-	-	210.100	110	23.111
Government Engineering Support	-	-	-	-	-	-	-	-	0.803	-	-	0.803	-	-	-	-	-	0.803
Fielding	-	-	-	-	-	-	-	-	1.307	-	-	0.078	-	-	-	-	-	0.078
Engineering Change Proposal	-	-	-	-	-	-	-	-	1.144	-	-	1.520	-	-	-	-	-	1.520
Testing	-	-	-	-	-	-	-	-	0.505	-	-	0.505	-	-	-	-	-	0.505
Ancillary Support	-	-	-	-	-	-	-	-	1.111	-	-	1.130	-	-	-	-	-	1.130
Documentation	-	-	-	-	-	-	-	-	5.485	-	-	10.331	-	-	-	-	-	10.331
SOCOM Army Preposition Stock	-	-	-	-	-	-	35.000	15	0.525	-	-	-	-	-	-	-	-	-
TMDE	-	-	-	-	-	-	-	-	0.548	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	<b>31.106</b>	-	-	<b>39.342</b>	-	-	-	-	-	<b>39.342</b>
<i>Subtotal: Flyaway Cost</i>	-	-	-	-	-	-	-	-	<b>31.106</b>	-	-	<b>39.342</b>	-	-	-	-	-	<b>39.342</b>
<b>Gross/Weapon System Cost</b>	-	-	-	-	-	-	-	-	<b>31.106</b>	<b>250.586</b>	<b>157</b>	<b>39.342</b>	-	-	-	<b>250.586</b>	<b>157</b>	<b>39.342</b>



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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86	<b>P-1 Line Item Number / Title:</b> 0177K22001 / FAMILY OF WEAPON SIGHTS (FWS)	<b>Item Number / Title [DODIC]:</b> K22003 / FWS-CREW SERVED
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**ID Code** (A=Service Ready, B=Not Service Ready) : B **MDAP/MAIS Code:**

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	-	-	157	-	157
	Total Obligation Authority	-	25.296	39.342	-	39.342
ANG	Quantity	-	-	-	-	-
	Total Obligation Authority	-	5.810	-	-	-
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	-	-	<b>157</b>	-	<b>157</b>
	<b>Total Obligation Authority</b>	-	<b>31.106</b>	<b>39.342</b>	-	<b>39.342</b>

(†) indicates the presence of a P-5a

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86	<b>P-1 Line Item Number / Title:</b> 0177K22001 / FAMILY OF WEAPON SIGHTS (FWS)	<b>Item Number / Title [DODIC]:</b> K22003 / FWS-CREW SERVED
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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
FWS-CS Hardware Qualification System <sup>(†)</sup>		2019	TBS / TBD	C / IDIQ	ACC APG	Nov 2018	Sep 2019	119	158.924	Y		
FWS-CS Hardware Qualification System <sup>(†)</sup>		2020	TBS / TBD	C / IDIQ	ACC APG	Nov 2019	Jul 2020	110	210.100	Y		

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

**Remarks:**

NOTE: The Milestone C decision currently scheduled for first quarter of FY2020.

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86	<b>P-1 Line Item Number / Title:</b> 0177K22001 / FAMILY OF WEAPON SIGHTS (FWS)	<b>Item Number / Title [DODIC]:</b> K22003 / FWS-CREW SERVED
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Cost Elements <i>(Units in Each)</i>						Fiscal Year 2019														Fiscal Year 2020														BALANCE	
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2018	BAL DUE AS OF 1 OCT	Calendar Year 2019														Calendar Year 2020														
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					
FWS-CS Hardware Qualification System																																			
1		2019	ARMY	119	0	119		A	-	-	-	-	-	-	-	-	-	-	20	-	49	-	50							0					
1		2020	ARMY	110	0	110															A	-	-	-	-	-	-	-	25	25	20	40			
								O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S				
								C	O	E	A	E	A	A	A	U	U	U	E	C	O	E	A	E	A	A	A	U	J	J	A	S			
								T	V	C	N	B	R	R	Y	N	L	G	P	T	V	C	N	B	R	R	Y	N	L	G	P				

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86	<b>P-1 Line Item Number / Title:</b> 0177K22001 / FAMILY OF WEAPON SIGHTS (FWS)	<b>Item Number / Title [DODIC]:</b> K22003 / FWS-CREW SERVED
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Cost Elements <i>(Units in Each)</i>						Fiscal Year 2021														Fiscal Year 2022														BALANCE																													
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2020	BAL DUE AS OF 1 OCT	Calendar Year 2021														Calendar Year 2022																																										
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P																																	
FWS-CS Hardware Qualification System																																																															
1		2019	ARMY	119	119	0																													0																												
1		2020	ARMY	110	70	40	20	20																													0																										
<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td>O C T</td> <td>N O V</td> <td>D E C</td> <td>J A N</td> <td>F E B</td> <td>M A R</td> <td>A P R</td> <td>M A Y</td> <td>J U N</td> <td>J U L</td> <td>A U G</td> <td>S E P</td> <td>O C T</td> <td>N O V</td> <td>D E C</td> <td>J A N</td> <td>F E B</td> <td>M A R</td> <td>A P R</td> <td>M A Y</td> <td>J U N</td> <td>J U L</td> <td>A U G</td> <td>S E P</td> <td>O C T</td> <td>N O V</td> <td>D E C</td> <td>J A N</td> <td>F E B</td> <td>M A R</td> <td>A P R</td> <td>M A Y</td> <td>J U N</td> <td>J U L</td> <td>A U G</td> <td>S E P</td> </tr> </table>																												O C T	N O V	D E C	J A N	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	O C T	N O V	D E C	J A N	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	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P																												

**UNCLASSIFIED**

<b>Exhibit P-21, Production Schedule:</b> PB 2020 Army								<b>Date:</b> March 2019				
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86				<b>P-1 Line Item Number / Title:</b> 0177K22001 / FAMILY OF WEAPON SIGHTS (FWS)				<b>Item Number / Title [DODIC]:</b> K22003 / FWS-CREW SERVED				
MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Month)			Procurement Leadtime (Months)							
		MSR For 2020	1-8-5 For 2020	MAX For 2020	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	TBS - TBD	10	350	800	2	1	8	9	2	2	8	10

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

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

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 86: Elect Equip - Tactical Surv. (Tac Surv)	<b>P-1 Line Item Number / Title:</b> 0178AD3200 / Artillery Accuracy Equip
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	57	-	-	-	-	-	-	-	-	-	-	57
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	257.148	2.129	-	-	-	-	-	-	-	-	-	259.277
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	257.148	2.129	-	-	-	-	-	-	-	-	-	259.277
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>257.148</b>	<b>2.129</b>	-	-	-	-	-	-	-	-	-	<b>259.277</b>

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

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	4,511.368	-	-	-	-	-	-	-	-	-	-	4,548.719

**Description:**

The Improved Position and Azimuth Determining System (IPADS) provides common inertial survey control for all U.S. Army and Marine Corps Field Artillery, Mortar, Artillery Meteorological and Radar systems. The IPADS, enhanced with the Global Positioning System (GPS) (IPADS-G), addresses deficiencies of the fire support community by providing the ability to maintain the current accuracy of the IPADS without stopping for zero velocity updates, thereby increasing artillery timeliness, availability of fires, lethality, survivability, and force protection on extended convoys or artillery missions. The IPADS-G can be aided by an internal GPS receiver; however, it must also be capable of operating in an inertial fashion independently of GPS aiding.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	-	-	-	-	-	-	-	-
	Total Obligation Authority	1.055	-	-	-	-	-	-	-
ANG	Quantity	-	-	-	-	-	-	-	-
	Total Obligation Authority	1.074	-	-	-	-	-	-	-
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	-	-	-	-	-	-	-	-
	<b>Total Obligation Authority</b>	<b>2.129</b>	-	-	-	-	-	-	-

**Justification:**

Program has no FY 2020 funding request.

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

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 86: Elect Equip - Tactical Surv. (Tac Surv)	<b>P-1 Line Item Number / Title:</b> 0200K27900 / Profiler
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	9	-	-	-	-	-	-	-	-	9
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	206.638	-	0.171	-	-	-	-	-	-	-	-	206.809
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	206.638	-	0.171	-	-	-	-	-	-	-	-	206.809
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>206.638</b>	-	<b>0.171</b>	-	-	-	-	-	-	-	-	<b>206.809</b>

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

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	-	-	19.000	-	-	-	-	-	-	-	-	22,978.778

**Description:**

The Profiler Virtual Module (PVM) provides meteorological (MET) data that include wind speed, wind direction, temperature, barometric pressure, and humidity information required for use in the Advanced Field Artillery Tactical Data System (AFATDS). The information is required for precise targeting and terminal guidance to Field Artillery assets with PVM improving the accuracy of predictive fires solutions and allows for first round effects on target and reduces the risk of fratricide. This capability increases the lethality of indirect fire systems such as the rocket launchers, self-propelled or towed howitzers, and mortars.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army									
Quantity	-	9	-	-	-	-	-	-	-
Total Obligation Authority	-	0.171	-	-	-	-	-	-	-
<b>Total:</b>									
<b>Secondary Distribution</b>									
Quantity	-	9	-	-	-	-	-	-	-
Total Obligation Authority	-	0.171	-	-	-	-	-	-	-

**Justification:**

The program has no FY 2020 funding request.

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

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 86: Elect Equip - Tactical Surv. (Tac Surv)	<b>P-1 Line Item Number / Title:</b> 0245W61990 / JOINT BATTLE COMMAND - PLATFORM (JBC-P)
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> 0203759A, 0604805A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	15,316	23,732	19,692	12,061	-	12,061	10,820	7,137	1,463	3	Continuing	Continuing
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	806.064	342.649	401.991	265.667	25.568	291.235	246.166	183.106	160.856	154.461	Continuing	Continuing
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	806.064	342.649	401.991	265.667	25.568	291.235	246.166	183.106	160.856	154.461	Continuing	Continuing
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>806.064</b>	<b>342.649</b>	<b>401.991</b>	<b>265.667</b>	<b>25.568</b>	<b>291.235</b>	<b>246.166</b>	<b>183.106</b>	<b>160.856</b>	<b>154.461</b>	<b>Continuing</b>	<b>Continuing</b>

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

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	52.629	14.438	20.414	22.027	-	24.147	22.751	25.656	109.949	51,487.000	Continuing	Continuing

**Description:**

Joint Battle Command-Platform (JBC-P) supports the Army Network Modernization Strategy Line of Effort 2, Common Operating Environment (COE). The Mounted Family of Computer Systems (MFOCS) enables the JBC-P system to support the COE by utilizing:

- Interoperable data, message, and waveforms
- Integration with Joint C4ISR and strike capabilities
- Sensors and applications that enable operations across domains
- Accelerates pure fleeting of JBC-P

JBC-P is the cornerstone of Joint Forces' Command and Control (C2), Situational Awareness (SA), and Communications. JBC-P provides secure Blue Force Tracking (BFT) capability at the Platform and Command Post levels, and continuous near-real-time identification of friendly locations, reported enemy and hazardous locations populating the tactical Common Operating Picture (COP). JBC-P enables Joint, Net-Centric C2/Battle Command by seamlessly passing/sharing relevant information vertically and horizontally, within all tactical levels of command and control. JBC-P is designed to be used on L-Band Satellite Networks and terrestrial radios.

The JBC-P program fields hardware (vehicle platform computer systems, satellite transceivers, encryption devices, and ancillary equipment), and software capabilities for the full spectrum of military operations. The Army is accelerating the fielding of the newest generation of JBC-P computing hardware in order to address a significant cyber vulnerability and leverage improved capabilities.

JBC-P software will be replaced with Mounted Computing Environment (MCE). Future development will continue to leverage JBC-P hardware and MCE software and integrate multiple warfighting systems into the Platform (mounted) environment; therefore, PM MC is considering incorporating MCE as an engineering change proposal (ECP) to the JBC-P program.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	10,680	9,318	5,428	-	5,428	4,869	3,212	658	1
	Total Obligation Authority	294.257	201.991	119.562	25.568	145.130	110.775	82.398	72.385	108.305
ANG	Quantity	9,492	7,545	4,823	-	4,823	4,328	2,855	585	1



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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 86: Elect Equip - Tactical Surv. (Tac Surv)	<b>P-1 Line Item Number / Title:</b> 0245W61990 / JOINT BATTLE COMMAND - PLATFORM (JBC-P)
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> 0203759A, 0604805A
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**Line Item MDAP/MAIS Code:** N/A

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
	Total Obligation Authority	32.195	150.000	106.236	-	106.236	98.466	73.242	64.342	32.639
AR	Quantity	3,560	2,829	1,810	-	1,810	1,623	1,070	220	1
	Total Obligation Authority	16.197	50.000	39.869	-	39.869	36.925	27.466	24.129	13.517
<b>Total:</b>	<b>Quantity</b>	<b>23,732</b>	<b>19,692</b>	<b>12,061</b>	<b>-</b>	<b>12,061</b>	<b>10,820</b>	<b>7,137</b>	<b>1,463</b>	<b>3</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>342.649</b>	<b>401.991</b>	<b>265.667</b>	<b>25.568</b>	<b>291.235</b>	<b>246.166</b>	<b>183.106</b>	<b>160.856</b>	<b>154.461</b>

**UNCLASSIFIED**

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

**Appropriation / Budget Activity / Budget Sub Activity:**  
 2035A: Other Procurement, Army / BA 02: Communications and Electronics  
 Equipment / BSA 86: Elect Equip - Tactical Surv. (Tac Surv)

**P-1 Line Item Number / Title:**  
 0245W61990 / JOINT BATTLE COMMAND - PLATFORM (JBC-P)

**ID Code** (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0203759A, 0604805A

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

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	W61990 / JOINT BATTLE COMMAND - PLATFORM (JBC-P)	P-5a, P-21	A		15,316 / 806.064	23,732 / 342.649	19,692 / 401.991	12,061 / 265.667	- / 25.568	12,061 / 291.235
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>15,316 / 806.064</b>	<b>23,732 / 342.649</b>	<b>19,692 / 401.991</b>	<b>12,061 / 265.667</b>	<b>- / 25.568</b>	<b>12,061 / 291.235</b>

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

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

**Justification:**

Fiscal Year 2020 Base Procurement dollars in the amount of \$265.667 million supports the procurement of 11,132 vehicle platform computer systems (vehicle computer and log vehicle computer), 929 Command Post systems, satellite transceivers, encryption devices, ancillary equipment, program management support, training, fielding, publications, support equipment, and Post Deployment Software and Support (PDSS).

Fiscal Year 2020 OCO Procurement dollars in the amount of \$25.568 million supports the procurement of 1,060 vehicle platform computer systems (vehicle computer and log vehicle computer) & 89 Command Post systems.

In FY 2020, the Army will continue acceleration of fielding modernized JBC-P hardware and software to get the Army on a common baseline. Modernized fielding of JBC-P is projected to be completed in FY 2023.

Accelerating JBC-P fielding will allow the Army to retire older versions of legacy system Force XXI Battle Command Brigade and Below (FBCB2) and Joint Capabilities Release (JCR) hardware and software, which will reduce interoperability issues and maintenance costs of older hardware and software. As newer hardware and software are fielded, the overall cyber resilience of the system will be improved and older, less resilient systems will be retired.

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

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86	<b>P-1 Line Item Number / Title:</b> 0245W61990 / JOINT BATTLE COMMAND - PLATFORM (JBC-P)	<b>Item Number / Title [DODIC]:</b> W61990 / JOINT BATTLE COMMAND - PLATFORM (JBC-P)

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A	<b>MDAP/MAIS Code:</b>
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<b>Resource Summary</b>	<b>Prior Years</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Procurement Quantity (Units in Each)	15,316	23,732	19,692	12,061	-	12,061
Gross/Weapon System Cost (\$ in Millions)	806.064	342.649	401.991	265.667	25.568	291.235
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	806.064	342.649	401.991	265.667	25.568	291.235
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>806.064</b>	<b>342.649</b>	<b>401.991</b>	<b>265.667</b>	<b>25.568</b>	<b>291.235</b>

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

Initial Spares (\$ in Millions)	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	52.629	14.438	20.414	22.027	-	24.147

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

<b>Cost Elements</b>	<b>Prior Years</b>			<b>FY 2018</b>			<b>FY 2019</b>			<b>FY 2020 Base</b>			<b>FY 2020 OCO</b>			<b>FY 2020 Total</b>		
	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>
<b>Flyaway Cost</b>																		
<b>Recurring Cost</b>																		
JBC-P Veh Computer; LIN C05036 <sup>(t)</sup>	12.032	19,360	232.940	10.316	16,964	175.001	15.217	14,076	214.194	15.369	8,621	132.496	15.369	821	12.618	15.369	9,442	145.114
JBC-P Cmd Post; LIN C05037 <sup>(t)</sup>	10.705	1,214	12.996	10.351	1,073	11.107	15.217	891	13.558	15.369	545	8.376	15.365	52	0.799	15.369	597	9.175
JBC-P Log Mobile; LIN C05055 <sup>(t)</sup>	10.705	5,667	60.665	10.155	4,941	50.176	15.218	4,100	62.394	15.369	2,511	38.592	15.368	239	3.673	15.369	2,750	42.265
JBC-P Log Cmd Post; LIN C05054 <sup>(t)</sup>	10.704	864	9.248	10.191	755	7.694	15.217	626	9.526	15.362	384	5.899	15.351	37	0.568	15.361	421	6.467
Ancillary HW / IKS	-	-	141.131	-	-	17.439	-	-	18.015	-	-	16.260	-	-	7.910	-	-	24.170
System Engineering (MFoCS & Transceiver Services)	-	-	37.766	-	-	10.699	-	-	8.761	-	-	7.125	-	-	-	-	-	7.125
Engineering Changes (Geospatial)	-	-	3.665	-	-	0.147	-	-	-	-	-	-	-	-	-	-	-	-
<b>Subtotal: Recurring Cost</b>	-	-	<b>498.411</b>	-	-	<b>272.262</b>	-	-	<b>326.448</b>	-	-	<b>208.748</b>	-	-	<b>25.568</b>	-	-	<b>234.316</b>
<b>Non Recurring Cost</b>																		
Non-Recurring Eng (ABCT)	-	-	12.177	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Subtotal: Non Recurring Cost</b>	-	-	<b>12.177</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Subtotal: Flyaway Cost</b>	-	-	<b>510.588</b>	-	-	<b>272.262</b>	-	-	<b>326.448</b>	-	-	<b>208.748</b>	-	-	<b>25.568</b>	-	-	<b>234.316</b>

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>												<b>Date:</b> March 2019					
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86						<b>P-1 Line Item Number / Title:</b> 0245W61990 / JOINT BATTLE COMMAND - PLATFORM (JBC-P)						<b>Item Number / Title [DODIC]:</b> W61990 / JOINT BATTLE COMMAND - PLATFORM (JBC-P)					
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A												<b>MDAP/MAIS Code:</b>					

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
<b>Support - Fielding Cost</b>																		
Fielding	-	-	77.082	-	-	22.323	-	-	23.340	-	-	21.465	-	-	-	-	-	21.465
<i>Subtotal: Support - Fielding Cost</i>	-	-	<b>77.082</b>	-	-	<b>22.323</b>	-	-	<b>23.340</b>	-	-	<b>21.465</b>	-	-	-	-	-	<b>21.465</b>
<b>Support - Initial Spares and Repair Parts Cost</b>																		
Initial Spares and Repair Parts	-	-	0.520	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - Initial Spares and Repair Parts Cost</i>	-	-	<b>0.520</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Support - Operational/Site Activation Cost</b>																		
Site/Ship/Vehicle Conversion	-	-	28.685	-	-	6.662	-	-	18.536	-	-	11.550	-	-	-	-	-	11.550
<i>Subtotal: Support - Operational/Site Activation Cost</i>	-	-	<b>28.685</b>	-	-	<b>6.662</b>	-	-	<b>18.536</b>	-	-	<b>11.550</b>	-	-	-	-	-	<b>11.550</b>
<b>Support - Peculiar Support Equipment Cost</b>																		
Support and Handling Equipment	-	-	13.727	-	-	0.873	-	-	0.838	-	-	0.950	-	-	-	-	-	0.950
<i>Subtotal: Support - Peculiar Support Equipment Cost</i>	-	-	<b>13.727</b>	-	-	<b>0.873</b>	-	-	<b>0.838</b>	-	-	<b>0.950</b>	-	-	-	-	-	<b>0.950</b>
<b>Support - Program Management Cost</b>																		
Contractor Management	-	-	39.813	-	-	3.775	-	-	5.000	-	-	4.500	-	-	-	-	-	4.500
<i>Subtotal: Support - Program Management Cost</i>	-	-	<b>39.813</b>	-	-	<b>3.775</b>	-	-	<b>5.000</b>	-	-	<b>4.500</b>	-	-	-	-	-	<b>4.500</b>
<b>Support - System Engineering Cost</b>																		
System Engineering	-	-	23.012	-	-	8.668	-	-	7.801	-	-	6.500	-	-	-	-	-	6.500
<i>Subtotal: Support - System Engineering Cost</i>	-	-	<b>23.012</b>	-	-	<b>8.668</b>	-	-	<b>7.801</b>	-	-	<b>6.500</b>	-	-	-	-	-	<b>6.500</b>
<b>Support - System Technical Support (STS) Cost</b>																		
System Technical Support (STS)	-	-	76.039	-	-	12.031	-	-	18.346	-	-	9.404	-	-	-	-	-	9.404
<i>Subtotal: Support - System Technical Support (STS) Cost</i>	-	-	<b>76.039</b>	-	-	<b>12.031</b>	-	-	<b>18.346</b>	-	-	<b>9.404</b>	-	-	-	-	-	<b>9.404</b>
<b>Support - System Test and Evaluation Cost</b>																		
Test and Evaluation Support	-	-	21.819	-	-	13.746	-	-	-	-	-	1.000	-	-	-	-	-	1.000

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86	<b>P-1 Line Item Number / Title:</b> 0245W61990 / JOINT BATTLE COMMAND - PLATFORM (JBC-P)	<b>Item Number / Title [DODIC]:</b> W61990 / JOINT BATTLE COMMAND - PLATFORM (JBC-P)
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A		<b>MDAP/MAIS Code:</b>

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
<i>Subtotal: Support - System Test and Evaluation Cost</i>	-	-	21.819	-	-	13.746	-	-	-	-	-	1.000	-	-	-	-	-	1.000
Support - Training Cost																		
Equipment	-	-	14.779	-	-	2.308	-	-	1.682	-	-	1.550	-	-	-	-	-	1.550
<i>Subtotal: Support - Training Cost</i>	-	-	14.779	-	-	2.308	-	-	1.682	-	-	1.550	-	-	-	-	-	1.550
<b>Gross/Weapon System Cost</b>	<b>52.629</b>	<b>15,316</b>	<b>806.064</b>	<b>14.438</b>	<b>23,732</b>	<b>342.649</b>	<b>20.414</b>	<b>19,692</b>	<b>401.991</b>	<b>22.027</b>	<b>12,061</b>	<b>265.667</b>	-	-	<b>25.568</b>	<b>24.147</b>	<b>12,061</b>	<b>291.235</b>

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	10,680	9,318	5,428	-	5,428
	Total Obligation Authority	294.257	201.991	119.562	25.568	145.130
ANG	Quantity	9,492	7,545	4,823	-	4,823
	Total Obligation Authority	32.195	150.000	106.236	-	106.236
AR	Quantity	3,560	2,829	1,810	-	1,810
	Total Obligation Authority	16.197	50.000	39.869	-	39.869
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	<b>23,732</b>	<b>19,692</b>	<b>12,061</b>	-	<b>12,061</b>
	<b>Total Obligation Authority</b>	<b>342.649</b>	<b>401.991</b>	<b>265.667</b>	<b>25.568</b>	<b>291.235</b>

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

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<b>Exhibit P-5a, Procurement History and Planning: PB 2020 Army</b>								<b>Date:</b> March 2019				
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86				<b>P-1 Line Item Number / Title:</b> 0245W61990 / JOINT BATTLE COMMAND - PLATFORM (JBC-P)				<b>Item Number / Title [DODIC]:</b> W61990 / JOINT BATTLE COMMAND - PLATFORM (JBC-P)				

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
JBC-P Veh Computer; LIN C05036 <sup>(†)</sup>		2017	DRS Tactical - Melbourne, FL / Melbourne, FL	C / FFP	Army Contracting Cmd, APG, MD	Dec 2016	Jun 2017	10,953	10.710	Y		
JBC-P Veh Computer; LIN C05036 <sup>(†)</sup>		2018	DRS Tactical - Melbourne, FL / Melbourne, FL	C / FFP	Army Contracting Cmd, APG, MD	Nov 2017	May 2018	16,964	10.316	Y		
JBC-P Veh Computer; LIN C05036 <sup>(†)</sup>		2019	DRS Tactical - Melbourne, FL / Melbourne, FL	C / FFP	Army Contracting Cmd, APG, MD	Nov 2018	May 2019	14,076	15.217	Y		
JBC-P Veh Computer; LIN C05036 <sup>(†)</sup>		2020	DRS Tactical - Melbourne, FL / Melbourne, FL	C / FFP	Army Contracting Cmd, APG, MD	Nov 2019	May 2020	9,442	15.369	Y		
JBC-P Cmd Post; LIN C05037 <sup>(†)</sup>		2017	DRS Tactical / Melbourne, FL	C / FFP	Army Contracting Cmd, APG, MD	Dec 2016	Jun 2017	695	10.710	Y		
JBC-P Cmd Post; LIN C05037 <sup>(†)</sup>		2018	DRS Tactical - Melbourne, FL / Melbourne, FL	C / FFP	Army Contracting Cmd, APG, MD	Nov 2017	May 2018	1,073	10.351	Y		
JBC-P Cmd Post; LIN C05037 <sup>(†)</sup>		2019	DRS Tactical - Melbourne, FL / Melbourne, FL	C / FFP	Army Contracting Cmd, APG, MD	Nov 2018	May 2019	891	15.217	Y		
JBC-P Cmd Post; LIN C05037 <sup>(†)</sup>		2020	DRS Tactical - Melbourne, FL / Melbourne, FL	C / FFP	Army Contracting Cmd, APG, MD	Nov 2019	May 2020	597	15.369	Y		
JBC-P Log Mobile; LIN C05055 <sup>(†)</sup>		2017	DRS Tactical / Melbourne, FL	C / FFP	Army Contracting Cmd, APG, MD	Dec 2016	Jun 2017	3,182	10.710	Y		
JBC-P Log Mobile; LIN C05055 <sup>(†)</sup>		2018	DRS Tactical - Melbourne, FL / Melbourne, FL	C / FFP	Army Contracting Cmd, APG, MD	Nov 2017	May 2018	4,941	10.155	Y		
JBC-P Log Mobile; LIN C05055 <sup>(†)</sup>		2019	DRS Tactical - Melbourne, FL / Melbourne, FL	C / FFP	Army Contracting Cmd, APG, MD	Nov 2018	May 2019	4,100	15.218	Y		
JBC-P Log Mobile; LIN C05055 <sup>(†)</sup>		2020	DRS Tactical - Melbourne, FL / Melbourne, FL	C / FFP	Army Contracting Cmd, APG, MD	Nov 2019	May 2020	2,750	15.369	Y		
JBC-P Log Cmd Post; LIN C05054 <sup>(†)</sup>		2017	DRS Tactical / Melbourne, FL	C / FFP	Army Contracting Cmd, APG, MD	Dec 2016	Jun 2017	486	10.710	Y		
JBC-P Log Cmd Post; LIN C05054 <sup>(†)</sup>		2018	DRS Tactical - Melbourne, FL / Melbourne, FL	C / FFP	Army Contracting Cmd, APG, MD	Nov 2017	May 2018	755	10.191	Y		
JBC-P Log Cmd Post; LIN C05054 <sup>(†)</sup>		2019	DRS Tactical - Melbourne, FL / Melbourne, FL	C / FFP	Army Contracting Cmd, APG, MD	Nov 2018	May 2019	626	15.217	Y		
JBC-P Log Cmd Post; LIN C05054 <sup>(†)</sup>		2020	DRS Tactical - Melbourne, FL / Melbourne, FL	C / FFP	Army Contracting Cmd, APG, MD	Nov 2019	May 2020	421	15.361	Y		

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

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<b>Exhibit P-21, Production Schedule:</b> PB 2020 Army															<b>Date:</b> March 2019														
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86										<b>P-1 Line Item Number / Title:</b> 0245W61990 / JOINT BATTLE COMMAND - PLATFORM (JBC-P)										<b>Item Number / Title [DODIC]:</b> W61990 / JOINT BATTLE COMMAND - PLATFORM (JBC-P)									

Cost Elements <i>(Units in Thousands)</i>					Fiscal Year 2017													Fiscal Year 2018													B A L A N C E				
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEP T P R I O R T O 1 O C T 2 0 1 6	BAL D U E A S O F 1 O C T	Calendar Year 2017													Calendar Year 2018															
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					
JBC-P Veh Computer; LIN C05036																																			
Prior Years Deliveries: 8407																																			
	1	2017	ARMY	10.953	.000	10.953			A -	-	-	-	-	-	-	.816	.817	.817	.817	.817	.817	.817	.817	.817	.817	1.047	1.047	1.047	1.047	1.047			.000		
	1	2018	ARMY	16.964	.000	16.964																								1.414	1.414	1.414	1.414	1.414	9.894
	1	2019	ARMY	14.076	.000	14.076																												14.076	
	1	2020	ARMY	9.442	.000	9.442																												9.442	
JBC-P Cmd Post; LIN C05037																																			
Prior Years Deliveries: 519																																			
	2	2017	ARMY	.695	.000	.695			A -	-	-	-	-	-	.033	.033	.033	.033	.033	.033	.033	.033	.033	.033	.033	.033	.033	.033	.033	.033	.033	.033	.000		
	3	2018	ARMY	1.073	.000	1.073																											.623		
	3	2019	ARMY	.891	.000	.891																											.891		
	3	2020	ARMY	.597	.000	.597																											.597		
JBC-P Log Mobile; LIN C05055																																			
Prior Years Deliveries: 2485																																			
	4	2017	ARMY	3.182	.000	3.182			A -	-	-	-	-	-	.232	.232	.232	.232	.232	.232	.232	.232	.232	.232	.232	.358	.358	.358	.358	.358			.000		
	5	2018	ARMY	4.941	.000	4.941																											2.881		
	5	2019	ARMY	4.100	.000	4.100																											4.100		
	5	2020	ARMY	2.750	.000	2.750																											2.750		
JBC-P Log Cmd Post; LIN C05054																																			
Prior Years Deliveries: 378																																			
	6	2017	ARMY	.486	.000	.486			A -	-	-	-	-	-	.016	.016	.016	.016	.016	.016	.016	.016	.016	.016	.016	.016	.016	.016	.016	.016	.016	.000			
	7	2018	ARMY	.755	.000	.755																											.440		
	7	2019	ARMY	.626	.000	.626																											.626		
	7	2020	ARMY	.421	.000	.421																											.421		
									O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P			

**UNCLASSIFIED**

<b>Exhibit P-21, Production Schedule: PB 2020 Army</b>																		<b>Date: March 2019</b>											
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86										<b>P-1 Line Item Number / Title:</b> 0245W61990 / JOINT BATTLE COMMAND - PLATFORM (JBC-P)										<b>Item Number / Title [DODIC]:</b> W61990 / JOINT BATTLE COMMAND - PLATFORM (JBC-P)									

Cost Elements <i>(Units in Thousands)</i>				Fiscal Year 2019														Fiscal Year 2020														B A L A N C E			
O C 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					
JBC-P Veh Computer; LIN C05036																																			
Prior Years Deliveries: 8407																																			
	1	2017	ARMY	10.953	10.953	.000																													.000
	1	2018	ARMY	16.964	7.070	9.894	1.414	1.414	1.414	1.413	1.413	1.413	1.413																						.000
	1	2019	ARMY	14.076	.000	14.076		A -	-	-	-	-	-	1.173	1.173	1.173	1.173	1.173	1.173	1.173	1.173	1.173	1.173	1.173	1.173	1.173	1.173	1.173					.000		
	1	2020	ARMY	9.442	.000	9.442															A -	-	-	-	-	-	1.173	1.173	1.173	1.173	1.173			3.577	
JBC-P Cmd Post; LIN C05037																																			
Prior Years Deliveries: 519																																			
	2	2017	ARMY	.695	.695	.000																												.000	
	3	2018	ARMY	1.073	.450	.623	.089	.089	.089	.089	.089	.089	.089																					.000	
	3	2019	ARMY	.891	.000	.891		A -	-	-	-	-	-	.074	.074	.074	.074	.074	.074	.074	.074	.074	.074	.075	.075	.075							.000		
	3	2020	ARMY	.597	.000	.597															A -	-	-	-	-	.050	.050	.050	.050	.050			.347		
JBC-P Log Mobile; LIN C05055																																			
Prior Years Deliveries: 2485																																			
	4	2017	ARMY	3.182	3.182	.000																												.000	
	5	2018	ARMY	4.941	2.060	2.881	.412	.412	.412	.412	.411	.411	.411																					.000	
	5	2019	ARMY	4.100	.000	4.100		A -	-	-	-	-	-	.342	.342	.342	.342	.342	.342	.342	.342	.342	.341	.341	.341	.341							.000		
	5	2020	ARMY	2.750	.000	2.750															A -	-	-	-	-	.230	.230	.230	.230	.230			1.600		
JBC-P Log Cmd Post; LIN C05054																																			
Prior Years Deliveries: 378																																			
	6	2017	ARMY	.486	.486	.000																												.000	
	7	2018	ARMY	.755	.315	.440	.063	.063	.063	.063	.063	.063	.062																					.000	
	7	2019	ARMY	.626	.000	.626		A -	-	-	-	-	-	.053	.053	.052	.052	.052	.052	.052	.052	.052	.052	.052	.052	.052	.052						.000		
	7	2020	ARMY	.421	.000	.421															A -	-	-	-	-	.040	.040	.040	.040	.040			.221		
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					



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Exhibit P-21, Production Schedule: PB 2020 Army																								Date: March 2019						
Appropriation / Budget Activity / Budget Sub Activity: 2035A / 02 / 86										P-1 Line Item Number / Title: 0245W61990 / JOINT BATTLE COMMAND - PLATFORM (JBC-P)										Item Number / Title [DODIC]: W61990 / JOINT BATTLE COMMAND - PLATFORM (JBC-P)										
Cost Elements (Units in Thousands)					Fiscal Year 2021										Fiscal Year 2022										B A L A N C E					
O C 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
JBC-P Veh Computer; LIN C05036																														
Prior Years Deliveries: 8407																														
	1	2017	ARMY	10.953	10.953	.000																							.000	
	1	2018	ARMY	16.964	16.964	.000																							.000	
	1	2019	ARMY	14.076	14.076	.000																							.000	
	1	2020	ARMY	9.442	5.865	3.577	1.173	1.173	1.173	.058																			.000	
JBC-P Cmd Post; LIN C05037																														
Prior Years Deliveries: 519																														
	2	2017	ARMY	.695	.695	.000																							.000	
	3	2018	ARMY	1.073	1.073	.000																							.000	
	3	2019	ARMY	.891	.891	.000																							.000	
	3	2020	ARMY	.597	.250	.347	.050	.050	.050	.050	.050	.050	.047																.000	
JBC-P Log Mobile; LIN C05055																														
Prior Years Deliveries: 2485																														
	4	2017	ARMY	3.182	3.182	.000																							.000	
	5	2018	ARMY	4.941	4.941	.000																							.000	
	5	2019	ARMY	4.100	4.100	.000																							.000	
	5	2020	ARMY	2.750	1.150	1.600	.230	.230	.230	.230	.230	.230	.220																.000	
JBC-P Log Cmd Post; LIN C05054																														
Prior Years Deliveries: 378																														
	6	2017	ARMY	.486	.486	.000																							.000	
	7	2018	ARMY	.755	.755	.000																							.000	
	7	2019	ARMY	.626	.626	.000																							.000	
	7	2020	ARMY	.421	.200	.221	.040	.040	.040	.040	.040	.021																	.000	
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P

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<b>Exhibit P-21, Production Schedule:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86		<b>P-1 Line Item Number / Title:</b> 0245W61990 / JOINT BATTLE COMMAND - PLATFORM (JBC-P)
		<b>Item Number / Title [DODIC]:</b> W61990 / JOINT BATTLE COMMAND - PLATFORM (JBC-P)

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Month)			Procurement Leadtime (Months)							
		MSR For 2020	1-8-5 For 2020	MAX For 2020	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	DRS Tactical - Melbourne, FL - Melbourne, FL	20	220	2,000	1	1	5	6	1	1	5	6
2	DRS Tactical - Melbourne, FL	20	220	2,000	1	1	5	6	1	1	5	6
3	DRS Tactical - Melbourne, FL - Melbourne, FL	20	220	2,000	1	1	5	6	1	1	5	6
4	DRS Tactical - Melbourne, FL	20	220	2,000	1	1	5	6	1	1	5	6
5	DRS Tactical - Melbourne, FL - Melbourne, FL	20	220	2,000	1	1	5	6	1	1	5	6
6	DRS Tactical - Melbourne, FL	20	220	2,000	1	1	5	6	1	1	5	6
7	DRS Tactical - Melbourne, FL - Melbourne, FL	20	220	2,000	1	1	5	6	1	1	5	6

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

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

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 86: Elect Equip - Tactical Surv. (Tac Surv)	<b>P-1 Line Item Number / Title:</b> 0254K32101 / JOINT EFFECTS TARGETING SYSTEM (JETS)
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready): B	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> 0604710A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	201	234	303	358	-	358	367	366	359	352	-	2,540
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	95.587	38.664	66.574	69.720	-	69.720	69.714	69.707	69.701	69.694	-	549.361
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	95.587	38.664	66.574	69.720	-	69.720	69.714	69.707	69.701	69.694	-	549.361
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>95.587</b>	<b>38.664</b>	<b>66.574</b>	<b>69.720</b>	<b>-</b>	<b>69.720</b>	<b>69.714</b>	<b>69.707</b>	<b>69.701</b>	<b>69.694</b>	<b>-</b>	<b>549.361</b>

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

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	475.557	165.231	219.716	194.749	-	194.749	189.956	190.456	194.153	197.994	-	216.284

**Description:**

The Joint Effects Targeting System (JETS) Target Locator/Designator System (TLDS) provides the individual dismounted observer an integrated, lightweight, modular capability to detect, identify, accurately locate targets in three dimensions; mark, and designate targets and provide accurate target location coordinates to a forward entry device for engagement with precision munitions. The JETS TLDS is an Army program with joint information (Air Force and Marine Corps).

JETS will support the Army's fires sensor strategy and is aligned with the Army's priorities in support of the National Defense Strategy. JETS will satisfy the requirement for the dismounted precision targeting sensor for the individual observer.

The Army Acquisition Objective (AAO) for this program is 3,355.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	140	182	215	-	215	220	220	215	211
	Total Obligation Authority	23.198	39.944	41.832	-	41.832	41.828	41.824	41.821	41.816
ANG	Quantity	94	121	143	-	143	147	146	144	141
	Total Obligation Authority	15.466	26.630	27.888	-	27.888	27.886	27.883	27.880	27.878
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	<b>234</b>	<b>303</b>	<b>358</b>	<b>-</b>	<b>358</b>	<b>367</b>	<b>366</b>	<b>359</b>	<b>352</b>
	<b>Total Obligation Authority</b>	<b>38.664</b>	<b>66.574</b>	<b>69.720</b>	<b>-</b>	<b>69.720</b>	<b>69.714</b>	<b>69.707</b>	<b>69.701</b>	<b>69.694</b>

**UNCLASSIFIED**

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

**Appropriation / Budget Activity / Budget Sub Activity:**  
 2035A: Other Procurement, Army / BA 02: Communications and Electronics  
 Equipment / BSA 86: Elect Equip - Tactical Surv. (Tac Surv)

**P-1 Line Item Number / Title:**  
 0254K32101 / JOINT EFFECTS TARGETING SYSTEM (JETS)

**ID Code** (A=Service Ready, B=Not Service Ready): B **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0604710A

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

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	K32101 / JOINT EFFECTS TARGETING SYSTEM (JETS)	P-5a, P-21	B		201 / 95.587	234 / 38.664	303 / 66.574	358 / 69.720	- / -	358 / 69.720
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>201 / 95.587</b>	<b>234 / 38.664</b>	<b>303 / 66.574</b>	<b>358 / 69.720</b>	<b>- / -</b>	<b>358 / 69.720</b>

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

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

**Justification:**  
 FY 2020 Base procurement dollars in the amount of \$69.720 million support the procurement of 358 Joint Effects Targeting System (JETS). These systems will be fielded in accordance with the HQDA priority list.

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

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86	<b>P-1 Line Item Number / Title:</b> 0254K32101 / JOINT EFFECTS TARGETING SYSTEM (JETS)	<b>Item Number / Title [DODIC]:</b> K32101 / JOINT EFFECTS TARGETING SYSTEM (JETS)

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : B	<b>MDAP/MAIS Code:</b>
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Resource Summary		Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity (Units in Each)		201	234	303	358	-	358
Gross/Weapon System Cost (\$ in Millions)		95.587	38.664	66.574	69.720	-	69.720
Less PY Advance Procurement (\$ in Millions)		-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)		95.587	38.664	66.574	69.720	-	69.720
Plus CY Advance Procurement (\$ in Millions)		-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>		<b>95.587</b>	<b>38.664</b>	<b>66.574</b>	<b>69.720</b>	<b>-</b>	<b>69.720</b>

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

Initial Spares (\$ in Millions)		-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)		475.557	165.231	219.716	194.749	-	194.749

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Flyaway Cost																		
Recurring Cost																		
Project Management	-	-	3.753	-	-	1.648	-	-	1.452	-	-	1.485	-	-	-	-	-	1.485
Systems Engineering Support	-	-	2.101	-	-	1.513	-	-	2.173	-	-	2.216	-	-	-	-	-	2.216
Training	-	-	1.220	-	-	1.000	-	-	1.985	-	-	2.345	-	-	-	-	-	2.345
Fielding	-	-	0.406	-	-	-	-	-	0.393	-	-	0.464	-	-	-	-	-	0.464
Subtotal: Recurring Cost	-	-	7.480	-	-	4.161	-	-	6.003	-	-	6.510	-	-	-	-	-	6.510
Subtotal: Flyaway Cost	-	-	7.480	-	-	4.161	-	-	6.003	-	-	6.510	-	-	-	-	-	6.510
Hardware Cost																		
Recurring Cost																		
Joint Effects Targeting System <sup>(†)</sup>	297.422	282	83.873	197.123	171	33.708	192.205	303	58.238	169.478	358	60.673	-	-	-	169.478	358	60.673
Ancillary Equipment	-	-	1.264	-	-	0.795	-	-	2.333	-	-	2.537	-	-	-	-	-	2.537
Subtotal: Recurring Cost	-	-	85.137	-	-	34.503	-	-	60.571	-	-	63.210	-	-	-	-	-	63.210
Non Recurring Cost																		
Initial Non-Recurring	-	-	2.970	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Non Recurring Cost	-	-	2.970	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Hardware Cost	-	-	88.107	-	-	34.503	-	-	60.571	-	-	63.210	-	-	-	-	-	63.210
<b>Gross/Weapon System Cost</b>	<b>475.557</b>	<b>201</b>	<b>95.587</b>	<b>165.231</b>	<b>234</b>	<b>38.664</b>	<b>219.716</b>	<b>303</b>	<b>66.574</b>	<b>194.749</b>	<b>358</b>	<b>69.720</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>194.749</b>	<b>358</b>	<b>69.720</b>

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86	<b>P-1 Line Item Number / Title:</b> 0254K32101 / JOINT EFFECTS TARGETING SYSTEM (JETS)	<b>Item Number / Title [DODIC]:</b> K32101 / JOINT EFFECTS TARGETING SYSTEM (JETS)

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

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	140	182	215	-	215
	Total Obligation Authority	23.198	39.944	41.832	-	41.832
ANG	Quantity	94	121	143	-	143
	Total Obligation Authority	15.466	26.630	27.888	-	27.888
<b>Total:</b>	<b>Quantity</b>	<b>234</b>	<b>303</b>	<b>358</b>	-	<b>358</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>38.664</b>	<b>66.574</b>	<b>69.720</b>	-	<b>69.720</b>

(†) indicates the presence of a P-5a

**UNCLASSIFIED**

<b>Exhibit P-5a, Procurement History and Planning:</b> PB 2020 Army							<b>Date:</b> March 2019				
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86			<b>P-1 Line Item Number / Title:</b> 0254K32101 / JOINT EFFECTS TARGETING SYSTEM (JETS)				<b>Item Number / Title [DODIC]:</b> K32101 / JOINT EFFECTS TARGETING SYSTEM (JETS)				

<b>Cost Elements</b>	<b>O C O</b>	<b>FY</b>	<b>Contractor and Location</b>	<b>Method/Type or Funding Vehicle</b>	<b>Location of PCO</b>	<b>Award Date</b>	<b>Date of First Delivery</b>	<b>Qty (Each)</b>	<b>Unit Cost (\$ K)</b>	<b>Specs Avail Now?</b>	<b>Date Revision Available</b>	<b>RFP Issue Date</b>
Joint Effects Targeting System <sup>(†)</sup>		2018	DRS / Melbourne, FL	C / FFP	ACC-APG	Jul 2018	Apr 2019	171	197.123	Y		
Joint Effects Targeting System <sup>(†)</sup>		2019	DRS / Melbourne, FL	C / FFP	ACC-APG	Mar 2019	Dec 2019	303	192.205	Y		
Joint Effects Targeting System <sup>(†)</sup>		2020	DRS / Melbourne, FL	C / FFP	ACC-APG	Mar 2020	Dec 2020	358	169.478	Y		

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

**UNCLASSIFIED**

<b>Exhibit P-21, Production Schedule:</b> PB 2020 Army											<b>Date:</b> March 2019											
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86						<b>P-1 Line Item Number / Title:</b> 0254K32101 / JOINT EFFECTS TARGETING SYSTEM (JETS)											<b>Item Number / Title [DODIC]:</b> K32101 / JOINT EFFECTS TARGETING SYSTEM (JETS)					

Cost Elements (Units in Each)						Fiscal Year 2018													Fiscal Year 2019												B A L A N C E																				
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																					
Joint Effects Targeting System																																																			
Prior Years Deliveries: 282																																																			
1	2018	ARMY		171	0	171																						A	-	-	-	-	-	-	-	-	-	-	-	-	-	10	10	15	15	20	21	80			
1	2019	ARMY		303	0	303																							A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	303
1	2020	ARMY		358	0	358																																													358
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P																					



**UNCLASSIFIED**

<b>Exhibit P-21, Production Schedule:</b> PB 2020 Army															<b>Date:</b> March 2019														
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86										<b>P-1 Line Item Number / Title:</b> 0254K32101 / JOINT EFFECTS TARGETING SYSTEM (JETS)										<b>Item Number / Title [DODIC]:</b> K32101 / JOINT EFFECTS TARGETING SYSTEM (JETS)									

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							
Joint Effects Targeting System																																					
Prior Years Deliveries: 282																																					
1	2018	ARMY		171	91	80	25	25	15	15																									0		
1	2019	ARMY		303	0	303	-	-	10	15	30	30	32	32	32	32	32	-	30	28															0		
1	2020	ARMY		358	0	358						A	-	-	-	-	-	-	-	-	30	30	30	30	30	30	30	30	30	30	30	30	30	58			
							O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	A	M	J	J	A	S						
							C	O	E	A	E	A	A	A	U	U	U	E	C	O	V	E	A	E	A	A	A	U	U	U	E						
							T	V	C	N	B	R	R	Y	N	L	G	P	T	V	C	N	B	R	R	Y	N	L	G	P							



**UNCLASSIFIED**

<b>Exhibit P-21, Production Schedule:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86		<b>P-1 Line Item Number / Title:</b> 0254K32101 / JOINT EFFECTS TARGETING SYSTEM (JETS)
		<b>Item Number / Title [DODIC]:</b> K32101 / JOINT EFFECTS TARGETING SYSTEM (JETS)

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Month)			Procurement Leadtime (Months)							
		MSR For 2020	1-8-5 For 2020	MAX For 2020	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	DRS - Melbourne, FL	10	30	50	3	9	9	18	3	5	9	14

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

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

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 86: Elect Equip - Tactical Surv. (Tac Surv)	<b>P-1 Line Item Number / Title:</b> 0255KA3100 / Mod Of In-Svc Equip (LLDR)
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ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0604710A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	173.581	9.172	24.833	6.044	-	6.044	-	-	-	-	-	213.630
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	173.581	9.172	24.833	6.044	-	6.044	-	-	-	-	-	213.630
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>173.581</b>	<b>9.172</b>	<b>24.833</b>	<b>6.044</b>	<b>-</b>	<b>6.044</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>213.630</b>

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

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	2,142.975	539.529	185.321	-	-	-	-	-	-	-	-	920.819

**Description:**

Modification of In-Service equipment funds the retrofit of the Lightweight Laser Designator Rangefinder (LLDR) to incorporate target location improvements. The upgraded LLDR system is type classified as LLDR 2H. The LLDR is a modular system designed for crew-served, man-portable day/night all-weather use for determining the precise location of threat targets, and for designating threat targets for engagement by Global Position System (GPS) guided and laser guided precision munitions for a variety of Army and Joint weapons systems. The Target Location Module uses a thermal night vision sensor, day camera, laser rangefinder, and digital compass, GPS, and system controller with digital data and video outputs. The Laser Designator Module provides the capability to guide laser-guided munitions and the capability to mark targets for targeting hand-off to aircraft. This effort also replaces earlier Laser Designator Modules with new diode-pumped Laser Designator Modules, reducing weight and power requirements and resulting in lower sustainment costs. The target location improvement retrofit adds a precision azimuth measurement sensor to supplement the digital compass. Target location improvements enable precision target location and engagement with current and future precision munitions by dismounted fire support teams.

The Army Acquisition Objective (AAO) for this program is 2,700.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	9.172	24.833	6.044	-	6.044	-	-	-	-
<b>Total:</b>									
<b>Secondary Distribution</b>									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	<b>9.172</b>	<b>24.833</b>	<b>6.044</b>	<b>-</b>	<b>6.044</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>

**UNCLASSIFIED**

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

**Appropriation / Budget Activity / Budget Sub Activity:**  
 2035A: Other Procurement, Army / BA 02: Communications and Electronics  
 Equipment / BSA 86: Elect Equip - Tactical Surv. (Tac Surv)

**P-1 Line Item Number / Title:**  
 0255KA3100 / Mod Of In-Svc Equip (LLDR)

**ID Code** (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0604710A

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

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-3a	KA3100 / LLDR Target Location Improvement (Unclassified)		A		- / 173.581	- / 9.172	- / 24.833	- / 6.044	- / -	- / 6.044
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 173.581</b>	<b>- / 9.172</b>	<b>- / 24.833</b>	<b>- / 6.044</b>	<b>- / -</b>	<b>- / 6.044</b>

Exhibits Schedule					FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-3a	KA3100 / LLDR Target Location Improvement (Unclassified)		A		- / -	- / -	- / -	- / -	- / -	- / 213.630
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / 213.630</b>

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

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

**Justification:**  
 FY 2020 Base procurement funding supports the completion of the retrofit program including fielding and new equipment 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.

**UNCLASSIFIED**

<b>Exhibit P-3a, Individual Modification:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86	<b>P-1 Line Item Number / Title:</b> 0255KA3100 / Mod Of In-Svc Equip (LLDR)	<b>Modification Number / Title:</b> KA3100 / LLDR Target Location Improvement

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A	<b>MDAP/MAIS Code:</b>
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Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	173.581	9.172	24.833	6.044	-	6.044	-	-	-	-	-	213.630
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	173.581	9.172	24.833	6.044	-	6.044	-	-	-	-	-	213.630
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>173.581</b>	<b>9.172</b>	<b>24.833</b>	<b>6.044</b>	<b>-</b>	<b>6.044</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>213.630</b>

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

Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	2,142.975	539.529	185.321	-	-	-	-	-	-	-	-	920.819

**Description:**

Modification of In-Service equipment funds the retrofit of the Lightweight Laser Designator Rangefinder (LLDR) to incorporate target location improvements. The upgraded LLDR system is type classified as LLDR 2H. The LLDR is a modular system designed for crew-served, man-portable day/night all-weather use for determining the precise location of threat targets, and for designating threat targets for engagement by Global Position System (GPS) guided and laser guided precision munitions for a variety of Army and Joint weapons systems. The Target Location Module uses a thermal night vision sensor, day camera, laser rangefinder, and digital compass, GPS, and system controller with digital data and video outputs. The Laser Designator Module provides the capability to guide laser-guided munitions and the capability to mark targets for targeting hand-off to aircraft. This effort also replaces earlier Laser Designator Modules with new diode-pumped Laser Designator Modules, reducing weight and power requirements, resulting in lower sustainment costs. The target location improvement retrofit adds a precision azimuth measurement sensor to supplement the digital compass. Target location improvements enable precision target location and engagement with current and future precision munitions by dismounted fire support teams.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	9.172	24.833	6.044	-	6.044	-	-	-	-
<b>Total:</b>									
<b>Secondary Distribution</b>									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	9.172	24.833	6.044	-	6.044	-	-	-	-

**UNCLASSIFIED**

<b>Exhibit P-3a, Individual Modification: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86	<b>P-1 Line Item Number / Title:</b> 0255KA3100 / Mod Of In-Svc Equip (LLDR)	<b>Modification Number / Title:</b> KA3100 / LLDR Target Location Improvement

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A	<b>MDAP/MAIS Code:</b>
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<b>Models of Systems Affected:</b> AN/PED-1 and AN/PED-1A	<b>Modification Type:</b> Unclassified	<b>Related RDT&amp;E PEs:</b>
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Financial Plan	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)

**Procurement**

<b>Modification Item 1 of 1:</b> LLDR Target Location Improvement												
A Kits												
Recurring												
AN/PED-1 and AN/PED-1A Retrofits	224 / 121.504	17 / 3.974	134 / 17.677	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	375 / 143.155
Project Management/Engineering Support	- / 22.623	- / 1.891	- / 2.200	- / 2.244	- / -	- / 2.244	- / -	- / -	- / -	- / -	- / 0.000	- / 28.958
Systems Engineering Support	- / 14.208	- / 2.007	- / 3.406	- / 2.117	- / -	- / 2.117	- / -	- / -	- / -	- / -	- / 0.000	- / 21.738
Production Qualification Testing	- / 0.309	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 0.309
Fielding	- / 9.842	- / 1.300	- / 1.550	- / 1.683	- / -	- / 1.683	- / -	- / -	- / -	- / -	- / 0.000	- / 14.375
<b>Subtotal: Recurring</b>	<b>224 / 168.486</b>	<b>17 / 9.172</b>	<b>134 / 24.833</b>	<b>- / 6.044</b>	<b>- / -</b>	<b>- / 6.044</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>375 / 208.535</b>
Non-Recurring												
ECP / System Technology Support	- / 5.095	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 5.095
<b>Subtotal: Non-Recurring</b>	<b>- / 5.095</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / 5.095</b>
<b>Subtotal: LLDR Target Location Improvement</b>	<b>224 / 173.581</b>	<b>17 / 9.172</b>	<b>134 / 24.833</b>	<b>- / 6.044</b>	<b>- / -</b>	<b>- / 6.044</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>375 / 213.630</b>
<b>Subtotal: Procurement, All Modification Items</b>	<b>224 / 173.581</b>	<b>17 / 9.172</b>	<b>134 / 24.833</b>	<b>- / 6.044</b>	<b>- / -</b>	<b>- / 6.044</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>375 / 213.630</b>

**Installation**

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

<b>Total Cost (Procurement + Support + Installation)</b>	<b>173.581</b>	<b>9.172</b>	<b>24.833</b>	<b>6.044</b>	<b>-</b>	<b>6.044</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>213.630</b>
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**UNCLASSIFIED**

<b>Exhibit P-3a, Individual Modification: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86	<b>P-1 Line Item Number / Title:</b> 0255KA3100 / Mod Of In-Svc Equip (LLDR)	<b>Modification Number / Title:</b> KA3100 / LLDR Target Location Improvement

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A	<b>MDAP/MAIS Code:</b>
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**Modification Item 1 of 1:** LLDR Target Location Improvement

**Manufacturer Information**

Manufacturer Name: Northrop Grumman	Manufacturer Location: Apopka, FL
Administrative Leadtime (in Months): 4	Production Leadtime (in Months): 6

Dates	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Contract Dates	Apr 2018	Jan 2019					
Delivery Dates	Oct 2018	Jul 2019					

**Installation Information**

**Method of Implementation:** Retrofit

Installation Cost	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
FY 2018	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
FY 2019	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
FY 2020	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
FY 2021	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
FY 2022	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
FY 2023	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
FY 2024	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
To Complete	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
Total	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000

**Installation Schedule**

	PYS	FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				TC	Tot	
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
In	553	20	21	4	4	4	38	33	34	34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	745
Out	513	20	20	20	21	4	4	4	38	33	34	34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	745



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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 86: Elect Equip - Tactical Surv. (Tac Surv)	<b>P-1 Line Item Number / Title:</b> 5726K99200 / Computer Ballistics: LHMBC XM32
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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 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	128.568	12.407	9.513	3.268	0.570	3.838	8.110	7.249	7.242	7.246	-	184.173
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	128.568	12.407	9.513	3.268	0.570	3.838	8.110	7.249	7.242	7.246	-	184.173
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>128.568</b>	<b>12.407</b>	<b>9.513</b>	<b>3.268</b>	<b>0.570</b>	<b>3.838</b>	<b>8.110</b>	<b>7.249</b>	<b>7.242</b>	<b>7.246</b>	<b>-</b>	<b>184.173</b>

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

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	372.661	28.522	35.763	64.078	30.000	54.829	37.373	38.153	38.116	38.137	-	96.780

**Description:**

The Lightweight Handheld Mortar Ballistic Computer (LHMBC) calculates ballistic solutions that give the mortar user data to aim the mortar weapon and set the charge as well as serves as the Fire Direction Center for all mortar platforms. The LHMBC communicates digitally on the Single Channel Ground and Airborne Radio System (SINCGARS) to the Fire Support Network. All LHMBC versions provide firing computations for all calibers of mortars as well as digital messaging capability. The M32A1 LHMBC will utilize the Ruggedized Tactical Handheld Device (RTHD) platform and will be compatible with Common Operating Environment (COE) 1.0 compliance. The M32A2 LHMBC may utilize either Net Warrior (NW) Mobile/Handheld (M/HH) or RTHD platform and will be compatible with the latest COE compliance.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	-	-	-	-	-	-	-	-
	Total Obligation Authority	12.407	7.193	0.815	0.570	1.385	6.509	7.249	7.242
ANG	Quantity	-	-	-	-	-	-	-	-
	Total Obligation Authority	-	2.320	2.453	-	2.453	1.441	-	-
AR	Quantity	-	-	-	-	-	-	-	-
	Total Obligation Authority	-	-	-	-	-	0.160	-	-
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
	<b>Total Obligation Authority</b>	<b>12.407</b>	<b>9.513</b>	<b>3.268</b>	<b>0.570</b>	<b>3.838</b>	<b>8.110</b>	<b>7.249</b>	<b>7.242</b>

**Justification:**

FY 2020 Base procurement dollars in the amount of \$3.268 million support the procurement of 51 each Lightweight Handheld Mortar Ballistic Computer (LHMBC) computers and Basic Issue Items (BII). The procurement of the new LHMBC with COE Version 3.0 software is urgently needed to replace the obsolete M32 Ruggedized Personal Digital Assistance (RPDA) computers in the field. LHMBC eliminates the need of a paper firing table, improves the accuracy of mortar ballistic calculation, and increases survivability of mortar crews by digitally connecting to the Fire Support network to receive fire missions and Fire Support Coordination Measures to conduct fratricide check.

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<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 86: Elect Equip - Tactical Surv. (Tac Surv)		<b>P-1 Line Item Number / Title:</b> 5726K99200 / Computer Ballistics: LHMBC XM32
<b>ID Code</b> (A=Service Ready, B=Not Service Ready): B	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
<b>Line Item MDAP/MAIS Code:</b> N/A		
<p>FY 2020 OCO procurement dollars in the amount of \$0.570 million supports the COCOM requirement for unit equipment sets to deter potential adversaries and support of Operation Inherent Resolve. This funding procures 16 M32A1 LHMBC computers and 16 Basic Issue Items (BI) critical Army items consumed in support of deployed units' ongoing military operations.</p> <p>In accordance with Section 1815 of the FY 2008 National Defense Authorization Act (P.L. 110-181), this item is necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities.</p>		

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 86: Elect Equip - Tactical Surv. (Tac Surv)	<b>P-1 Line Item Number / Title:</b> 7500K99300 / Mortar Fire Control System
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ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	433.614	46.490	29.149	13.199	15.975	29.174	27.274	8.379	9.699	11.996	-	595.775
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	433.614	46.490	29.149	13.199	15.975	29.174	27.274	8.379	9.699	11.996	-	595.775
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>433.614</b>	<b>46.490</b>	<b>29.149</b>	<b>13.199</b>	<b>15.975</b>	<b>29.174</b>	<b>27.274</b>	<b>8.379</b>	<b>9.699</b>	<b>11.996</b>	<b>-</b>	<b>595.775</b>

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

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	1,010.755	77.873	67.788	274.979	295.833	286.020	284.104	199.500	230.929	285.619	-	334.705

**Description:**

The Mortar Fire Control System (MFCS) accurately determines weapon position and orientation, navigates, calculates ballistics, and communicates digitally on the Single Channel Ground and Airborne Radio System (SINCGARS) fire support network. MFCS improves the accuracy of the 120mm mortar system from 138 meters Circular Error Probable (CEP) to 75 meters CEP allowing for first round fire for effect. MFCS increases survivability of mortar crews by eliminating the need for soldiers to dismount the vehicle to lay out aiming posts. MFCS also adds digital connectivity to the Fire Support network as well as connectivity to SINCGARS, Force XXI Battle Command Brigade and Below (FBCB2), and Blue Force Tracking system. MFCS consists of the M95/M96 version that is used on mounted 120mm Mortars in Armored Brigade Combat Teams (ABCT) and the M150/M151 version used on the M120A1 120mm Towed Mortar that is fielded throughout all Infantry Brigade Combat Teams (IBCT). The Stryker Brigade Combat Teams (SBCT) utilize both the M95 and M151 systems. The M95 is used on the M1064A2/M1064A3 Mortar Carriers with the M121 Battalion Mortar System and the M1129A1 Stryker 120mm Mortar Carrier with the 120mm Recoiling Mortar System. The M96 is used on M577 Mortar Fire Direction Center (FDC) vehicle. The M95 and M96 are also being integrated onto the Advanced Multipurpose Vehicle (AMPV) Mortar Carrier and Mission Command vehicles, respectively. The M150 is used on the M120A1 120mm Towed Mortar that is mounted on the M1101 Trailer. The M151 is used on the various High Mobility Multipurpose Wheeled Vehicle (HMMV) variant that serves as the IBCT and SBCT Mortar FDCs. Both the M95 and M150 consist of five main components: 1) The Commander's Interface (CI) (M95) or Fire Control Computer (FCC) (M95/M150) links the MFCS components together, communicates, and calculates the ballistic solutions, 2) The Tactical Advanced Land Inertial Navigator (TALIN) is the pointing device and position system that provides the weapon's position, pointing azimuth and elevation, 3) The Gunner's Display (GD) shows the gunner where to point the tube and displays the weapon's azimuth, elevation, and ballistic firing solution, 4) The Driver's Display (DD) (M95 only) provides a "steer-to" display to aid in navigation and emplacement of the vehicle, and 5) The Power Distribution Assembly/Enhanced Power Distribution Assembly filters vehicle power and acts as a circuit breaker isolating MFCS line replaceable units from power fluctuations and surges. The M96 and M151 each consist primarily of the CI or FCC, installed in the FDC vehicle. All CI's are currently being transitioned to the FCC for all M95 and M96.

Funds in this program to support the systems modifications were realigned in FY 2020 to program Mortar Fire Control Systems Modifications, SSN AD9300.

	Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	46.490	29.149	13.199	15.975	29.174	27.274	8.379	9.699	11.996
<b>Total:</b>	<b>Quantity</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 86: Elect Equip - Tactical Surv. (Tac Surv)	<b>P-1 Line Item Number / Title:</b> 7500K99300 / Mortar Fire Control System
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ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: N/A

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Secondary Distribution	Total Obligation Authority	46.490	29.149	13.199	15.975	29.174	27.274	8.379	9.699	11.996

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 86: Elect Equip - Tactical Surv. (Tac Surv)	<b>P-1 Line Item Number / Title:</b> 7500K99300 / Mortar Fire Control System
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	K99300 / Mortar Fire Control System	P-5a, P-21	A		- / 433.614	- / 46.490	- / 29.149	- / 13.199	- / 15.975	- / 29.174
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 433.614</b>	<b>- / 46.490</b>	<b>- / 29.149</b>	<b>- / 13.199</b>	<b>- / 15.975</b>	<b>- / 29.174</b>

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

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

**Justification:**

FY 2020 Base procurement dollars in the amount of \$13.199 million support the procurement of 18 M95 1064 and 4 M96 M577 complete systems for Grow the Army requirements, and 22 M95 and 4 M96 for support of Advanced Multipurpose Vehicle (AMPV) production vehicles, including support costs for software, logistics, fielding, and production engineering. The equipment will be fielded to Armored Brigade Combat Teams (ABCT) to support Grow the Army requirements.

- Army Acquisition Objective (AAO) for M95: 1042
- Army Acquisition Objective (AAO) for M96: 130
- Army Acquisition Objective (AAO) for M150: 700
- Army Acquisition Objective (AAO) for M151: 165

FY 2020 OCO procurement dollars in the amount of \$15.975 million support the procurement of critical Army items consumed in support of Operation Inherent Resolve. Funding supports the procurement of 5 M95 systems and 49 M150 Mortar Fire Control System-Dismounted (MFCS-D) complete systems, which are critical items consumed in support of deployed units' ongoing military 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.

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>					<b>Date:</b> March 2019				
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86			<b>P-1 Line Item Number / Title:</b> 7500K99300 / Mortar Fire Control System			<b>Item Number / Title [DODIC]:</b> K99300 / Mortar Fire Control System			
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A					<b>MDAP/MAIS Code:</b>				
<b>Resource Summary</b>			<b>Prior Years</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>	
Procurement Quantity (Units in Each)			-	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)			433.614	46.490	29.149	13.199	15.975	29.174	29.174
Less PY Advance Procurement (\$ in Millions)			-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)			433.614	46.490	29.149	13.199	15.975	29.174	29.174
Plus CY Advance Procurement (\$ in Millions)			-	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>			<b>433.614</b>	<b>46.490</b>	<b>29.149</b>	<b>13.199</b>	<b>15.975</b>	<b>29.174</b>	<b>29.174</b>
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>									
Initial Spares (\$ in Millions)			-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)			1,010.755	77.873	67.788	274.979	295.833	286.020	286.020

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Hardware Cost																		
Recurring Cost																		
M95 M1064 MFCS-M <sup>(†)</sup>	216.924	14	3.037	222.000	30	6.660	225.000	18	4.050	250.000	18	4.500	-	-	-	250.000	18	4.500
M96 M1064 MFCS-M <sup>(†)</sup>	70.571	3	0.212	76.000	6	0.456	85.000	3	0.255	90.000	4	0.360	-	-	-	90.000	4	0.360
M95 AMPV <sup>(†)</sup>	216.924	39	8.460	222.000	47	10.434	-	-	-	250.000	22	5.500	250.000	5	1.250	250.000	27	6.750
M96 AMPV <sup>(†)</sup>	70.571	6	0.423	76.000	9	0.684	-	-	-	90.000	4	0.360	-	-	-	90.000	4	0.360
MFCS-D (M150) <sup>(†)</sup>	0.879	140	0.123	225.000	18	4.050	225.000	24	5.400	-	-	-	250.000	49	12.250	250.000	49	12.250
MFCS ( M151) - FDC Dismounted	0.117	70	0.008	76.000	3	0.228	-	-	-	-	-	-	-	-	-	-	-	-
M95 M1064 Fire Control Computer <sup>(†)</sup>	42.061	96	4.038	40.000	180	7.200	40.000	183	7.320	-	-	-	-	-	-	-	-	-
M96 M1064 Fire Control Computer <sup>(†)</sup>	42.061	16	0.673	40.000	30	1.200	40.000	30	1.200	-	-	-	-	-	-	-	-	-
M150 Windows 10 Fire Control Computer <sup>(†)</sup>	-	-	-	40.000	184	7.360	40.000	64	2.560	-	-	-	-	-	-	-	-	-
M151 Windows 10 Fire Control Computer <sup>(†)</sup>	-	-	-	40.000	18	0.720	40.000	10	0.400	-	-	-	-	-	-	-	-	-
M95 Stryker Fire Control Computer <sup>(†)</sup>	25.521	216	5.513	40.000	72	2.880	40.000	108	4.320	-	-	-	-	-	-	-	-	-

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>													<b>Date:</b> March 2019					
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86						<b>P-1 Line Item Number / Title:</b> 7500K99300 / Mortar Fire Control System						<b>Item Number / Title [DODIC]:</b> K99300 / Mortar Fire Control System						
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A										<b>MDAP/MAIS Code:</b>								
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
M95 Stryker Fire Control Computer BII Sets	-	-	0.900	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M151 Stryker FDC Kit <sup>(1)</sup>	53.691	27	1.450	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TALIN - Dependent of M150/M95	51.808	119	6.165	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	31.002	-	-	41.872	-	-	25.505	-	-	10.720	-	-	13.500	-	-	24.220
<i>Subtotal: Hardware Cost</i>	-	-	31.002	-	-	41.872	-	-	25.505	-	-	10.720	-	-	13.500	-	-	24.220
<b>Software Cost</b>																		
<b>Recurring Cost</b>																		
Software Support	-	-	1.393	-	-	0.550	-	-	0.524	-	-	0.485	-	-	-	-	-	0.485
<i>Subtotal: Recurring Cost</i>	-	-	1.393	-	-	0.550	-	-	0.524	-	-	0.485	-	-	-	-	-	0.485
<b>Non Recurring Cost</b>																		
Windows 10 Qualification	-	-	2.718	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Non Recurring Cost</i>	-	-	2.718	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Software Cost</i>	-	-	4.111	-	-	0.550	-	-	0.524	-	-	0.485	-	-	-	-	-	0.485
<b>Logistics Cost</b>																		
<b>Recurring Cost</b>																		
Government ILS	-	-	1.487	-	-	0.425	-	-	0.425	-	-	0.450	-	-	-	-	-	0.450
<i>Subtotal: Recurring Cost</i>	-	-	1.487	-	-	0.425	-	-	0.425	-	-	0.450	-	-	-	-	-	0.450
<i>Subtotal: Logistics Cost</i>	-	-	1.487	-	-	0.425	-	-	0.425	-	-	0.450	-	-	-	-	-	0.450
<b>Support - Fielding Cost</b>																		
Fielding	-	-	2.750	-	-	0.600	-	-	0.500	-	-	0.500	-	-	0.750	-	-	1.250
<i>Subtotal: Support - Fielding Cost</i>	-	-	2.750	-	-	0.600	-	-	0.500	-	-	0.500	-	-	0.750	-	-	1.250
<b>Support - Production Engineering Cost</b>																		
Production Engineering	-	-	394.264	-	-	3.044	-	-	2.196	-	-	1.044	-	-	1.725	-	-	2.769
<i>Subtotal: Support - Production Engineering Cost</i>	-	-	394.264	-	-	3.044	-	-	2.196	-	-	1.044	-	-	1.725	-	-	2.769
<b>Gross/Weapon System Cost</b>	<b>1,010.755</b>	<b>-</b>	<b>433.614</b>	<b>77.873</b>	<b>-</b>	<b>46.490</b>	<b>67.788</b>	<b>-</b>	<b>29.149</b>	<b>274.979</b>	<b>-</b>	<b>13.199</b>	<b>295.833</b>	<b>-</b>	<b>15.975</b>	<b>286.020</b>	<b>-</b>	<b>29.174</b>

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86	<b>P-1 Line Item Number / Title:</b> 7500K99300 / Mortar Fire Control System	<b>Item Number / Title [DODIC]:</b> K99300 / Mortar Fire Control System
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**ID Code** (A=Service Ready, B=Not Service Ready) : A **MDAP/MAIS Code:**

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	-	-	-	-	-
	Total Obligation Authority	46.490	29.149	13.199	15.975	29.174
<b>Total:</b>	<b>Quantity</b>	-	-	-	-	-
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>46.490</b>	<b>29.149</b>	<b>13.199</b>	<b>15.975</b>	<b>29.174</b>

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



**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86	<b>P-1 Line Item Number / Title:</b> 7500K99300 / Mortar Fire Control System	<b>Item Number / Title [DODIC]:</b> K99300 / Mortar Fire Control System
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Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty <i>(Each)</i>	Unit Cost <i>(\$ K)</i>	Specs Avail Now?	Date Revision Available	RFP Issue Date
M95 M1064 MFCS-M		2017	EFW, Inc. / Fort Worth, TX	Option / FFP	Picatinny Arsenal, NJ	Mar 2017	Apr 2018	14	216.924	Y		
M95 M1064 MFCS-M		2018	EFW, Inc. / Fort Worth, TX	Option / FFP	Picatinny Arsenal, NJ	Mar 2018	Apr 2019	30	222.000	Y		
M95 M1064 MFCS-M		2019	EFW, Inc. / Fort Worth, TX	Option / FFP	Picatinny Arsenal, NJ	Mar 2019	Apr 2020	18	225.000	Y		
M95 M1064 MFCS-M		2020	EFW, Inc. / Fort Worth, TX	Option / FFP	Picatinny Arsenal, NJ	Mar 2020	Apr 2021	18	250.000	Y		
M96 M1064 MFCS-M		2017	EFW, Inc. / Fort Worth, TX	Option / FFP	Picatinny Arsenal, NJ	Mar 2017	Apr 2018	3	70.571	Y		
M96 M1064 MFCS-M		2018	EFW, Inc. / Fort Worth, TX	Option / FFP	Picatinny Arsenal, NJ	Mar 2018	Apr 2019	6	76.000	Y		
M96 M1064 MFCS-M		2020	EFW, Inc. / Fort Worth, TX	Option / FFP	Picatinny Arsenal, NJ	Mar 2020	Apr 2021	4	90.000	Y		
M95 AMPV		2017	EFW, Inc. / Fort Worth, TX	Option / FFP	Picatinny Arsenal, NJ	Mar 2017	Apr 2018	39	216.924	Y		
M95 AMPV <sup>(†)</sup>		2018	EFW, Inc. / Fort Worth, TX	Option / FFP	Picatinny Arsenal, NJ	Mar 2018	Apr 2019	47	222.000	Y		
M95 AMPV <sup>(†)</sup>		2020	EFW, Inc. / Fort Worth, TX	Option / FFP	Picatinny Arsenal, NJ	Mar 2020	Apr 2021	22	250.000	Y		
M95 AMPV <sup>(†)</sup>		2020	EFW, Inc. / Fort Worth, TX	Option / FFP	Picatinny Arsenal, NJ	Mar 2020	Apr 2021	5	250.000	Y		
M96 AMPV		2017	EFW, Inc. / Fort Worth, TX	Option / FFP	Picatinny Arsenal, NJ	Mar 2017	Apr 2018	6	70.571	Y		
M96 AMPV		2018	EFW, Inc. / Fort Worth, TX	Option / FFP	Picatinny Arsenal, NJ	Mar 2018	Apr 2019	9	76.000	Y		
M96 AMPV		2020	EFW, Inc. / Fort Worth, TX	Option / FFP	Picatinny Arsenal, NJ	Mar 2020	Apr 2021	4	90.000	Y		
MFCS-D (M150) <sup>(†)</sup>	✓	2020	EFW, Inc. / Fort Worth, TX	Option / FFP	Picatinny Arsenal, NJ	Mar 2020	Apr 2021	49	250.000	Y		
M95 M1064 Fire Control Computer		2017	EFW, Inc. / Fort Worth, TX	Option / FFP	Picatinny Arsenal, NJ	Mar 2017	Apr 2018	96	42.061	Y		
M95 M1064 Fire Control Computer		2018	EFW, Inc. / Fort Worth, TX	Option / FFP	Picatinny Arsenal, NJ	Mar 2018	Apr 2019	180	40.000	Y		
M95 M1064 Fire Control Computer		2019	EFW, Inc. / Fort Worth, TX	Option / FFP	Picatinny Arsenal, NJ	Mar 2019	Apr 2020	183	40.000	Y		
M96 M1064 Fire Control Computer		2017	EFW, Inc. / Fort Worth, TX	Option / FFP	Picatinny Arsenal, NJ	Mar 2017	Apr 2018	16	42.061	Y		
M96 M1064 Fire Control Computer		2018	EFW, Inc. / Fort Worth, TX	Option / FFP	Picatinny Arsenal, NJ	Mar 2018	Apr 2019	30	40.000	Y		
M96 M1064 Fire Control Computer		2019	EFW, Inc. / Fort Worth, TX	Option / FFP	Picatinny Arsenal, NJ	Mar 2019	Apr 2020	30	40.000	Y		
M150 Windows 10 Fire Control Computer		2018	EFW, Inc. / Fort Worth, TX	Option / FFP	Picatinny Arsenal, NJ	Mar 2018	Apr 2019	184	40.000	Y		
M150 Windows 10 Fire Control Computer		2019	EFW, Inc. / Fort Worth, TX	Option / FFP	Picatinny Arsenal, NJ	Mar 2019	Apr 2020	64	40.000	Y		
M151 Windows 10 Fire Control Computer		2018	EFW, Inc. / Fort Worth, TX	Option / FFP	Picatinny Arsenal, NJ	Mar 2018	Apr 2019	18	40.000	Y		
M151 Windows 10 Fire Control Computer		2019	EFW, Inc. / Fort Worth, TX	Option / FFP	Picatinny Arsenal, NJ	Mar 2019	Apr 2020	10	40.000	Y		
M95 Stryker Fire Control Computer		2017	EFW, Inc. / Fort Worth, TX	Option / FFP	Picatinny Arsenal, NJ	Mar 2017	Apr 2018	72	42.061	Y		
M95 Stryker Fire Control Computer		2018	EFW, Inc. / Fort Worth, TX	Option / FFP	Picatinny Arsenal, NJ	Mar 2018	Apr 2019	72	40.000	Y		
M95 Stryker Fire Control Computer		2019	EFW, Inc. / Fort Worth, TX	Option / FFP	Picatinny Arsenal, NJ	Mar 2019	Apr 2020	108	40.000	Y		
M151 Stryker FDC Kit		2017	EFW, Inc. / Fort Worth, TX	Option / FFP	Picatinny Arsenal, NJ	Mar 2017	Apr 2018	27	53.691	Y		

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

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<b>Exhibit P-5a, Procurement History and Planning:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86	<b>P-1 Line Item Number / Title:</b> 7500K99300 / Mortar Fire Control System	<b>Item Number / Title [DODIC]:</b> K99300 / Mortar Fire Control System



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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86	<b>P-1 Line Item Number / Title:</b> 7500K99300 / Mortar Fire Control System	<b>Item Number / Title [DODIC]:</b> K99300 / Mortar Fire Control System
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Cost Elements <i>(Units in Each)</i>					Fiscal Year 2019													Fiscal Year 2020												BALANCE		
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2018	BAL DUE AS OF 1 OCT	Calendar Year 2019													Calendar Year 2020												
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G		S E P	
M95 AMPV																																
	1	2018	ARMY	47	0	47	-	-	-	-	-	-	-	-	24	23													0			
	1	2020	ARMY	22	0	22																							22			
	2	2020	ARMY	5	0	5																							5			
MFCS-D (M150)																																
Prior Years Deliveries: 140																																
✓	3	2020	ARMY	49	0	49																							49			
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P		

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86	<b>P-1 Line Item Number / Title:</b> 7500K99300 / Mortar Fire Control System	<b>Item Number / Title [DODIC]:</b> K99300 / Mortar Fire Control System
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Cost Elements <i>(Units in Each)</i>						Fiscal Year 2021												Fiscal Year 2022												BALANCE	
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2020	BAL DUE AS OF 1 OCT	Calendar Year 2021												Calendar Year 2022												
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G		S E P
M95 AMPV																															
	1	2018	ARMY	47	47	0																							0		
	1	2020	ARMY	22	0	22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0		
	2	2020	ARMY	5	0	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0			
MFCS-D (M150)																															
Prior Years Deliveries: 140																															
✓	3	2020	ARMY	49	0	49	-	-	-	-	-	-	-	16	16	17													0		
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	

**UNCLASSIFIED**

<b>Exhibit P-21, Production Schedule:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86		<b>P-1 Line Item Number / Title:</b> 7500K99300 / Mortar Fire Control System
		<b>Item Number / Title [DODIC]:</b> K99300 / Mortar Fire Control System

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Month)			Procurement Leadtime (Months)							
		MSR For 2020	1-8-5 For 2020	MAX For 2020	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	EFW, Inc.. - Fort Worth, TX	10	24	66	4	4	12	16	1	1	12	13
2	EFW, Inc. - Fort Worth, TX	10	24	66	4	4	12	16	1	1	12	13
3	EFW, Inc.. - Fort Worth, TX	10	24	66	4	4	12	16	1	1	12	13

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

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 86: Elect Equip - Tactical Surv. (Tac Surv)	<b>P-1 Line Item Number / Title:</b> 7563AD9300 / Mortar Fire Control Systems Modifications
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	-	-	-	10.000	-	10.000	7.300	4.200	8.100	6.500	-	36.100
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	-	-	-	10.000	-	10.000	7.300	4.200	8.100	6.500	-	36.100
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	-	-	-	<b>10.000</b>	-	<b>10.000</b>	<b>7.300</b>	<b>4.200</b>	<b>8.100</b>	<b>6.500</b>	-	<b>36.100</b>

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

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

**Description:**

The Mortar Fire Control System (MFCS) accurately determines weapon position and orientation, navigates, calculates ballistics, and communicates digitally on the Single Channel Ground and Airborne Radio System (SINCGARS) fire support network. The MFCS main Line Replaceable Unit (LRUs) are the Fire Control Computer (FCC), Enhanced Power Distribution Assembly (EPDA), Inertial Navigation Unit (INU), Portable Universal Battery Supply (PUBS), Gunner's Display (GD), and cable sets. Mortar Fire Control System modifications for M95 M1064, M95 Stryker, M151 Stryker, M150, and M151 systems replace the aging and obsolete LRUs, including non-compliant computers. The new FCC will be Windows 10 compliant and will replace all non-compliant FCCs in M95/M96/M150/M151 MFCS platforms.

Funds in this program to support the systems modifications are a realignment of funds from program Mortar Fire Control Systems, SSN K99300; this program is not a new start in FY 2020.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	-	-	10.000	-	10.000	7.300	4.200	8.100	6.500
<b>Total:</b>									
<b>Secondary Distribution</b>									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	-	-	10.000	-	10.000	7.300	4.200	8.100	6.500

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 86: Elect Equip - Tactical Surv. (Tac Surv)	<b>P-1 Line Item Number / Title:</b> 7563AD9300 / Mortar Fire Control Systems Modifications
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-3a	AD9305 / Mortar Fire Control Systems Modifications (Army Mortar Fire Control Modernization)				- / -	- / -	- / -	- / 10.000	- / -	- / 10.000
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				- / -	- / -	- / -	- / 10.000	- / -	- / 10.000

Exhibits Schedule					FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-3a	AD9305 / Mortar Fire Control Systems Modifications (Army Mortar Fire Control Modernization)				- / 7.300	- / 4.200	- / 8.100	- / 6.500	- / -	- / 36.100
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				- / 7.300	- / 4.200	- / 8.100	- / 6.500	- / -	- / 36.100

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

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

**Justification:**  
 FY 2020 Base procurement dollars in the amount of \$10.000 million supports the procurement of 72 each M95 Stryker and 27 each M151 Stryker Fire Direction Center (FDC) Windows 10 Fire Control Computers for Stryker Brigade Combat Teams (SBCT), 63 each M95 in M1064 computer replacements for Armored Brigade Combat Teams (ABCT), 36 each M150 and 9 each M151 in Infantry Brigade Combat Team (IBCT) Windows 10 Fire Control Computer with Installation Kit, including support costs for software, logistics fielding, and production engineering. These upgrades are urgently required for fielding to SBCT, ABCT, and IBCT to retain their MFCS Authority to Operate (ATO) in accordance with Information Assurance requirements and DoD Chief Information Officer (CIO) Microsoft Windows 10 mandate.



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<b>Exhibit P-3a, Individual Modification:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86	<b>P-1 Line Item Number / Title:</b> 7563AD9300 / Mortar Fire Control Systems Modifications	<b>Modification Number / Title:</b> AD9305 / Mortar Fire Control Systems Modifications

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	-	-	-	10.000	-	10.000	7.300	4.200	8.100	6.500	-	36.100
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	-	-	-	10.000	-	10.000	7.300	4.200	8.100	6.500	-	36.100
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	-	-	-	<b>10.000</b>	-	<b>10.000</b>	<b>7.300</b>	<b>4.200</b>	<b>8.100</b>	<b>6.500</b>	-	<b>36.100</b>

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

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

**Description:**

The Mortar Fire Control System (MFCS) accurately determines weapon position and orientation, navigates, calculates ballistics, and communicates digitally on the Single Channel Ground and Airborne Radio System (SINGARS) fire support network. The MFCS main Line Replaceable Unit (LRUs) are the Fire Control Computer (FCC), Enhanced Power Distribution Assembly (EPDA), Inertial Navigation Unit (INU), Portable Universal Battery Supply (PUBS), Gunner's Display (GD), and cable sets. Mortar Fire Control System modifications for M95 M1064, M95 Stryker, M151 Stryker, M150, and M151 systems replace the aging and obsolete LRUs, including non-compliant computers. The new FCC will be Windows 10 compliant and will replace all non-compliant FCCs in M95/M96/M150/M151 MFCS platforms.

**Justification:**

FY 2020 Base procurement dollars in the amount of \$10.000 million supports the procurement of 72 each M95 Stryker and 27 each M151 Stryker Fire Direction Center (FDC) Windows 10 Fire Control Computers for Stryker Brigade Combat Teams (SBCT), 63 each M95 in M1064 computer replacements for Armored Brigade Combat Teams (ABCT), 36 each M150 and 9 each M151 in Infantry Brigade Combat Team (IBCT) Windows 10 Fire Control Computer with Installation Kit, including support costs for software, logistics fielding, and production engineering. These upgrades are urgently required for fielding to SBCT, ABCT, and IBCT to retain their MFCS Authority to Operate (ATO) in accordance with Information Assurance requirements and DoD Chief Information Officer (CIO) Microsoft Windows 10 mandate.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	-	-	10.000	-	10.000	7.300	4.200	8.100	6.500
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	-	-	-	-	-	-	-	-	-
	<b>Total Obligation Authority</b>	-	-	<b>10.000</b>	-	<b>10.000</b>	<b>7.300</b>	<b>4.200</b>	<b>8.100</b>	<b>6.500</b>

**UNCLASSIFIED**

<b>Exhibit P-3a, Individual Modification: PB 2020 Army</b>											<b>Date:</b> March 2019		
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86				<b>P-1 Line Item Number / Title:</b> 7563AD9300 / Mortar Fire Control Systems Modifications							<b>Modification Number / Title:</b> AD9305 / Mortar Fire Control Systems Modifications		
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :							<b>MDAP/MAIS Code:</b>						
<b>Models of Systems Affected:</b> M95 M1064, M95 Stryker, M151 Stryker, M150, and M151 systems				<b>Modification Type:</b> Army Mortar Fire Control Modernization				<b>Related RDT&amp;E PEs:</b>					
Financial Plan	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
<b>Procurement</b>													
<i>Modification Item 1 of 1: Mortar Fire Control Systems Modifications</i>													
A Kits													
Recurring													
M95 M1064 Fire Control Computer	- / -	- / -	- / -	63 / 2.520	- / -	63 / 2.520	- / -	- / -	- / -	- / -	- / 0.000	63 / 2.520	
M95 Stryker Win 10 Fire Control Computer	- / -	- / -	- / -	72 / 2.880	- / -	72 / 2.880	- / -	- / -	- / -	- / -	- / 0.000	72 / 2.880	
M151 Stryker FDC Win 10 FCC	- / -	- / -	- / -	27 / 1.080	- / -	27 / 1.080	- / -	- / -	- / -	- / -	- / 0.000	27 / 1.080	
M150 Windows 10 Fire Control Computer	- / -	- / -	- / -	36 / 1.440	- / -	36 / 1.440	115 / 4.600	84 / 3.360	171 / 6.840	133 / 5.320	- / 0.000	539 / 21.560	
M151 Windows 10 Fire Control Computer	- / -	- / -	- / -	9 / 0.360	- / -	9 / 0.360	38 / 1.520	- / -	- / -	- / -	- / 0.000	47 / 1.880	
Engineering / Program Support	- / -	- / -	- / -	- / 1.170	- / -	- / 1.170	- / 0.780	- / 0.440	- / 0.810	- / 0.730	- / 0.000	- / 3.930	
New Equipment Training	- / -	- / -	- / -	- / 0.300	- / -	- / 0.300	- / 0.150	- / 0.150	- / 0.200	- / 0.200	- / 0.000	- / 1.000	
Fielding / Install	- / -	- / -	- / -	- / 0.250	- / -	- / 0.250	- / 0.250	- / 0.250	- / 0.250	- / 0.250	- / 0.000	- / 1.250	
<i>Subtotal: Recurring</i>	- / -	- / -	- / -	207 / 10.000	- / -	207 / 10.000	153 / 7.300	84 / 4.200	171 / 8.100	133 / 6.500	- / -	748 / 36.100	
<i>Subtotal: Mortar Fire Control Systems Modifications</i>	- / -	- / -	- / -	207 / 10.000	- / -	207 / 10.000	153 / 7.300	84 / 4.200	171 / 8.100	133 / 6.500	- / -	748 / 36.100	
<i>Subtotal: Procurement, All Modification Items</i>	- / -	- / -	- / -	207 / 10.000	- / -	207 / 10.000	153 / 7.300	84 / 4.200	171 / 8.100	133 / 6.500	- / -	748 / 36.100	
<b>Installation</b>													
<i>Subtotal: Installation</i>	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	
<b>Total</b>													
<b>Total Cost (Procurement + Support + Installation)</b>	-	-	-	10.000	-	10.000	7.300	4.200	8.100	6.500	-	36.100	

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<b>Exhibit P-3a, Individual Modification:</b> PB 2020 Army					<b>Date:</b> March 2019		
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86			<b>P-1 Line Item Number / Title:</b> 7563AD9300 / Mortar Fire Control Systems Modifications			<b>Modification Number / Title:</b> AD9305 / Mortar Fire Control Systems Modifications	
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :					<b>MDAP/MAIS Code:</b>		
<b>Modification Item 1 of 1:</b> Mortar Fire Control Systems Modifications							
<b>Manufacturer Information</b>							
Manufacturer Name: EFW Inc.				Manufacturer Location: Fort Worth, TX			
Administrative Leadtime (in Months): 4				Production Leadtime (in Months): 18			
<b>Dates</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
Contract Dates			Mar 2020	Mar 2021	Mar 2022	Mar 2023	Mar 2024
Delivery Dates			Aug 2021	Aug 2022	Aug 2023	Aug 2024	Aug 2025
<b>Installation Information</b>							
<b>Method of Implementation (Organic):</b> Organic Install					<b>Installation Quantity:</b> 0		

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 86: Elect Equip - Tactical Surv. (Tac Surv)	<b>P-1 Line Item Number / Title:</b> 8386BA5500 / Counterfire Radars
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> 0604823A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	17	32	15	-	-	-	-	-	-	-	Continuing	Continuing
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	2,396.645	400.530	324.150	16.416	-	16.416	64.267	82.075	141.539	182.012	Continuing	Continuing
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	2,396.645	400.530	324.150	16.416	-	16.416	64.267	82.075	141.539	182.012	Continuing	Continuing
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>2,396.645</b>	<b>400.530</b>	<b>324.150</b>	<b>16.416</b>	<b>-</b>	<b>16.416</b>	<b>64.267</b>	<b>82.075</b>	<b>141.539</b>	<b>182.012</b>	<b>Continuing</b>	<b>Continuing</b>

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

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	140,979.118	12,516.563	21,610.000	-	-	-	-	-	-	-	Continuing	Continuing

**Description:**

The AN/TPQ-53 Counterfire Target Acquisition Radar System is a highly mobile radar set that automatically detects, classifies, tracks, and locates the point of origin of projectiles fired from mortar, artillery, and rocket systems with sufficient accuracy for first round fire for effect. It mitigates close combat radar coverage gaps by providing a 90-degree search sector (stare mode) as well as 360-degree coverage (rotating) and will replace the current AN/TPQ-36 and AN/TPQ-37 Firefinder Radars. The AN/TPQ-53 system interoperates with mission command systems to provide the maneuver commander increased counterfire radar flexibility. The AN/TPQ-53 is deployed as part of the Counter-Rocket, Artillery, Mortar (C-RAM) system of systems. It provides data to the Forward Area Air Defense Command and Control (FAAD C2) node for the sense and warn force protection capability. The AN/TPQ-53 currently supports contingency operations to include Operation Inherent Resolve (OIR) and is fielded to Brigade Combat Teams (BCTs), Field Artillery Brigades (FABs), and Division Artilleries (DIVARTYs).

The Army Acquisition Objective (AAO) is 189.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	8	8	-	-	-	-	-	-	-
	Total Obligation Authority	100.133	178.087	16.416	-	16.416	64.267	82.075	141.539	182.012
ANG	Quantity	24	7	-	-	-	-	-	-	-
	Total Obligation Authority	300.397	146.063	-	-	-	-	-	-	-
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	<b>32</b>	<b>15</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
	<b>Total Obligation Authority</b>	<b>400.530</b>	<b>324.150</b>	<b>16.416</b>	<b>-</b>	<b>16.416</b>	<b>64.267</b>	<b>82.075</b>	<b>141.539</b>	<b>182.012</b>

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

**Appropriation / Budget Activity / Budget Sub Activity:**  
 2035A: Other Procurement, Army / BA 02: Communications and Electronics  
 Equipment / BSA 86: Elect Equip - Tactical Surv. (Tac Surv)

**P-1 Line Item Number / Title:**  
 8386BA5500 / Counterfire Radars

**ID Code** (A=Service Ready, B=Not Service Ready): **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0604823A

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

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	B05310 / AN/TPQ-53 Counterfire Target Acquisition Radar	P-5a			17 / 2,396.645	32 / 400.530	15 / 324.150	- / 16.416	- / -	- / 16.416
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>17 / 2,396.645</b>	<b>32 / 400.530</b>	<b>15 / 324.150</b>	<b>- / 16.416</b>	<b>- / -</b>	<b>- / 16.416</b>

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

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

**Justification:**

The FY 2020 funding of \$16.416 million supports the production and fielding of systems to U.S. Army units, training, engineering changes, and information assurance.

Including prior year procurement quantities, this program achieves the AAO of 189 by procuring the last 15 systems in FY 2019.

Per BOIP change memo dated 21 Dec 15, current force structure is as follows:

- Two (2) radars per Active Component (AC) Armored Brigade Combat Team (ABCT)
- Two (2) radars per AC Infantry Brigade Combat Team (IBCT)
- Two (2) radars per AC Stryker Brigade Combat Team (SBCT)
- Two (2) radars per Army National Guard (ARNG) ABCT
- Two (2) radars per ARNG IBCT
- Two (2) radars per ARNG SBCT
- Two (2) radars per AC Field Artillery Brigade (FAB)
- Two (2) radars per ARNG FAB
- Two (2) radars per AC Division Artillery (DIVARTY)
- One (1) radar per Task Force

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

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86	<b>P-1 Line Item Number / Title:</b> 8386BA5500 / Counterfire Radars	<b>Item Number / Title [DODIC]:</b> B05310 / AN/TPQ-53 Counterfire Target Acquisition Radar

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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<b>Resource Summary</b>	<b>Prior Years</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Procurement Quantity (Units in Each)	17	32	15	-	-	-
Gross/Weapon System Cost (\$ in Millions)	2,396.645	400.530	324.150	16.416	-	16.416
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	2,396.645	400.530	324.150	16.416	-	16.416
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>2,396.645</b>	<b>400.530</b>	<b>324.150</b>	<b>16.416</b>	<b>-</b>	<b>16.416</b>

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

Initial Spares (\$ in Millions)	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	140,979.118	12,516.563	21,610.000	-	-	-

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

<b>Cost Elements</b>	<b>Prior Years</b>			<b>FY 2018</b>			<b>FY 2019</b>			<b>FY 2020 Base</b>			<b>FY 2020 OCO</b>			<b>FY 2020 Total</b>		
	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>
<b>Flyaway Cost</b>																		
<b>Recurring Cost</b>																		
Hardware (AN/TPQ-53) <sup>(t)</sup>	10,441.824	142	1,482.739	9,387.219	32	300.391	11,158.733	15	167.381	-	-	-	-	-	-	-	-	-
Ancillary Equipment	-	-	200.031	-	-	38.625	-	-	22.272	-	-	-	-	-	-	-	-	-
<b>Subtotal: Recurring Cost</b>	<b>-</b>	<b>-</b>	<b>1,682.770</b>	<b>-</b>	<b>-</b>	<b>339.016</b>	<b>-</b>	<b>-</b>	<b>189.653</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Non Recurring Cost</b>																		
Non-Recurring Engineering	-	-	110.220	-	-	16.305	-	-	31.668	-	-	0.814	-	-	-	-	-	0.814
Non-Recurring Production	-	-	138.277	-	-	6.106	-	-	48.645	-	-	-	-	-	-	-	-	-
Engineering Change Orders	-	-	1.015	-	-	1.770	-	-	2.116	-	-	0.951	-	-	-	-	-	0.951
Post Deployment Software Support	-	-	15.269	-	-	2.641	-	-	2.841	-	-	1.903	-	-	-	-	-	1.903
<b>Subtotal: Non Recurring Cost</b>	<b>-</b>	<b>-</b>	<b>264.781</b>	<b>-</b>	<b>-</b>	<b>26.822</b>	<b>-</b>	<b>-</b>	<b>85.270</b>	<b>-</b>	<b>-</b>	<b>3.668</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>3.668</b>
<b>Subtotal: Flyaway Cost</b>	<b>-</b>	<b>-</b>	<b>1,947.551</b>	<b>-</b>	<b>-</b>	<b>365.838</b>	<b>-</b>	<b>-</b>	<b>274.923</b>	<b>-</b>	<b>-</b>	<b>3.668</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>3.668</b>
<b>Support - Acceptance Testing Cost</b>																		
Acceptance Test	-	-	35.735	-	-	2.046	-	-	1.762	-	-	-	-	-	-	-	-	-
<b>Subtotal: Support - Acceptance Testing Cost</b>	<b>-</b>	<b>-</b>	<b>35.735</b>	<b>-</b>	<b>-</b>	<b>2.046</b>	<b>-</b>	<b>-</b>	<b>1.762</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Support - Fielding Cost</b>																		

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86		<b>P-1 Line Item Number / Title:</b> 8386BA5500 / Counterfire Radars
		<b>Item Number / Title [DODIC]:</b> B05310 / AN/TPQ-53 Counterfire Target Acquisition Radar

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Fielding	-	-	41.508	-	-	2.289	-	-	5.541	-	-	3.676	-	-	-	-	-	3.676
<i>Subtotal: Support - Fielding Cost</i>	-	-	<b>41.508</b>	-	-	<b>2.289</b>	-	-	<b>5.541</b>	-	-	<b>3.676</b>	-	-	-	-	-	<b>3.676</b>
<b>Support - Operational/Site Activation Cost</b>																		
Sustainment/Interim Contractor Support	-	-	195.705	-	-	15.711	-	-	27.233	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - Operational/Site Activation Cost</i>	-	-	<b>195.705</b>	-	-	<b>15.711</b>	-	-	<b>27.233</b>	-	-	-	-	-	-	-	-	-
<b>Support - Program Management Cost</b>																		
Government Management	-	-	166.610	-	-	5.734	-	-	5.598	-	-	4.225	-	-	-	-	-	4.225
Contractor Management	-	-	-	-	-	6.422	-	-	6.611	-	-	4.597	-	-	-	-	-	4.597
<i>Subtotal: Support - Program Management Cost</i>	-	-	<b>166.610</b>	-	-	<b>12.156</b>	-	-	<b>12.209</b>	-	-	<b>8.822</b>	-	-	-	-	-	<b>8.822</b>
<b>Support - Training Cost</b>																		
Equipment	-	-	9.536	-	-	2.490	-	-	2.482	-	-	0.250	-	-	-	-	-	0.250
<i>Subtotal: Support - Training Cost</i>	-	-	<b>9.536</b>	-	-	<b>2.490</b>	-	-	<b>2.482</b>	-	-	<b>0.250</b>	-	-	-	-	-	<b>0.250</b>
<b>Gross/Weapon System Cost</b>	<b>140,979.118</b>	<b>17</b>	<b>2,396.645</b>	<b>12,516.563</b>	<b>32</b>	<b>400.530</b>	<b>21,610.000</b>	<b>15</b>	<b>324.150</b>	-	-	<b>16.416</b>	-	-	-	-	-	<b>16.416</b>

**Remarks:**

FY 2019 non-recurring engineering funds the original equipment manufacturer's (OEM) software and engineering development and testing.

FY 2019 non-recurring production funds the procurement of new signal data processors to mitigate obsolescence and depot production support.

FY 2019 sustainment/interim contractor support addresses the requirements for the OEM to provide the necessary Field Support Representatives (FSRs) to maintain and repair fielded systems as well as provide 24/7 help desk support to deployed Soldiers supporting contingency operations.

Program management support in FY 2019 and FY 2020 funds personnel used to manage production and fielding of systems, hardware and software engineering changes, maintain information assurance accreditation, and manage the software materiel release process. Additionally, FY 2020 program management support includes logistics efforts required to establish an organic supply system and prepare for transition to sustainment.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	8	8	-	-	-

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<b>Exhibit P-5, Cost Analysis:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86	<b>P-1 Line Item Number / Title:</b> 8386BA5500 / Counterfire Radars	<b>Item Number / Title [DODIC]:</b> B05310 / AN/TPQ-53 Counterfire Target Acquisition Radar

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

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
	Total Obligation Authority	100.133	178.087	16.416	-	16.416
ANG	Quantity	24	7	-	-	-
	Total Obligation Authority	300.397	146.063	-	-	-
<b>Total:</b>	<b>Quantity</b>	<b>32</b>	<b>15</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>400.530</b>	<b>324.150</b>	<b>16.416</b>	<b>-</b>	<b>16.416</b>

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



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<b>Exhibit P-5a, Procurement History and Planning:</b> PB 2020 Army							<b>Date:</b> March 2019				
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 86			<b>P-1 Line Item Number / Title:</b> 8386BA5500 / Counterfire Radars				<b>Item Number / Title [DODIC]:</b> B05310 / AN/TPQ-53 Counterfire Target Acquisition Radar				

Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty <i>(Each)</i>	Unit Cost <i>(\$ K)</i>	Specs Avail Now?	Date Revision Available	RFP Issue Date
Hardware (AN/TPQ-53)		2018	Lockheed Martin / Syracuse, NY.	SS / FPIF	CECOM	Mar 2018	Oct 2019	32	9,387.219	Y		Feb 2015
Hardware (AN/TPQ-53)		2019	Lockheed Martin / Syracuse, NY.	SS / FPIF	CECOM	Mar 2019	Oct 2020	15	11,158.733	Y		Feb 2015

**Remarks:**  
Delivery schedule shown is based on the schedule specified in the Full Rate Production contract.

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 89: Elect Equip - Tactical C2 Systems	<b>P-1 Line Item Number / Title:</b> 9042B29810 / Army Command Post Integrated Infrastructure (CPI2)
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> 0604818ER9
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	-	-	2.855	-	-	-	50.000	50.000	50.000	50.000	Continuing	Continuing
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	-	-	2.855	-	-	-	50.000	50.000	50.000	50.000	Continuing	Continuing
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	-	-	<b>2.855</b>	-	-	-	<b>50.000</b>	<b>50.000</b>	<b>50.000</b>	<b>50.000</b>	<b>Continuing</b>	<b>Continuing</b>

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

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

**Description:**

Command Post Integrated Infrastructure (CPI2) supports the Army Network Modernization Strategy Line of Effort 4: Command Posts. CPI2 will provide expeditionary, survivable and scalable command post infrastructure to accomplish its mission across the range of military operations (ROMO); offensive, defensive, stability operations and Defense Support of Civil Authorities (DSCA). The program office intends to integrate information and support systems into formation appropriate platforms (vehicles) to provide mobile command post infrastructure and capabilities, which are intended to enhance survivability and agility while allowing the commander to tailor the command post configuration based on the mission.

The CPI2 Materiel Development Decision Acquisition Decision Memorandum was signed on 21 June 2018, and directs CPI2 to be executed in a two increment approach. Increment 1 will develop capabilities to address needs identified in the signed Command Post (CP) Directed Requirement (DR) while Increment 2 will execute requirements as identified in the emerging CP Capability Development Document (CDD).

**Justification:**

The program has no FY 2020 funding request.

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 89: Elect Equip - Tactical C2 Systems	<b>P-1 Line Item Number / Title:</b> 9060B28501 / Fire Support C2 Family
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> 0203726A, 0203728A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	940	39	248	525	-	525	-	-	-	-	-	1,752
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	513.660	8.700	19.153	13.197	-	13.197	-	-	-	-	-	554.710
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	513.660	8.700	19.153	13.197	-	13.197	-	-	-	-	-	554.710
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>513.660</b>	<b>8.700</b>	<b>19.153</b>	<b>13.197</b>	<b>-</b>	<b>13.197</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>554.710</b>

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

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	546.447	223.077	77.230	25.137	-	25.137	-	-	-	-	-	316.615

**Description:**

FSC2 funding line supports the Army's Network Modernization Strategy Lines of Efforts: LOE 2 Common Operating Environment. Fire Support Command and Control (FSC2) systems automate the planning and execution of fire support operations so that a suitable weapon or group of weapons adequately covers targets. Fire support is the effect of lethal and non-lethal weapons (fires) that directly support land, maritime, amphibious and special operation forces to engage enemy forces, combat formations, and facilities in pursuit of tactical and operational objectives. FSC2 family consists of Advanced Field Artillery Tactical Data System (AFATDS), Joint Automated Deep Operations Coordination System (JADOCS), and Pocket-sized Forward Entry Device (PFED).

Joint Automated Deep Operations Coordination System (JADOCS) is a Joint and Coalition targeting, coordination mission management software application. It links Command and Control (C2), Intelligence, and Air Operations information with execution systems using real time collaborative targeting managers, customized for each service or specific functional area. JADOCS is used to significantly enhance the Joint Force and Component Command's capability to simultaneously develop, coordinate and execute Dynamic and Time Sensitive targets and fire missions, as well as battle space coordination worldwide. JADOCS provides coordination and de-confliction of targeting information at all levels of command structure for the military. JADOCS is used by Air, Ground, Maritime, and Special Operations forces. It provides horizontal (across Services) as well as vertical (within Services) coordination of missions to ensure a common picture of targeting operational status across the entire joint force. As a software application, JADOCS can be configured and customized for each user and location.

The Advanced Field Artillery Tactical Data System (AFATDS) provides the Army, Navy, and Marine Corps automated fire support command, control and communications. AFATDS is used to plan, execute, and deliver lethal and non-lethal effects. AFATDS provides Joint/Coalition Situational Awareness for fires execution and mission management. The system interoperates and integrates with over 80 different battlefield systems, including Navy and Air Force command and control weapons systems. As a member of the Artillery System Cooperation Agreement (ASCA), AFATDS is interoperable with coalition partner fire support systems. AFATDS automates the planning, coordination, and control of all fire support assets (field artillery, mortars, close air support, naval gunfire, attack helicopters, offensive electronic warfare, fire support meteorological systems, forward observers, and fire support radars). Advanced Field Artillery Tactical Data System (AFATDS) 7.0 modernizes the existing AFATDS software currently in the field. AFATDS 7.0 enhances the existing AFATDS baseline by: (1) Providing a modernized web service based backend that will simplify long-term maintenance of the software, (2) Bringing AFATDS into full compliance with the Army's Common Operating Environment (COE) Command Post Computing Environment (CPCE) initiative and (3) Enhancing overall usability of the system through the implementation of a role-based capability architecture with embedded training that allows the AFATDS operator to receive on-the-spot training for any aspect of AFATDS via interactive instruction, and (4) Ensures development of AFATDS supports Long Range Precision Fires (LRPF) CFT Extended Range Canon Artillery (ERCA), Extended Range Guided Multiple Launch Rocket System (ER-GMLRS), Precision Strike Missile System (PRSM) and Projectile Tracking System (PTS) initiatives. In order to support these LRPF initiatives, AFATDS will serve as the key sensor to shooter link for the Army and USMC providing fully automated support for planning, coordinating, controlling and executing fires and effects.

**UNCLASSIFIED**

<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 89: Elect Equip - Tactical C2 Systems		<b>P-1 Line Item Number / Title:</b> 9060B28501 / Fire Support C2 Family
<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> 0203726A, 0203728A
<b>Line Item MDAP/MAIS Code:</b> N/A		

The Pocket-sized Forward Entry Device (PFED) Increment I is a handheld hardware device that enables rapid precision Sensor-to-Shooter and Surveillance capabilities. PFED is fully interoperable with AFATDS and current fire support systems. Pocket-sized Forward Entry Device (PFED) Increment II is a software application that operates on the Nett Warrior End User Device (EUD). It will provide the dismounted Forward Observer (FO) and Fire Support Teams (FISTs) the capability and functionality to accurately and rapidly locate ground targets and digitally process a Call For Fire. PFED Increment II answers the Mobile Handheld Computing Environment requirement that all handheld applications reside on the Nett Warrior EUD.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	39	248	289	-	289	-	-	-	-
	Total Obligation Authority	8.700	19.153	7.156	-	7.156	-	-	-	-
ANG	Quantity	-	-	222	-	222	-	-	-	-
	Total Obligation Authority	-	-	5.541	-	5.541	-	-	-	-
AR	Quantity	-	-	14	-	14	-	-	-	-
	Total Obligation Authority	-	-	0.500	-	0.500	-	-	-	-
<b>Total:</b>	<b>Quantity</b>	<b>39</b>	<b>248</b>	<b>525</b>	<b>-</b>	<b>525</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>8.700</b>	<b>19.153</b>	<b>13.197</b>	<b>-</b>	<b>13.197</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 89: Elect Equip - Tactical C2 Systems	<b>P-1 Line Item Number / Title:</b> 9060B28501 / Fire Support C2 Family
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> 0203726A, 0203728A
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**Line Item MDAP/MAIS Code:** N/A

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	B28504 / JADOCS				- / 1.969	- / 1.722	- / 1.679	- / 0.494	- / -	- / 0.494
P-5	B28620 / MOD OF IN-SVC EQUIP, AFATDS	P-5a			940 / 202.261	39 / 2.765	248 / 6.830	114 / 4.083	- / -	114 / 4.083
P-5	BZ9851 / POCKET FORWARD ENTRY DEVICE (PFED)	P-5a			- / 309.430	- / 4.213	- / 10.644	411 / 8.620	- / -	411 / 8.620
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>940 / 513.660</b>	<b>39 / 8.700</b>	<b>248 / 19.153</b>	<b>525 / 13.197</b>	<b>- / -</b>	<b>525 / 13.197</b>

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

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

**Justification:**

FY 2020 Base procurement dollars in the amount of \$0.494 million will be used to continue fielding and training efforts for Joint Automated Deep Operations Coordination System (JADOCS) V2.0.

FY 2020 Base procurement dollars in the amount of \$4.083 million will be used to complete fielding, integration and New Equipment Training (NET) of Advanced Field Artillery Tactical Data System (AFATDS) V6.8.X and to complete hardware procurement for the Grow The Army (GTA) Initiative.

FY 2020 Base procurement dollars in the amount of \$8.620 million funds the acceleration of procurement of fielding services, ancillary items required for initial fielding, and New Equipment Training (NET) support for Pocket-sized Forward Entry Device (PFED) Increment II software. Ancillary equipment includes TACLINK box, cables and hubs.

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

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 89	<b>P-1 Line Item Number / Title:</b> 9060B28501 / Fire Support C2 Family	<b>Item Number / Title [DODIC]:</b> B28504 / JADOCs

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :				<b>MDAP/MAIS Code:</b>			
Resource Summary		Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity (Units in Each)		-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)		1.969	1.722	1.679	0.494	-	0.494
Less PY Advance Procurement (\$ in Millions)		-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)		1.969	1.722	1.679	0.494	-	0.494
Plus CY Advance Procurement (\$ in Millions)		-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>		<b>1.969</b>	<b>1.722</b>	<b>1.679</b>	<b>0.494</b>	<b>-</b>	<b>0.494</b>
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>							
Initial Spares (\$ in Millions)		-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)		-	-	-	-	-	-

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
<b>Support - Fielding Cost</b>																		
Fielding	-	-	0.850	-	-	0.272	-	-	0.250	-	-	0.194	-	-	-	-	-	0.194
<i>Subtotal: Support - Fielding Cost</i>	-	-	<b>0.850</b>	-	-	<b>0.272</b>	-	-	<b>0.250</b>	-	-	<b>0.194</b>	-	-	-	-	-	<b>0.194</b>
<b>Support - Program Management Cost</b>																		
Government Management	-	-	0.530	-	-	0.350	-	-	0.329	-	-	-	-	-	-	-	-	-
Contractor Management	-	-	0.100	-	-	0.100	-	-	0.100	-	-	0.100	-	-	-	-	-	0.100
<i>Subtotal: Support - Program Management Cost</i>	-	-	<b>0.630</b>	-	-	<b>0.450</b>	-	-	<b>0.429</b>	-	-	<b>0.100</b>	-	-	-	-	-	<b>0.100</b>
<b>Support - Training Cost</b>																		
Equipment	-	-	0.489	-	-	1.000	-	-	1.000	-	-	0.200	-	-	-	-	-	0.200
<i>Subtotal: Support - Training Cost</i>	-	-	<b>0.489</b>	-	-	<b>1.000</b>	-	-	<b>1.000</b>	-	-	<b>0.200</b>	-	-	-	-	-	<b>0.200</b>
<b>Gross/Weapon System Cost</b>	-	-	<b>1.969</b>	-	-	<b>1.722</b>	-	-	<b>1.679</b>	-	-	<b>0.494</b>	-	-	-	-	-	<b>0.494</b>

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	-	-	-	-	-
	Total Obligation Authority	1.722	1.679	0.494	-	0.494
<b>Total:</b>	Quantity	-	-	-	-	-
<b>Secondary Distribution</b>	Total Obligation Authority	<b>1.722</b>	<b>1.679</b>	<b>0.494</b>	<b>-</b>	<b>0.494</b>

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 89	<b>P-1 Line Item Number / Title:</b> 9060B28501 / Fire Support C2 Family	<b>Item Number / Title [DODIC]:</b> B28620 / MOD OF IN-SVC EQUIP, AFATDS

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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<b>Resource Summary</b>	<b>Prior Years</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Procurement Quantity (Units in Each)	940	39	248	114	-	114
Gross/Weapon System Cost (\$ in Millions)	202.261	2.765	6.830	4.083	-	4.083
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	202.261	2.765	6.830	4.083	-	4.083
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>202.261</b>	<b>2.765</b>	<b>6.830</b>	<b>4.083</b>	<b>-</b>	<b>4.083</b>

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

Initial Spares (\$ in Millions)	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	215.171	70.897	27.540	35.816	-	35.816

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Flyaway Cost																		
Recurring Cost																		
Hardware - AFATDS & MC Workstations <sup>(†)</sup>	71.370	2,288	163.294	-	-	-	14.044	340	4.775	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	163.295	-	-	-	-	-	4.775	-	-	-	-	-	-	-	-	-
<i>Subtotal: Flyaway Cost</i>	-	-	<b>163.295</b>	-	-	-	-	-	<b>4.775</b>	-	-	-	-	-	-	-	-	-
Support - Common Support Equipment Cost																		
Support and Handling Equipment	-	-	-	-	-	-	-	-	-	-	-	1.083	-	-	-	-	-	1.083
<i>Subtotal: Support - Common Support Equipment Cost</i>	-	-	-	-	-	-	-	-	-	-	-	<b>1.083</b>	-	-	-	-	-	<b>1.083</b>
Support - Fielding Cost																		
Fielding	-	-	9.577	-	-	1.103	-	-	0.745	-	-	0.500	-	-	-	-	-	0.500
<i>Subtotal: Support - Fielding Cost</i>	-	-	<b>9.577</b>	-	-	<b>1.103</b>	-	-	<b>0.745</b>	-	-	<b>0.500</b>	-	-	-	-	-	<b>0.500</b>
Support - Program Management Cost																		
Contractor Management	-	-	7.635	-	-	0.468	-	-	0.291	-	-	1.000	-	-	-	-	-	1.000
<i>Subtotal: Support - Program Management Cost</i>	-	-	<b>7.635</b>	-	-	<b>0.468</b>	-	-	<b>0.291</b>	-	-	<b>1.000</b>	-	-	-	-	-	<b>1.000</b>
Support - System Engineering Cost																		
System Engineering	-	-	10.081	-	-	0.701	-	-	0.473	-	-	1.000	-	-	-	-	-	1.000
<i>Subtotal: Support - System Engineering Cost</i>	-	-	<b>10.081</b>	-	-	<b>0.701</b>	-	-	<b>0.473</b>	-	-	<b>1.000</b>	-	-	-	-	-	<b>1.000</b>

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 89	<b>P-1 Line Item Number / Title:</b> 9060B28501 / Fire Support C2 Family	<b>Item Number / Title [DODIC]:</b> B28620 / MOD OF IN-SVC EQUIP, AFATDS

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Support - Training Cost																		
Equipment	-	-	11.673	-	-	0.493	-	-	0.546	-	-	0.500	-	-	-	-	-	0.500
<i>Subtotal: Support - Training Cost</i>	-	-	<b>11.673</b>	-	-	<b>0.493</b>	-	-	<b>0.546</b>	-	-	<b>0.500</b>	-	-	-	-	-	<b>0.500</b>
<b>Gross/Weapon System Cost</b>	<b>215.171</b>	<b>940</b>	<b>202.261</b>	<b>70.897</b>	<b>39</b>	<b>2.765</b>	<b>27.540</b>	<b>248</b>	<b>6.830</b>	<b>35.816</b>	<b>114</b>	<b>4.083</b>	-	-	-	<b>35.816</b>	<b>114</b>	<b>4.083</b>

**Remarks:**  
No hardware quantities in FY21-FY24. AFATDS 7.0 will be a software only fielding with expendable ancillary equipment, fielding and training.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	39	248	42	-	42
	Total Obligation Authority	2.765	6.830	1.490	-	1.490
ANG	Quantity	-	-	58	-	58
	Total Obligation Authority	-	-	2.093	-	2.093
AR	Quantity	-	-	14	-	14
	Total Obligation Authority	-	-	0.500	-	0.500
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	<b>39</b>	<b>248</b>	<b>114</b>	<b>-</b>	<b>114</b>
	<b>Total Obligation Authority</b>	<b>2.765</b>	<b>6.830</b>	<b>4.083</b>	<b>-</b>	<b>4.083</b>

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



**UNCLASSIFIED**

<b>Exhibit P-5a, Procurement History and Planning:</b> PB 2020 Army							<b>Date:</b> March 2019					
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 89			<b>P-1 Line Item Number / Title:</b> 9060B28501 / Fire Support C2 Family				<b>Item Number / Title [DODIC]:</b> B28620 / MOD OF IN-SVC EQUIP, AFATDS					
<b>Cost Elements</b>	<b>O C O</b>	<b>FY</b>	<b>Contractor and Location</b>	<b>Method/Type or Funding Vehicle</b>	<b>Location of PCO</b>	<b>Award Date</b>	<b>Date of First Delivery</b>	<b>Qty (Each)</b>	<b>Unit Cost (\$ K)</b>	<b>Specs Avail Now?</b>	<b>Date Revision Available</b>	<b>RFP Issue Date</b>
Hardware - AFATDS & MC Workstations		2019	DRS Tactical / Melbourne, FL	C / FFP	Army Contracting Cmd, APG, MD	Nov 2018	May 2019	340	14.040	Y		

**Remarks:**  
No P21 required for COTS/GOTS solutions. MFOCS is a COTS procured item.

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>													<b>Date:</b> March 2019					
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 89						<b>P-1 Line Item Number / Title:</b> 9060B28501 / Fire Support C2 Family						<b>Item Number / Title [DODIC]:</b> BZ9851 / POCKET FORWARD ENTRY DEVICE (PFED)						
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :										<b>MDAP/MAIS Code:</b>								
<b>Resource Summary</b>				<b>Prior Years</b>		<b>FY 2018</b>		<b>FY 2019</b>		<b>FY 2020 Base</b>		<b>FY 2020 OCO</b>		<b>FY 2020 Total</b>				
Procurement Quantity (Units in Each)				-		-		-		411		-		411				
Gross/Weapon System Cost (\$ in Millions)				309.430		4.213		10.644		8.620		-		8.620				
Less PY Advance Procurement (\$ in Millions)				-		-		-		-		-		-				
Net Procurement (P-1) (\$ in Millions)				309.430		4.213		10.644		8.620		-		8.620				
Plus CY Advance Procurement (\$ in Millions)				-		-		-		-		-		-				
<b>Total Obligation Authority (\$ in Millions)</b>				<b>309.430</b>		<b>4.213</b>		<b>10.644</b>		<b>8.620</b>		<b>-</b>		<b>8.620</b>				
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>																		
Initial Spares (\$ in Millions)				-		-		-		-		-		-		-		
Gross/Weapon System Unit Cost (\$ in Thousands)				-		-		-		20.973		-		20.973				
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
<b>Cost Elements</b>	<b>Prior Years</b>			<b>FY 2018</b>			<b>FY 2019</b>			<b>FY 2020 Base</b>			<b>FY 2020 OCO</b>			<b>FY 2020 Total</b>		
	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>
Flyaway Cost																		
Recurring Cost																		
Hardware <sup>(†)</sup>	78.925	386	30.465	-	-	-	14.063	509	7.158	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	30.465	-	-	-	-	-	7.158	-	-	-	-	-	-	-	-	-
<i>Subtotal: Flyaway Cost</i>	-	-	<b>30.465</b>	-	-	-	-	-	<b>7.158</b>	-	-	-	-	-	-	-	-	-
Support - Common Support Equipment Cost																		
Support and Handling Equipment	-	-	8.084	-	-	0.640	-	-	0.661	-	-	4.650	-	-	-	-	-	4.650
<i>Subtotal: Support - Common Support Equipment Cost</i>	-	-	<b>8.084</b>	-	-	<b>0.640</b>	-	-	<b>0.661</b>	-	-	<b>4.650</b>	-	-	-	-	-	<b>4.650</b>
Support - Fielding Cost																		
Fielding	-	-	43.668	-	-	0.920	-	-	0.525	-	-	1.100	-	-	-	-	-	1.100
<i>Subtotal: Support - Fielding Cost</i>	-	-	<b>43.668</b>	-	-	<b>0.920</b>	-	-	<b>0.525</b>	-	-	<b>1.100</b>	-	-	-	-	-	<b>1.100</b>
Support - Production Engineering Cost																		
Production Engineering	-	-	52.233	-	-	0.960	-	-	0.760	-	-	0.770	-	-	-	-	-	0.770
<i>Subtotal: Support - Production Engineering Cost</i>	-	-	<b>52.233</b>	-	-	<b>0.960</b>	-	-	<b>0.760</b>	-	-	<b>0.770</b>	-	-	-	-	-	<b>0.770</b>
Support - Program Management Cost																		
Contractor Management	-	-	29.352	-	-	0.500	-	-	0.450	-	-	1.000	-	-	-	-	-	1.000
<i>Subtotal: Support - Program Management Cost</i>	-	-	<b>29.352</b>	-	-	<b>0.500</b>	-	-	<b>0.450</b>	-	-	<b>1.000</b>	-	-	-	-	-	<b>1.000</b>

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 89	<b>P-1 Line Item Number / Title:</b> 9060B28501 / Fire Support C2 Family	<b>Item Number / Title [DODIC]:</b> BZ9851 / POCKET FORWARD ENTRY DEVICE (PFED)

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Support - System Engineering Cost																		
System Engineering	-	-	33.631	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - System Engineering Cost</i>	-	-	<b>33.631</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Support - System Test and Evaluation Cost																		
Development Test and Evaluation	-	-	31.205	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - System Test and Evaluation Cost</i>	-	-	<b>31.205</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Support - Training Cost																		
Equipment	-	-	80.792	-	-	1.193	-	-	1.090	-	-	1.100	-	-	-	-	-	1.100
<i>Subtotal: Support - Training Cost</i>	-	-	<b>80.792</b>	-	-	<b>1.193</b>	-	-	<b>1.090</b>	-	-	<b>1.100</b>	-	-	-	-	-	<b>1.100</b>
<b>Gross/Weapon System Cost</b>	-	-	<b>309.430</b>	-	-	<b>4.213</b>	-	-	<b>10.644</b>	<b>20.973</b>	<b>411</b>	<b>8.620</b>	-	-	-	<b>20.973</b>	<b>411</b>	<b>8.620</b>

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	-	-	247	-	247
	Total Obligation Authority	4.213	10.644	5.172	-	5.172
ANG	Quantity	-	-	164	-	164
	Total Obligation Authority	-	-	3.448	-	3.448
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	-	-	<b>411</b>	-	<b>411</b>
	<b>Total Obligation Authority</b>	<b>4.213</b>	<b>10.644</b>	<b>8.620</b>	-	<b>8.620</b>

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

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<b>Exhibit P-5a, Procurement History and Planning:</b> PB 2020 Army							<b>Date:</b> March 2019					
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 89			<b>P-1 Line Item Number / Title:</b> 9060B28501 / Fire Support C2 Family				<b>Item Number / Title [DODIC]:</b> BZ9851 / POCKET FORWARD ENTRY DEVICE (PFED)					
<b>Cost Elements</b>	<b>O C O</b>	<b>FY</b>	<b>Contractor and Location</b>	<b>Method/Type or Funding Vehicle</b>	<b>Location of PCO</b>	<b>Award Date</b>	<b>Date of First Delivery</b>	<b>Qty (Each)</b>	<b>Unit Cost (\$ K)</b>	<b>Specs Avail Now?</b>	<b>Date Revision Available</b>	<b>RFP Issue Date</b>
Hardware		2019	DRS Tactical / Melbourne, Fl	C / FFP	Army Contracting Cmd, APG, MD	Nov 2018	May 2019	509	14.060	Y		

**Remarks:**  
No P21 required for COTS/GOTS solutions. MFOCS is a Commercial Off The Shelf (COTS) procurement.

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 89: Elect Equip - Tactical C2 Systems	<b>P-1 Line Item Number / Title:</b> 9266AD5070 / AIR & MSL Defense Planning & Control Sys
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> 0604741A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	861.586	132.713	29.913	24.730	14.331	39.061	49.147	106.671	63.143	0.075	-	1,282.309
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	861.586	132.713	29.913	24.730	14.331	39.061	49.147	106.671	63.143	0.075	-	1,282.309
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>861.586</b>	<b>132.713</b>	<b>29.913</b>	<b>24.730</b>	<b>14.331</b>	<b>39.061</b>	<b>49.147</b>	<b>106.671</b>	<b>63.143</b>	<b>0.075</b>	-	<b>1,282.309</b>

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

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	22,673.316	2,949.178	2,719.364	-	-	-	2,340.333	5,079.571	4,209.533	-	-	8,492.113

**Description:**

The Air and Missile Defense Planning and Control System (AMDPCS) provides integration of air and missile defense operations at all echelons. Specifically, Air and Missile Defense Workstation (AMDWS) provides a correlated air picture using local radars, allowing the Commander the visibility and situational understanding of airspace; other automated defense design and staff planning tools in AMDWS afford Soldiers horizontal and vertical collaborative planning with adjacent units. Air Defense System Integrator (ADSI) serves as a joint tactical data link gateway/air picture, and when correlated by Forward Area Air Defense Command and Control (FAAD C2) and displayed on AMDWS, provides a near-real time, three dimensional joint air picture for the Commander. Joint Tactical Terminal (JTT) provides Soldiers theater ballistic missile (TBM) early warning, allowing them to take appropriate actions. AMDPCS is fielded to Army air and missile defense commands (AAMDC), air defense artillery brigades (ADA BDE), air and missile defense battalions (AMD BN), and Terminal High Altitude Area Air Defense batteries (THAAD BTRY). Air Defense Airspace Management (ADAM), a variant of AMDPCS with similar capabilities, is fielded to corps, divisions, brigade combat teams (BCT), and multi-functional support brigades. As part of capability and technology reuse, AMDWS and FAAD C2 are core components of the Counter-Rocket, Artillery, Mortar (C-RAM) system-of-systems currently deployed in multiple areas of operation.

The Approved Acquisition Objective (AAO) for AMDPCS shelter systems is 225, and OPA Overseas Contingency Operations (OCO) European Deterrence Initiative (EDI) and Grow the Army (GTA) requirements are in addition to the AAO. FY 2019 through FY 2023 Base procurement dollars contain Army programmed funding for GTA requirements.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	131.713	29.406	23.630	14.331	37.961	48.025	105.527	61.976	0.075
ANG	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	1.000	0.507	1.100	-	1.100	1.122	1.144	1.167	-
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	-	-	-	-	-	-	-	-	-
	<b>Total Obligation Authority</b>	<b>132.713</b>	<b>29.913</b>	<b>24.730</b>	<b>14.331</b>	<b>39.061</b>	<b>49.147</b>	<b>106.671</b>	<b>63.143</b>	<b>0.075</b>

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 89: Elect Equip - Tactical C2 Systems	<b>P-1 Line Item Number / Title:</b> 9266AD5070 / AIR & MSL Defense Planning & Control Sys
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> 0604741A
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**Line Item MDAP/MAIS Code:** N/A

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	AD5070 / AIR & MSL Defense Planning & Control Sys	P-5a			- / 861.586	- / 132.713	- / 29.913	- / 24.730	- / 14.331	- / 39.061
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 861.586</b>	<b>- / 132.713</b>	<b>- / 29.913</b>	<b>- / 24.730</b>	<b>- / 14.331</b>	<b>- / 39.061</b>

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

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

**Justification:**  
 FY 2020 Base procurement dollars in the amount of \$24.730 million procure technology refresh assets to upgrade one AAMDC, one ADA BDE, and one THAAD Battery. Additionally, FY 2020 Base procurement dollars provide hardware procurements for upgrade of twenty AMDPCS variant shelters to combat obsolescence and provide cyber compliant hardware and software.  
  
 FY 2020 OCO procurement dollars in the amount of \$14.331 million procure five Sensor Command and Control (SC2) shelters for the GTA initiative. These systems will be part of the Initial Maneuver Short Range Air Defense battalion (IM-SHORAD BN) 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 the military support to civil authorities.

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>													<b>Date:</b> March 2019					
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 89						<b>P-1 Line Item Number / Title:</b> 9266AD5070 / AIR & MSL Defense Planning & Control Sys						<b>Item Number / Title [DODIC]:</b> AD5070 / AIR & MSL Defense Planning & Control Sys						
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :										<b>MDAP/MAIS Code:</b>								
<b>Resource Summary</b>				<b>Prior Years</b>		<b>FY 2018</b>		<b>FY 2019</b>		<b>FY 2020 Base</b>		<b>FY 2020 OCO</b>		<b>FY 2020 Total</b>				
Procurement Quantity (Units in Each)				-		-		-		-		-		-				
Gross/Weapon System Cost (\$ in Millions)				861.586		132.713		29.913		24.730		14.331		39.061				
Less PY Advance Procurement (\$ in Millions)				-		-		-		-		-		-				
Net Procurement (P-1) (\$ in Millions)				861.586		132.713		29.913		24.730		14.331		39.061				
Plus CY Advance Procurement (\$ in Millions)				-		-		-		-		-		-				
<b>Total Obligation Authority (\$ in Millions)</b>				<b>861.586</b>		<b>132.713</b>		<b>29.913</b>		<b>24.730</b>		<b>14.331</b>		<b>39.061</b>				
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>																		
Initial Spares (\$ in Millions)				-		-		-		-		-		-		-		
Gross/Weapon System Unit Cost (\$ in Thousands)				22,673.316		2,949.178		2,719.364		-		-		-		-		
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
<b>Cost Elements</b>	<b>Prior Years</b>			<b>FY 2018</b>			<b>FY 2019</b>			<b>FY 2020 Base</b>			<b>FY 2020 OCO</b>			<b>FY 2020 Total</b>		
	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>
Flyaway Cost																		
Recurring Cost																		
1. System Integration/ Hardware <sup>(†)</sup>	2,487.871	241	599.577	2,127.667	45	95.745	1,631.182	11	17.943	-	-	16.379	2,017.200	5	10.086	5,293.000	5	26.465
<i>Subtotal: Recurring Cost</i>	-	-	599.577	-	-	95.745	-	-	17.943	-	-	16.379	-	-	10.086	-	-	26.465
<i>Subtotal: Flyaway Cost</i>	-	-	<b>599.577</b>	-	-	<b>95.745</b>	-	-	<b>17.943</b>	-	-	<b>16.379</b>	-	-	<b>10.086</b>	-	-	<b>26.465</b>
Software Cost																		
Recurring Cost																		
5. Software Modifications	-	-	32.826	-	-	3.088	-	-	3.159	-	-	3.297	-	-	-	-	-	3.297
<i>Subtotal: Recurring Cost</i>	-	-	32.826	-	-	3.088	-	-	3.159	-	-	3.297	-	-	-	-	-	3.297
<i>Subtotal: Software Cost</i>	-	-	<b>32.826</b>	-	-	<b>3.088</b>	-	-	<b>3.159</b>	-	-	<b>3.297</b>	-	-	-	-	-	<b>3.297</b>
Support - Fielding Cost																		
Fielding	-	-	90.133	-	-	17.708	-	-	3.382	-	-	1.518	-	-	2.350	-	-	3.868
<i>Subtotal: Support - Fielding Cost</i>	-	-	<b>90.133</b>	-	-	<b>17.708</b>	-	-	<b>3.382</b>	-	-	<b>1.518</b>	-	-	<b>2.350</b>	-	-	<b>3.868</b>
Support - New Equipment Training (NET) Cost																		
Equipment	-	-	91.277	-	-	12.927	-	-	2.905	-	-	1.015	-	-	1.895	-	-	2.910
<i>Subtotal: Support - New Equipment Training (NET) Cost</i>	-	-	<b>91.277</b>	-	-	<b>12.927</b>	-	-	<b>2.905</b>	-	-	<b>1.015</b>	-	-	<b>1.895</b>	-	-	<b>2.910</b>
Support - Program Management Cost																		

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 89	<b>P-1 Line Item Number / Title:</b> 9266AD5070 / AIR & MSL Defense Planning & Control Sys	<b>Item Number / Title [DODIC]:</b> AD5070 / AIR & MSL Defense Planning & Control Sys
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :		<b>MDAP/MAIS Code:</b>

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Government Management	-	-	47.773	-	-	3.245	-	-	2.524	-	-	2.521	-	-	-	-	-	2.521
<i>Subtotal: Support - Program Management Cost</i>	-	-	<b>47.773</b>	-	-	<b>3.245</b>	-	-	<b>2.524</b>	-	-	<b>2.521</b>	-	-	-	-	-	<b>2.521</b>
<b>Gross/Weapon System Cost</b>	<b>22,673.316</b>	-	<b>861.586</b>	<b>2,949.178</b>	-	<b>132.713</b>	<b>2,719.364</b>	-	<b>29.913</b>	-	-	<b>24.730</b>	-	-	<b>14.331</b>	-	-	<b>39.061</b>

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	-	-	-	-	-
	Total Obligation Authority	131.713	29.406	23.630	14.331	37.961
ANG	Quantity	-	-	-	-	-
	Total Obligation Authority	1.000	0.507	1.100	-	1.100
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	-	-	-	-	-
	<b>Total Obligation Authority</b>	<b>132.713</b>	<b>29.913</b>	<b>24.730</b>	<b>14.331</b>	<b>39.061</b>

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



**UNCLASSIFIED**

<b>Exhibit P-5a, Procurement History and Planning:</b> PB 2020 Army							<b>Date:</b> March 2019				
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 89			<b>P-1 Line Item Number / Title:</b> 9266AD5070 / AIR & MSL Defense Planning & Control Sys				<b>Item Number / Title [DODIC]:</b> AD5070 / AIR & MSL Defense Planning & Control Sys				

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
1. System Integration/Hardware		2018	Northrop Grumman / Huntsville, AL	C / CPFF	Huntsville, AL	Dec 2017	May 2018	45	2,127.667	N		
1. System Integration/Hardware		2019	Northrop Grumman / Huntsville, AL	C / CPFF	Huntsville, AL	Dec 2018	May 2019	11	1,631.182	N		
1. System Integration/Hardware	✓	2020	Northrop Grumman / Huntsville, AL	C / CPFF	Huntsville, AL	Dec 2019	May 2020	5	5,293.000	N		

**Remarks:**  
The Air and Missile Defense Planning and Control System (AMDPCS) is a COTS program. COTS and Government Furnished Equipment (GFE) are integrated by the contractor.

Quantities reflect six shelter types (AMDPCS-A, AMDPCS-B, ADAM Cell, ABMOC, Battery CP, and Sensor C2 Node) and Transit Cased ADSI with varying unit costs. This results in fluctuation of unit cost by year based on the quantities procured in support of Army fielding requirements.

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 89: Elect Equip - Tactical C2 Systems	<b>P-1 Line Item Number / Title:</b> 9280BZ5075 / IAMD Battle Command System
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> 0603327A, 0605457A
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**Line Item MDAP/MAIS Code:** 205

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	20.917	-	-	29.629	-	29.629	254.834	353.929	417.426	413.775	Continuing	Continuing
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	20.917	-	-	29.629	-	29.629	254.834	353.929	417.426	413.775	Continuing	Continuing
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>20.917</b>	-	-	<b>29.629</b>	-	<b>29.629</b>	<b>254.834</b>	<b>353.929</b>	<b>417.426</b>	<b>413.775</b>	<b>Continuing</b>	<b>Continuing</b>

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

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

**Description:**

This OPA program is a new start program in FY 2020.

The Army Integrated Air and Missile Defense program (AIAMD) is a designated Major Defense Acquisition Program (MDAP), a critical component of the Army's Air and Missile Defense strategy, and the Chief of Staff of the Army's number five modernization priority. The AIAMD program is a direct response to the U.S. Army Air and Missile Defense (AMD) Concept and Operational and Organizational (O&O) Plan for the Future Force, the AIAMD System of Systems (SoS) Capabilities Development Document (CDD), and the AMD Task Force Concept of Operations (CONOPS). The AIAMD Program is uniquely structured to enable the development of an overarching system of systems (SoS) capability with all participating Air Defense Artillery (ADA) components functioning interdependently to provide total operational capabilities not achievable by the individual element systems. The AIAMD program achieves this objective by establishing the AIAMD architecture and developing (1) the IAMD Battle Command Systems (IBCS) Engagement Operations Center (EOC) that provides the common Mission Command capability, (2) the Integrated Fire Control Network (IFCN) Relay capability for fire control connectivity and distributed operations, and (3) the common Plug and Fight (P&F) Kits that network enable multiple sensor components, weapon components, and the IBCS EOC.

The AIAMD Program will provide advanced capabilities to the Army and the soldier by allowing transformation to a network-centric system-of-systems capability (also referred to as "Plug and Fight") that integrates Army AMD sensors and weapons with the IBCS EOC. The AIAMD SoS architecture will enable extended range and non-line-of-sight engagements to include joint kill chain engagements across the full spectrum of aerial threats, providing fire control quality data to the most appropriate weapon to complete the mission successfully. Further, it will mitigate the coverage gaps and the single points of failure that have affected AMD defense design in the past. The AIAMD program will provide the user with the ability to train on a single IBCS that will result in overall training savings. The AIAMD program will also provide the Army with the ability to procure components that will build to established Integrated Fire Control interfaces alleviating the cost of procuring total system capabilities in the future.

AIAMD IOC will be delivered through the fielding of the IBCS-based AIAMD architecture, including the IBCS EOC, IFCN Relay, Sentinel, and Patriot components connected via an IFCN, working in an integrated manner. The government controlled open architecture enables integration of future capabilities to meet emerging threats and fielding to Indirect Fire Protection Capability (IFPC), Air Defense Airspace Management (ADAM) Cells, ADA Brigade, Army Air and Missile Defense Command Headquarters (AAMDC), and Terminal High Altitude Area Defense (THAAD).

The FY 2020 funding goes to the Active Component. Army National Guard funding starts in FY 2024.

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 89: Elect Equip - Tactical C2 Systems	<b>P-1 Line Item Number / Title:</b> 9280BZ5075 / IAMD Battle Command System
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> 0603327A, 0605457A
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**Line Item MDAP/MAIS Code:** 205

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	-	-	29.629	-	29.629	254.834	353.929	417.426	253.755
ANG	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	-	-	-	-	-	-	-	-	160.020
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	-	-	-	-	-	-	-	-	-
	<b>Total Obligation Authority</b>	-	-	<b>29.629</b>	-	<b>29.629</b>	<b>254.834</b>	<b>353.929</b>	<b>417.426</b>	<b>413.775</b>

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 89: Elect Equip - Tactical C2 Systems	<b>P-1 Line Item Number / Title:</b> 9280BZ5075 / IAMD Battle Command System
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> 0603327A, 0605457A
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**Line Item MDAP/MAIS Code:** 205

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	BZ5075 / IAMD Battle Command System	P-5a, P-21			- / 20.917	- / -	- / -	- / 29.629	- / -	- / 29.629
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 20.917</b>	<b>- / -</b>	<b>- / -</b>	<b>- / 29.629</b>	<b>- / -</b>	<b>- / 29.629</b>

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

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

**Justification:**  
 FY 2020 Base procurement dollars in the amount of \$29.629 million fund the conversion of existing Engineering and Manufacturing Development equipment to production-representative hardware. The Army will use this production hardware to convert a legacy Patriot battalion to support New Equipment Training, Logistics Demonstration, and Initial Operational Test and Evaluation into the first deployable IBCS-enabled battalion to meet a 3rd quarter FY 2022 Initial Operational Capability. This unit is also planned to be the IOC battalion.

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

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 89	<b>P-1 Line Item Number / Title:</b> 9280BZ5075 / IAMD Battle Command System	<b>Item Number / Title [DODIC]:</b> BZ5075 / IAMD Battle Command System

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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<b>Resource Summary</b>	<b>Prior Years</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Procurement Quantity (Units in Each)	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	20.917	-	-	29.629	-	29.629
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	20.917	-	-	29.629	-	29.629
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>20.917</b>	<b>-</b>	<b>-</b>	<b>29.629</b>	<b>-</b>	<b>29.629</b>

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

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

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

<b>Cost Elements</b>	<b>Prior Years</b>			<b>FY 2018</b>			<b>FY 2019</b>			<b>FY 2020 Base</b>			<b>FY 2020 OCO</b>			<b>FY 2020 Total</b>		
	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)
<b>Flyaway Cost</b>																		
<b>Recurring Cost</b>																		
Engagement Operation Centers <sup>(†)</sup>	-	-	-	-	-	-	-	-	-	3,311.000	6	19.866	-	-	-	3,311.000	6	19.866
Plug and Fight Items	-	-	-	-	-	-	-	-	-	-	-	6.111	-	-	-	-	-	6.111
Software and Systems Engineering	-	-	-	-	-	-	-	-	-	-	-	1.437	-	-	-	-	-	1.437
Government Program Management	-	-	-	-	-	-	-	-	-	-	-	0.141	-	-	-	-	-	0.141
<b>Subtotal: Recurring Cost</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>27.555</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>27.555</b>
<b>Non Recurring Cost</b>																		
Long Lead Materials	-	-	12.920	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Initial Production Facilities	-	-	7.997	-	-	-	-	-	-	-	-	2.074	-	-	-	-	-	2.074
<b>Subtotal: Non Recurring Cost</b>	<b>-</b>	<b>-</b>	<b>20.917</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>2.074</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>2.074</b>
<b>Subtotal: Flyaway Cost</b>	<b>-</b>	<b>-</b>	<b>20.917</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>29.629</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>29.629</b>
<b>Gross/Weapon System Cost</b>	<b>-</b>	<b>-</b>	<b>20.917</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>29.629</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>29.629</b>

<b>Secondary Distribution</b>		<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Army	Quantity	-	-	-	-	-
	Total Obligation Authority	-	-	29.629	-	29.629

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>				<b>Date:</b> March 2019		
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 89		<b>P-1 Line Item Number / Title:</b> 9280BZ5075 / IAMD Battle Command System		<b>Item Number / Title [DODIC]:</b> BZ5075 / IAMD Battle Command System		
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :			<b>MDAP/MAIS Code:</b>			
<b>Secondary Distribution</b>		<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
<b>Total:</b>	<b>Quantity</b>	-	-	-	-	-
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	-	-	29.629	-	29.629

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

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 89	<b>P-1 Line Item Number / Title:</b> 9280BZ5075 / IAMD Battle Command System	<b>Item Number / Title [DODIC]:</b> BZ5075 / IAMD Battle Command System
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Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty <i>(Each)</i>	Unit Cost <i>(\$ K)</i>	Specs Avail Now?	Date Revision Available	RFP Issue Date
Engagement Operation Centers <sup>(†)</sup>		2020	Northrop Grumman / Huntsville, AL	SS / TBD	ACC-R	Sep 2020	Feb 2021	6	3,311.000	N		

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

**Remarks:**  
Delivery of 6 EOCs in the first year are refurbished RDT&E assets that meet production-representative requirements in support of IOT&E and IOC. All future buys will be production units.

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 89	<b>P-1 Line Item Number / Title:</b> 9280BZ5075 / IAMD Battle Command System	<b>Item Number / Title [DODIC]:</b> BZ5075 / IAMD Battle Command System
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Cost Elements <i>(Units in Each)</i>						Fiscal Year 2020												Fiscal Year 2021												B A L A N C E	
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
Engagement Operation Centers																															
1		2020	ARMY	6	0	6																									



**UNCLASSIFIED**

<b>Exhibit P-21, Production Schedule:</b> PB 2020 Army	<b>Date:</b> March 2019
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<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 89	<b>P-1 Line Item Number / Title:</b> 9280BZ5075 / IAMD Battle Command System	<b>Item Number / Title [DODIC]:</b> BZ5075 / IAMD Battle Command System
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MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2020	1-8-5 For 2020	MAX For 2020	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	Northrop Grumman - Huntsville, AL	6	12	18	12	0	3	3	0	0	0	0

**Remarks:**  
FY 2020 quantity is refurbishment of RDT&E units to production representative. All future buys will be production units.

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

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 89: Elect Equip - Tactical C2 Systems	<b>P-1 Line Item Number / Title:</b> 9442BD3955 / Life Cycle Software Support (LCSS)
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	105.980	1.992	5.136	6.774	-	6.774	4.500	5.250	4.500	5.660	-	139.792
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	105.980	1.992	5.136	6.774	-	6.774	4.500	5.250	4.500	5.660	-	139.792
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>105.980</b>	<b>1.992</b>	<b>5.136</b>	<b>6.774</b>	<b>-</b>	<b>6.774</b>	<b>4.500</b>	<b>5.250</b>	<b>4.500</b>	<b>5.660</b>	<b>-</b>	<b>139.792</b>

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

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

**Description:**

Life Cycle Software Engineering (LCSE) support, by the Software Engineering Center (SEC), provides the essential equipment needed to maintain Communications-Electronics Life Cycle Management Command (C-E LCMC) managed fielded Battlefield Automated Systems (BAS) in a state of operational readiness. Approximately 100 BASs in Post Production Software Support (PPSS) directly depend on LCSE support to maintain a posture of mission critical readiness. LCSE system support and services are essential to maintain BASs in the state of operational readiness. Policy for Post Production Software Support (PPSS) requires that system managers provide initial host capabilities for new systems and that the Life Cycle Software Engineering Centers (LCSEC) provide upgrades and replacement of obsolete equipment. Significant portions of host and network equipment are no longer economically repairable and/or are reaching obsolescence. There is a requirement to respond to emergency requests from the field for Software Engineering support, in order to maintain operational readiness of deployed BASs. With host computers and peripherals having a life span of approximately five years and SEC performing its mission over a continuous period of time beyond five years, equipment must be replaced and/or upgraded regularly to deal with obsolescence and take advantage of the continual improvements in technology that are indigenous to high-technology based weapon systems and their software support environments. SEC must purchase these items to meet systems mission requirements.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	1.992	5.136	6.774	-	6.774	4.500	5.250	4.500	5.660
<b>Total:</b>									
<b>Secondary Distribution</b>									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	1.992	5.136	6.774	-	6.774	4.500	5.250	4.500	5.660

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 89: Elect Equip - Tactical C2 Systems	<b>P-1 Line Item Number / Title:</b> 9442BD3955 / Life Cycle Software Support (LCSS)
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	BD3955 / Life Cycle Software Support (LCSS)				- / 105.980	- / 1.992	- / 5.136	- / 6.774	- / -	- / 6.774
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 105.980</b>	<b>- / 1.992</b>	<b>- / 5.136</b>	<b>- / 6.774</b>	<b>- / -</b>	<b>- / 6.774</b>

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

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

**Justification:**

- FY 2020 procurement will provide funding for 5 projects to maintain software capabilities in labs:
1. Equipment for Wideband Satellite Communications Operational Management System (WSOMS) System of Systems (SoS) depot facility: Purchase equipment, software licenses and peripherals to provide satellite monitoring capabilities provided by the Wideband Remote Monitoring Sensor (WRMS) and the management functions provided by the Joint Management and Operations Subsystem (JMOS).
  2. Centralized Lab Management Refresh: Replace end of life equipment for SEC's capability to centrally manage the Lab Infrastructure and provide a standard Software Engineering Environment across SEC.
  3. Data Center Virtualization Environment: Purchase equipment to provide a capacity to host virtual machines used within the PPSS software engineering and testing environments supporting Intel systems.
  4. Fires Software Depot equipment: Refresh outdated hardware with virtual servers to be utilized for the software maintenance of multiple Fires projects.
  5. Electronic Key Management System - Common Tier 1 (EKMS-CT1) lab equipment: Purchase equipment required to provide ability for testing code to support hardware before being fielded.

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 89	<b>P-1 Line Item Number / Title:</b> 9442BD3955 / Life Cycle Software Support (LCSS)	<b>Item Number / Title [DODIC]:</b> BD3955 / Life Cycle Software Support (LCSS)

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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<b>Resource Summary</b>	<b>Prior Years</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Procurement Quantity (Units in Each)	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	105.980	1.992	5.136	6.774	-	6.774
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	105.980	1.992	5.136	6.774	-	6.774
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>105.980</b>	<b>1.992</b>	<b>5.136</b>	<b>6.774</b>	<b>-</b>	<b>6.774</b>

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

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

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

<b>Cost Elements</b>	<b>Prior Years</b>			<b>FY 2018</b>			<b>FY 2019</b>			<b>FY 2020 Base</b>			<b>FY 2020 OCO</b>			<b>FY 2020 Total</b>		
	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>
<b>Flyaway Cost</b>																		
<b>Recurring Cost</b>																		
AMES III -4th Gen RF Simulator	1,500.000	1	1.500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Test bed/COMSEC Facilities Upgrade-JOIN	952.250	4	3.809	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C2SD SIL Lab Test Equipment	400.000	1	0.400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WIN-T Increment 1 (JNN-N) Test Equipment	978.500	2	1.957	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Global Command Control Systems-Army	400.000	1	0.400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Platform Network Sim Environment	250.000	1	0.250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VALFAC Modernization	300.000	1	0.300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WSOC System of Systems Labs	5,936.000	1	5.936	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K-STARS SDE - Upgrade w/ added simulator	1,020.000	1	1.020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rifeman Radio Test Environment	250.000	1	0.250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 89		<b>P-1 Line Item Number / Title:</b> 9442BD3955 / Life Cycle Software Support (LCSS)
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :		<b>MDAP/MAIS Code:</b>

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
IFS TES Sustainment Environment	9,394.000	1	9.394	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Prior Year Balancer	-	-	80.764	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Radio Frequency Simulators	-	-	-	-	-	-	-	-	5.136	-	-	-	-	-	-	-	-	-
Software Engineering Support	-	-	-	-	-	1.992	-	-	-	-	-	-	-	-	-	-	-	-
Software Capabilities Maintenance	-	-	-	-	-	-	-	-	-	-	-	6.774	-	-	-	-	-	6.774
<i>Subtotal: Recurring Cost</i>	-	-	105.980	-	-	1.992	-	-	5.136	-	-	6.774	-	-	-	-	-	6.774
<i>Subtotal: Flyaway Cost</i>	-	-	105.980	-	-	1.992	-	-	5.136	-	-	6.774	-	-	-	-	-	6.774
<b>Gross/Weapon System Cost</b>	-	-	105.980	-	-	1.992	-	-	5.136	-	-	6.774	-	-	-	-	-	6.774

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	-	-	-	-	-
	Total Obligation Authority	1.992	5.136	6.774	-	6.774
<b>Total: Secondary Distribution</b>	Quantity	-	-	-	-	-
	<b>Total Obligation Authority</b>	1.992	5.136	6.774	-	6.774

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 89: Elect Equip - Tactical C2 Systems	<b>P-1 Line Item Number / Title:</b> 9705BA9301 / Network Management Initialization and Services
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	318.572	15.179	15.087	24.448	-	24.448	20.670	16.727	17.183	14.439	Continuing	Continuing
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	318.572	15.179	15.087	24.448	-	24.448	20.670	16.727	17.183	14.439	Continuing	Continuing
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>318.572</b>	<b>15.179</b>	<b>15.087</b>	<b>24.448</b>	<b>-</b>	<b>24.448</b>	<b>20.670</b>	<b>16.727</b>	<b>17.183</b>	<b>14.439</b>	<b>Continuing</b>	<b>Continuing</b>

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

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	-	1,897.375	1,508.700	1,438.118	-	1,438.118	1,291.875	983.941	687.320	2,887.800	Continuing	Continuing

**Description:**

The Network Management Initialization and Services (NMIS) program supports the Army's objectives of an integrated Network Operations capability. There are two components to the program:

Line of Effort 1: Unified Network (I-NetOps Trailboss (I-NetOps TB))

Project BA9312: Network Management System (NMS) funds the I-NetOps TB systems engineering to support converged NetOps and Cyber capabilities in order to enable improved network security and delivery of network operations services to the Materiel, Training, Test, Engineering, and Home Station organizations as well as Combat Units of the Army. Integrated Cyber and NetOps capabilities support distributed operational NetOps responsibilities across the tactical and strategic components of the US Army enterprise network (LANDWARNET), simplify the network management environment for the tactical commander and the G6/S6 staff, and eliminate both functional and material redundancies in order to achieve efficiencies in fielding. AAO is N/A.

Line of Effort 1: Network Enabling Functions (Data Products)

Project BA9315: The Data Products funding line supports the Army's Network Modernization Strategy Line of Effort 1, Unified Network. Data Products are a critical component in enabling a converged Mission Command Network that operates seamlessly worldwide in any environment. Data Products enable end-to-end network centric connectivity and interoperability across The Mission Command Network by enforcing and implementing standards-based technologies and providing the machine level instruction required by digital systems to communicate with each other. Data Products allow the integration of disparate networks/systems capabilities across multiple domains and environments. Data Products enable the network to provide resiliency through path diversity and dynamic routing to ensure tactical units can communicate in hostile environments. Data Products are a collection of information/data required to plan and initialize the current set of Mission Command Network capabilities such as Joint Battle Command - Platform (JBC-P), Command Post of the Future (CPOF), Nett Warrior (Ground Soldier System), Distributed Common Ground System (DCGS), Air and Missile Defense Workstation (AMDWS), Tactical Unmanned Aircraft System (TUAS), PEO Aviation, and other Army Mission Command Systems. Information/Data includes: JBC-P database, COCOM databases, and Active Directory initialization files (e.g., Lightweight Directory Interchange Format (LDIFs)), etc. AAO is N/A.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	10.195	11.074	19.101	-	19.101	16.001	12.008	12.419	10.075
ANG									
Quantity	-	-	-	-	-	-	-	-	-

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 89: Elect Equip - Tactical C2 Systems	<b>P-1 Line Item Number / Title:</b> 9705BA9301 / Network Management Initialization and Services
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

<b>Secondary Distribution</b>		<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
	Total Obligation Authority	3.255	2.621	3.492	-	3.492	3.049	3.082	3.111	2.850
AR	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	1.729	1.392	1.855	-	1.855	1.620	1.637	1.653	1.514
<b>Total:</b>	<b>Quantity</b>	-	-	-	-	-	-	-	-	-
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>15.179</b>	<b>15.087</b>	<b>24.448</b>	-	<b>24.448</b>	<b>20.670</b>	<b>16.727</b>	<b>17.183</b>	<b>14.439</b>

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

**Appropriation / Budget Activity / Budget Sub Activity:**  
 2035A: Other Procurement, Army / BA 02: Communications and Electronics  
 Equipment / BSA 89: Elect Equip - Tactical C2 Systems

**P-1 Line Item Number / Title:**  
 9705BA9301 / Network Management Initialization and Services

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

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

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	BA9312 / NETWORK MANAGEMENT SYSTEM				- / 36.759	- / 5.006	- / 6.896	- / 13.534	- / -	- / 13.534
P-5	BA9315 / DATA PRODUCTS				- / 281.813	- / 10.173	- / 8.191	- / 10.914	- / -	- / 10.914
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 318.572</b>	<b>- / 15.179</b>	<b>- / 15.087</b>	<b>- / 24.448</b>	<b>- / -</b>	<b>- / 24.448</b>

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

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

**Justification:**  
 In FY 2020, the NetOps Trail Boss will continue to work integration of NetOps and Cyber program functionality with the Command Post Computing Environment to support version 3 deployment through the FY19-20 timeframe.

FY 2020 Base procurement dollars, in the amount of \$13.534 million, provides systems engineering support to execute the duties as an integration/interoperability/convergence manager for the Army's NetOps portfolio to provide more effective network capability to the Soldier. Integrated NetOps Trailboss duties include: conducting technical assessments of Cyber and NetOps capabilities and documenting gaps and overlaps, developing and coordinating NetOps capability development roadmaps with materiel developers, specifying interoperability and integration standards, informing development of Cyber and NetOps requirement documents, recommending realignment of resources to execute Army Integrated NetOps priorities and capability gap remediation, and updating and maintaining the NetOps capability configuration management baseline. FY 2020 also includes increased requirements for procuring prototype integrated software framework, data exchange, and application for modernization systems. FY 2020 also includes fielding of Joint Enterprise Network Manager (JENM) and Joint Tactical Networking Toolkit (J-TNT) via contractor fielding support, Tobyhanna Army Depot (TYAD) stock support to ensure J-TNT laptops are maintained and distributed to users, Network Management Reference Implementation Laboratory (NM RIL) help desk support for continued maintenance, and J-TNT engineering change management.

FY 2020 Base Procurement dollars in the amount of \$10.914 million provides Government, Federally Funded Research and Development Center (FFRDC), and contractor support services to execute the duties required to create Data Products in support of the entire Mission Command Network, across multiple software versions, to include current baselines, baselines in sustainment, and emerging or future baselines. Data Products are a vital enabling element to achieve multiple objectives across several Lines of Effort within the Mission Command Network Modernization Implementation Plan. Data Products are created in accordance with the Army Forces Generation (ARFORGEN) model, Unit Set Fielding (USF) and other top Army priorities for deployment, training, and reset. In addition, these dollars also provide the fielding, training, and support of the Initialization Tool Suite (ITS) which includes Warfighter Initialization Tool - Server (WIT-S), and Warfighter Initialization Tool - Manager (WIT-M). This ITS capability allows Soldiers the necessary flexibility to customize the Data Product to meet Commander's intent or mission requirements. Static Data Products are still necessary due to the requirements of the legacy systems that consume this data. FY 2020 requirements increase due to an overlap in on-site instructor lead training and online-based training for ITS in an effort to transition to all computer-based training in the out years. Historical trends show growth in data product requirements, complexity, and quantity as the Mission Command Network continues to evolve. Data Products are an essential part in achieving interoperability across multiple domains, environments, disparate networks/systems capabilities, enabling tactical digital messaging such as Variable Messaging Format (VMF), enabling and informing the Common Operational Picture (COP) and other automated Command and Control (C2) functions.

IAW Section 1815 of the FY08 NDAA this item is necessary for use by the active components and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities.



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<b>Exhibit P-40a, Budget Item Justification For Aggregated Items:</b> PB 2020 Army															<b>Date:</b> March 2019				
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 89						<b>P-1 Line Item Number / Title:</b> 9705BA9301 / Network Management Initialization and Services									<b>Aggregated Items Title:</b> Various				

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
<b>NETWORK MANAGEMENT SYSTEM</b>																				
BA9312 / NETWORK MANAGEMENT SYSTEM			-	-	36.759	-	-	5.006	-	-	6.896	-	-	13.534	-	-	-	-	-	13.534
<i>Secondary Distribution</i>																				
Army				-	-		-	5.006		-	6.896		-	13.534		-	-		-	13.534
<b>Subtotal: NETWORK MANAGEMENT SYSTEM</b>			-	-	<b>36.759</b>	-	-	<b>5.006</b>	-	-	<b>6.896</b>	-	-	<b>13.534</b>	-	-	-	-	-	<b>13.534</b>
<b>Total</b>			-	-	<b>36.759</b>	-	-	<b>5.006</b>	-	-	<b>6.896</b>	-	-	<b>13.534</b>	-	-	-	-	-	<b>13.534</b>

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

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 89	<b>P-1 Line Item Number / Title:</b> 9705BA9301 / Network Management Initialization and Services	<b>Item Number / Title [DODIC]:</b> BA9315 / DATA PRODUCTS

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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<b>Resource Summary</b>	<b>Prior Years</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Procurement Quantity (Units in Each)	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	281.813	10.173	8.191	10.914	-	10.914
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	281.813	10.173	8.191	10.914	-	10.914
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>281.813</b>	<b>10.173</b>	<b>8.191</b>	<b>10.914</b>	<b>-</b>	<b>10.914</b>

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

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

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

<b>Cost Elements</b>	<b>Prior Years</b>			<b>FY 2018</b>			<b>FY 2019</b>			<b>FY 2020 Base</b>			<b>FY 2020 OCO</b>			<b>FY 2020 Total</b>		
	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>
<b>Flyaway Cost</b>																		
<b>Recurring Cost</b>																		
Recurring Production	-	-	190.079	-	-	7.195	-	-	5.816	-	-	7.749	-	-	-	-	-	7.749
Test	-	-	14.647	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PMO	-	-	58.737	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Training	-	-	18.350	-	-	2.285	-	-	1.802	-	-	2.401	-	-	-	-	-	2.401
<b>Subtotal: Recurring Cost</b>	<b>-</b>	<b>-</b>	<b>281.813</b>	<b>-</b>	<b>-</b>	<b>9.480</b>	<b>-</b>	<b>-</b>	<b>7.618</b>	<b>-</b>	<b>-</b>	<b>10.150</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>10.150</b>
<b>Subtotal: Flyaway Cost</b>	<b>-</b>	<b>-</b>	<b>281.813</b>	<b>-</b>	<b>-</b>	<b>9.480</b>	<b>-</b>	<b>-</b>	<b>7.618</b>	<b>-</b>	<b>-</b>	<b>10.150</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>10.150</b>
<b>Support - System Engineering Cost</b>																		
System Engineering	-	-	-	-	-	0.693	-	-	0.573	-	-	0.764	-	-	-	-	-	0.764
<b>Subtotal: Support - System Engineering Cost</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>0.693</b>	<b>-</b>	<b>-</b>	<b>0.573</b>	<b>-</b>	<b>-</b>	<b>0.764</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>0.764</b>
<b>Gross/Weapon System Cost</b>	<b>-</b>	<b>-</b>	<b>281.813</b>	<b>-</b>	<b>-</b>	<b>10.173</b>	<b>-</b>	<b>-</b>	<b>8.191</b>	<b>-</b>	<b>-</b>	<b>10.914</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>10.914</b>

<b>Secondary Distribution</b>		<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Army	Quantity	-	-	-	-	-
	Total Obligation Authority	5.189	4.178	5.567	-	5.567
ANG	Quantity	-	-	-	-	-
	Total Obligation Authority	3.255	2.621	3.492	-	3.492

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<b>Exhibit P-5, Cost Analysis:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 89	<b>P-1 Line Item Number / Title:</b> 9705BA9301 / Network Management Initialization and Services	<b>Item Number / Title [DODIC]:</b> BA9315 / DATA PRODUCTS

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

<b>Secondary Distribution</b>		<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
AR	Quantity	-	-	-	-	-
	Total Obligation Authority	1.729	1.392	1.855	-	1.855
<b>Total: Secondary Distribution</b>	Quantity	-	-	-	-	-
	<b>Total Obligation Authority</b>	<b>10.173</b>	<b>8.191</b>	<b>10.914</b>	-	<b>10.914</b>

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 89: Elect Equip - Tactical C2 Systems	<b>P-1 Line Item Number / Title:</b> 9742BA9320 / Maneuver Control System (MCS)
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready): B	<b>Program Elements for Code B Items:</b> 0203740A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	5,044	6,646	2,753	13	-	13	-	-	-	-	-	14,456
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	1,710.871	72.672	29.144	0.260	-	0.260	-	-	-	-	-	1,812.947
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	1,710.871	72.672	29.144	0.260	-	0.260	-	-	-	-	-	1,812.947
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>1,710.871</b>	<b>72.672</b>	<b>29.144</b>	<b>0.260</b>	<b>-</b>	<b>0.260</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>1,812.947</b>

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

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	339.189	10.935	10.586	20.000	-	20.000	-	-	-	-	-	125.411

**Description:**

Tactical Mission Command (TMC) is a suite of products and services that provide commanders and their staff executive decision making capability in a collaborative environment. The suite of products currently in development consist of Command Web (CW), Tactical Services Infrastructure (TSI), and an Army Voice Communication System (WAVE). TMC satisfies requirements and capabilities identified in the Maneuver Control System (MCS) 6.4 Capability Production Document. The overarching capability includes a user-defined Common Operating Picture (COP) with integrated Command and Control (C2) and Situational Awareness (SA), map-centric collaboration, Army Mission Command Systems (and others) enabling system interoperability, data management, and enterprise services. TMC contributes to Mission Command (MC) Convergence for commanders and staff to effectively conduct collaborative mission planning and execution across a range of operations and spectrum of conflict. Legacy products supported by this Budget Item include Command Post of the Future (CPOF) and Battle Command Common Services (BCCS).

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	4,031	1,404	13	-	13	-	-	-	-
	Total Obligation Authority	44.329	14.863	0.260	-	0.260	-	-	-	-
ANG	Quantity	1,398	935	-	-	-	-	-	-	-
	Total Obligation Authority	15.262	9.909	-	-	-	-	-	-	-
AR	Quantity	1,217	414	-	-	-	-	-	-	-
	Total Obligation Authority	13.081	4.372	-	-	-	-	-	-	-
<b>Total:</b>	<b>Quantity</b>	<b>6,646</b>	<b>2,753</b>	<b>13</b>	<b>-</b>	<b>13</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>72.672</b>	<b>29.144</b>	<b>0.260</b>	<b>-</b>	<b>0.260</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>

**Justification:**

FY 2020 Base procurement funding in the amount of \$ .260 million supports remaining software licenses, software assurance and addressing cybersecurity vulnerabilities. TMC is procuring the Tactical Server Infrastructure (TSI) hardware through FY18, and will continue fielding TSI hardware as part of the Simplified Baseline EXORD through FY 2019. This ensures that the Warfighter will be able to communicate

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<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 89: Elect Equip - Tactical C2 Systems		<b>P-1 Line Item Number / Title:</b> 9742BA9320 / Maneuver Control System (MCS)
<b>ID Code</b> (A=Service Ready, B=Not Service Ready): B	<b>Program Elements for Code B Items:</b> 0203740A	<b>Other Related Program Elements:</b> N/A
<b>Line Item MDAP/MAIS Code:</b> N/A		
<p>effectively allowing for increased situational awareness and executive decision making capability in a collaborative environment above platform level. The MCS program of record transitions to sustainment in FY 2020.</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 2020 Army **Date:** March 2019

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 89: Elect Equip - Tactical C2 Systems	<b>P-1 Line Item Number / Title:</b> 9875W30001 / Global Combat Support System-Army (GCSS-A)
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	1,936.272	37.201	15.164	17.962	-	17.962	24.496	19.699	-	-	-	2,050.794
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	1,936.272	37.201	15.164	17.962	-	17.962	24.496	19.699	-	-	-	2,050.794
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>1,936.272</b>	<b>37.201</b>	<b>15.164</b>	<b>17.962</b>	<b>-</b>	<b>17.962</b>	<b>24.496</b>	<b>19.699</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>2,050.794</b>

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

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

**Description:**

The Global Combat Support System-Army (GCSS-Army) program has two components; a functional component titled GCSS-Army and a technology enabler component provided by the Army Enterprise Systems Integration Program (AESIP) Hub. The GCSS-Army program, coupled with AESIP, are information and communications technology investments that will provide key enabling support to the transformation of the Army into a network-centric, knowledge-based future force. The GCSS-Army approved Capability Development Document and Capability Production Document require an enterprise approach to replace current logistics and maintenance Standard Army Management Information Systems (STAMIS). GCSS-Army provides the Army's sustainment support for the soldier with a seamless flow of timely, accurate, accessible, and secure information management that gives combat forces a decisive edge. The AESIP program provides the system's enterprise hub services, centralized master data management and cross-functional business intelligence/analytics. GCSS-Army implements best business practices to streamline supply, accountability, maintenance, distribution, and reporting procedures in support of the future force transition path of The Army Campaign Plan. GCSS-Army Increment 1 is now in the Capability Support phase, but requires continuous enhancements.

Building on the foundation of the GCSS-Army Increment 1, Increment 2 will provide the Army Enterprise Aviation maintenance, enhanced Business Intelligence/Business Warehouse (BI/BW) and Army Pre-Positioned Stock (APS) functional capabilities to deliver greater efficiencies and to improve information flow and accuracy in real time to decision makers. Upon the completion of Increment 2, the Unit Level Logistics System-Aviation (Enhanced) (ULLS-A(E)), Unmanned Aircraft System-Initiative (UAS-I), and Army War Reserve Deployment System (AWRDS) will be eligible for retirement since the necessary functionality will have been replaced by capabilities implemented in GCSS-ARMY, AESIP, and the Logistics Modernization Program.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	-	-	-	-	-	-	-	-
	Total Obligation Authority	23.305	15.164	17.962	-	17.962	24.496	19.699	-
ANG	Quantity	-	-	-	-	-	-	-	-
	Total Obligation Authority	6.016	-	-	-	-	-	-	-
AR	Quantity	-	-	-	-	-	-	-	-
	Total Obligation Authority	7.880	-	-	-	-	-	-	-
<b>Total:</b>	<b>Quantity</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>

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<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2020 Army							<b>Date:</b> March 2019		
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 89: Elect Equip - Tactical C2 Systems					<b>P-1 Line Item Number / Title:</b> 9875W30001 / Global Combat Support System-Army (GCSS-A)				
<b>ID Code</b> (A=Service Ready, B=Not Service Ready):			<b>Program Elements for Code B Items:</b> N/A			<b>Other Related Program Elements:</b> N/A			
<b>Line Item MDAP/MAIS Code:</b> N/A									

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Secondary Distribution	Total Obligation Authority	37.201	15.164	17.962	-	17.962	24.496	19.699	-	-

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

**Appropriation / Budget Activity / Budget Sub Activity:** 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 89: Elect Equip - Tactical C2 Systems **P-1 Line Item Number / Title:** 9875W30001 / Global Combat Support System-Army (GCSS-A)

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

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

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	W00800 / GCSS-A Increment 1				- / 1,882.220	- / 30.637	- / 7.085	- / -	- / -	- / -
P-5	W11001 / AESIP Increment 1	P-5a			- / 54.052	- / 2.697	- / 1.238	- / 1.974	- / -	- / 1.974
P-5	W11011 / GCSS-Army Increment 2	P-5a			- / -	- / 3.867	- / 6.841	- / 15.988	- / -	- / 15.988
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 1,936.272</b>	<b>- / 37.201</b>	<b>- / 15.164</b>	<b>- / 17.962</b>	<b>- / -</b>	<b>- / 17.962</b>

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

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

**Justification:**  
 FY 2020 Base procurement dollars in the amount of \$17.962 million will be used as follows:  
 \$ 15.988 million primarily supports GCSS-Army Increment 2 deployment and new equipment software training, production software and hardware services, and non-SAP licenses.  
 \$1.974 million supports AESIP and will be used to purchase hardware and new software products.

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



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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 89	<b>P-1 Line Item Number / Title:</b> 9875W30001 / Global Combat Support System-Army (GCSS-A)	<b>Item Number / Title [DODIC]:</b> W00800 / GCSS-A Increment 1

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	1,882.220	30.637	7.085	-	-	-
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	1,882.220	30.637	7.085	-	-	-
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>1,882.220</b>	<b>30.637</b>	<b>7.085</b>	-	-	-

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

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

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
<b>Flyaway Cost</b>																		
Non Recurring Cost																		
System Integrator Fielding/Training	1,699,800.000	1	1,699.800	-	-	12.337	-	-	-	-	-	-	-	-	-	-	-	-
ERP Deployment Support	-	-	59.808	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Matrix and Other Support	-	-	43.484	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Non Recurring Cost</i>	-	-	<i>1,803.092</i>	-	-	<i>12.337</i>	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Flyaway Cost</i>	-	-	<i>1,803.092</i>	-	-	<i>12.337</i>	-	-	-	-	-	-	-	-	-	-	-	-
<b>Software Cost</b>																		
Non Recurring Cost																		
Software/Hardware	79,128.000	1	79.128	-	-	18.300	-	-	7.085	-	-	-	-	-	-	-	-	-
<i>Subtotal: Non Recurring Cost</i>	-	-	<i>79.128</i>	-	-	<i>18.300</i>	-	-	<i>7.085</i>	-	-	-	-	-	-	-	-	-
<i>Subtotal: Software Cost</i>	-	-	<i>79.128</i>	-	-	<i>18.300</i>	-	-	<i>7.085</i>	-	-	-	-	-	-	-	-	-
<b>Gross/Weapon System Cost</b>	-	-	<b>1,882.220</b>	-	-	<b>30.637</b>	-	-	<b>7.085</b>	-	-	-	-	-	-	-	-	-

**Remarks:**  
No funding in FY 2020.

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 89	<b>P-1 Line Item Number / Title:</b> 9875W30001 / Global Combat Support System-Army (GCSS-A)	<b>Item Number / Title [DODIC]:</b> W00800 / GCSS-A Increment 1

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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<b>Secondary Distribution</b>		<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Army	Quantity	-	-	-	-	-
	Total Obligation Authority	16.741	7.085	-	-	-
ANG	Quantity	-	-	-	-	-
	Total Obligation Authority	6.016	-	-	-	-
AR	Quantity	-	-	-	-	-
	Total Obligation Authority	7.880	-	-	-	-
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	-	-	-	-	-
	<b>Total Obligation Authority</b>	<b>30.637</b>	<b>7.085</b>	-	-	-

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 89	<b>P-1 Line Item Number / Title:</b> 9875W30001 / Global Combat Support System-Army (GCSS-A)	<b>Item Number / Title [DODIC]:</b> W11001 / AESIP Increment 1

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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<b>Resource Summary</b>	<b>Prior Years</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Procurement Quantity (Units in Each)	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	54.052	2.697	1.238	1.974	-	1.974
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	54.052	2.697	1.238	1.974	-	1.974
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>54.052</b>	<b>2.697</b>	<b>1.238</b>	<b>1.974</b>	<b>-</b>	<b>1.974</b>

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

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

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

<b>Cost Elements</b>	<b>Prior Years</b>			<b>FY 2018</b>			<b>FY 2019</b>			<b>FY 2020 Base</b>			<b>FY 2020 OCO</b>			<b>FY 2020 Total</b>		
	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>
Flyaway Cost																		
Recurring Cost																		
AESIP Hardware & Software <sup>(t)</sup>	27,026.000	2	54.052	2,697.000	1	2.697	1,238.000	1	1.238	1,974.000	1	1.974	-	-	-	1,974.000	1	1.974
<i>Subtotal: Recurring Cost</i>	-	-	54.052	-	-	2.697	-	-	1.238	-	-	1.974	-	-	-	-	-	1.974
<i>Subtotal: Flyaway Cost</i>	-	-	54.052	-	-	2.697	-	-	1.238	-	-	1.974	-	-	-	-	-	1.974
<b>Gross/Weapon System Cost</b>	-	-	54.052	-	-	2.697	-	-	1.238	-	-	1.974	-	-	-	-	-	1.974

**Remarks:**

FY 2020 OPA funding in the amount of \$1.974 million will be used for new software products.

<b>Secondary Distribution</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Army					
Quantity	-	-	-	-	-
Total Obligation Authority	2.697	1.238	1.974	-	1.974
<b>Total: Secondary Distribution</b>					
Quantity	-	-	-	-	-
Total Obligation Authority	2.697	1.238	1.974	-	1.974

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

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<b>Exhibit P-5a, Procurement History and Planning:</b> PB 2020 Army								<b>Date:</b> March 2019				
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 89			<b>P-1 Line Item Number / Title:</b> 9875W30001 / Global Combat Support System-Army (GCSS-A)					<b>Item Number / Title [DODIC]:</b> W11001 / AESIP Increment 1				

<b>Cost Elements</b>	<b>O C O</b>	<b>FY</b>	<b>Contractor and Location</b>	<b>Method/Type or Funding Vehicle</b>	<b>Location of PCO</b>	<b>Award Date</b>	<b>Date of First Delivery</b>	<b>Qty (Each)</b>	<b>Unit Cost (\$ K)</b>	<b>Specs Avail Now?</b>	<b>Date Revision Available</b>	<b>RFP Issue Date</b>
AESIP Hardware & Software		2016	Multiple Hardware/Software / Various	C / FP	ACCRI, Rock Island Arsenal, IL	Jan 2016	Feb 2016	1	3,392.000	Y		
AESIP Hardware & Software		2017	Multiple Hardware/Software / Various	C / FP	ACCRI, Rock Island Arsenal, IL	May 2017	Jun 2017	1	405.000	Y		
AESIP Hardware & Software		2018	Multiple Hardware/Software / Various	C / FP	ACCRI, Rock Island Arsenal, IL	May 2018	Jun 2018	1	2,697.000	N		
AESIP Hardware & Software		2019	Multiple Hardware/Software / Various	C / FP	ACCRI Rock Island Arsenal IL	May 2019	Jun 2019	1	1,238.000	N		
AESIP Hardware & Software		2020	Multiple Hardware/Software / Various	C / FP	ACCRI Rock Island Arsenal IL	Jan 2020	Feb 2020	1	1,974.000	N		

**Remarks:**  
FY20 OPA funding in the amount of \$1.974M will be used for new software products:

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 89	<b>P-1 Line Item Number / Title:</b> 9875W30001 / Global Combat Support System-Army (GCSS-A)	<b>Item Number / Title [DODIC]:</b> W11011 / GCSS-Army Increment 2

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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<b>Resource Summary</b>	<b>Prior Years</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Procurement Quantity (Units in Each)	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	-	3.867	6.841	15.988	-	15.988
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	-	3.867	6.841	15.988	-	15.988
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	-	<b>3.867</b>	<b>6.841</b>	<b>15.988</b>	-	<b>15.988</b>

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

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

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

<b>Cost Elements</b>	<b>Prior Years</b>			<b>FY 2018</b>			<b>FY 2019</b>			<b>FY 2020 Base</b>			<b>FY 2020 OCO</b>			<b>FY 2020 Total</b>		
	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>
<b>Software Cost</b>																		
Non Recurring Cost																		
SAP Licenses and Hardware <sup>(†)</sup>	-	-	-	3,867.000	1	3.867	6,841.000	1	6.841	-	-	-	-	-	-	-	-	-
Non SAP Licenses	-	-	-	-	-	-	-	-	-	-	-	3.580	-	-	-	-	-	3.580
Software and IT	-	-	-	-	-	-	-	-	-	-	-	2.910	-	-	-	-	-	2.910
<i>Subtotal: Non Recurring Cost</i>	-	-	-	-	-	3.867	-	-	6.841	-	-	6.490	-	-	-	-	-	6.490
<i>Subtotal: Software Cost</i>	-	-	-	-	-	3.867	-	-	6.841	-	-	6.490	-	-	-	-	-	6.490
<b>Logistics Cost</b>																		
Non Recurring Cost																		
Deployment/New Equipment Training	-	-	-	-	-	-	-	-	-	-	-	9.498	-	-	-	-	-	9.498
<i>Subtotal: Non Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	9.498	-	-	-	-	-	9.498
<i>Subtotal: Logistics Cost</i>	-	-	-	-	-	-	-	-	-	-	-	9.498	-	-	-	-	-	9.498
<b>Gross/Weapon System Cost</b>	-	-	-	-	-	3.867	-	-	6.841	-	-	15.988	-	-	-	-	-	15.988

**Remarks:**

FY 2020 OPA funding in the amount of \$15.988 million will be used for a.) \$9.498 million for new equipment training and fielding costs for deployment to support the Army directed accelerated fielding schedule; b) \$2.910 million Info Technology software and Wave 2/BI/BW fielding/training at Army field units worldwide and c) \$3.580 million for non-SAP licenses for 51,000 users. Enterprise Aviation Release 1 will begin the integration of Aviation Logistics to GCSS-Army Enterprise. This release will incorporate all Aircraft Notebook (ACN) software functionality fielded to all Army Aviation platforms. This release will focus

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 89	<b>P-1 Line Item Number / Title:</b> 9875W30001 / Global Combat Support System-Army (GCSS-A)	<b>Item Number / Title [DODIC]:</b> W11011 / GCSS-Army Increment 2

**ID Code** (A=Service Ready, B=Not Service Ready) : **MDAP/MAIS Code:**  
 specifically on connecting GCSS-Army enterprise and the Aircraft Notebook (ACN). Aviation Master Data will synchronize continuously while connected to the Enterprise and sustains Airworthiness information while improving reporting & recording of Critical Components data & Historical Records. Release 1 will start deployment in late FY 2019 and continue through FY 2020.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	-	-	-	-	-
	Total Obligation Authority	3.867	6.841	15.988	-	15.988
<b>Total: Secondary Distribution</b>	Quantity	-	-	-	-	-
	<b>Total Obligation Authority</b>	<b>3.867</b>	<b>6.841</b>	<b>15.988</b>	-	<b>15.988</b>

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

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<b>Exhibit P-5a, Procurement History and Planning:</b> PB 2020 Army							<b>Date:</b> March 2019					
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 89			<b>P-1 Line Item Number / Title:</b> 9875W30001 / Global Combat Support System-Army (GCSS-A)				<b>Item Number / Title [DODIC]:</b> W11011 / GCSS-Army Increment 2					

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
SAP Licenses and Hardware		2018	TBD / TBD	Various	TBD	Jan 2018	Mar 2018	1	3,867.000	N	Apr 2018	Oct 2017
SAP Licenses and Hardware		2019	TBD / TBD	TBD	TBD	Jan 2019	Mar 2019	1	6,841.000	N		

**Remarks:**  
 FY20 OPA funding in the amount of \$15.988M will be used for new equipment training and fielding costs for limited deployment to support accelerated fielding schedule, as well as production hardware and software services, and non-SAP licenses. Enterprise Aviation Release 1 will begin the integration of Aviation Logistics to GCSS-Army Enterprise. This release will incorporate all Aircraft Notebook (ACN) software functionality fielded to all Army Aviation platforms. This release will focus specifically on connecting the GCSS-Army Enterprise and the Aircraft Notebook (ACN). Aviation Master Data will synchronize continuously while connected to the Enterprise and sustains Airworthiness information while improving reporting and recording of Critical Components data and Historical Records. Release 1 will start deployment in late FY19 and continue through FY20.

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 89: Elect Equip - Tactical C2 Systems	<b>P-1 Line Item Number / Title:</b> 9921B66701 / Integrated Personnel and Pay System-Army (IPPS-A)
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	25.630	16.140	16.800	18.674	-	18.674	12.176	9.880	-	-	Continuing	Continuing
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	25.630	16.140	16.800	18.674	-	18.674	12.176	9.880	-	-	Continuing	Continuing
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>25.630</b>	<b>16.140</b>	<b>16.800</b>	<b>18.674</b>	<b>-</b>	<b>18.674</b>	<b>12.176</b>	<b>9.880</b>	<b>-</b>	<b>-</b>	<b>Continuing</b>	<b>Continuing</b>

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

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

**Description:**

IPPS-A Increment II, formerly designated as an Acquisition Category IA Major Automated Information System (MAIS) program under the authority of DoDI 5000.02, will transition under the acquisition authority of DoDI 5000.75 as a Business System Category I (BSC 1) program. The program will be officially designated as a BSC I at the next major Milestone decision, which is Release 2 Limited Deployment Authority to Proceed.

The Integrated Personnel and Pay System-Army (IPPS-A) provides the Army with an integrated, multi-Component, military personnel and pay system, which streamlines Army Human Resources (HR) systems and processes enhancing efficiency and accuracy of personnel and pay procedures in support of 1.1 million Soldiers and their families. IPPS-A will subsume approximately 40 full and partial Army legacy systems across the Army, Reserve, and National Guard into a single integrated system. IPPS-A is a web-based tool, available 24 hours a day, accessible to HR professionals, combatant commanders, personnel and pay managers, and other authorized users throughout the Army. IPPS-A addresses major deficiencies in the delivery of military personnel and pay services by providing the necessary internal controls and audit procedures as well as preventing erroneous payments and loss of funds. This program is an essential building block to reform the Department towards achieving greater performance and affordability in support of the National Defense Strategy as well as Congressional auditability mandate.

IPPS-A Increment II will deliver fully integrated personnel and pay services for all Army Components building on the trusted database delivered by the IPPS-A Increment I program. Increment II will be able to link the personnel and pay functions for all Army personnel eliminating duplicate data entry, reducing complex system maintenance, and minimizing pay discrepancies. IPPS-A Increment II will account for status changes between Active and Reserve/National Guard Elements to ensure accurate credit for service and individual pay as well as enable disciplined human resource management.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	16.140	16.800	18.674	-	18.674	12.176	9.880	-	-
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
	<b>Total Obligation Authority</b>	<b>16.140</b>	<b>16.800</b>	<b>18.674</b>	<b>-</b>	<b>18.674</b>	<b>12.176</b>	<b>9.880</b>	<b>-</b>	<b>-</b>



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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 89: Elect Equip - Tactical C2 Systems	<b>P-1 Line Item Number / Title:</b> 9921B66701 / Integrated Personnel and Pay System-Army (IPPS-A)
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	B66706 / IPPS-A INC 2	P-5a			- / 25.630	- / 16.140	- / 16.800	- / 18.674	- / -	- / 18.674
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 25.630</b>	<b>- / 16.140</b>	<b>- / 16.800</b>	<b>- / 18.674</b>	<b>- / -</b>	<b>- / 18.674</b>

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

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

**Justification:**  
 FY 2020 Procurement dollars in the amount of \$18.674 million procures Increment II Deployment training course and material development as well as execution for releases 2.0 and 3.0 for National Guards, Reserves and Active units. FY 2020 training supports the overall Increment II training strategy of providing Instructor-Led Training for 66,000 end-users and Distance Learning and Computer-Based Training for 1.1 million Soldiers in all 54 states and territories in support of all Army Commands (ACOMs), Army Service Component Commands (ASCCs), Direct Reporting Units (DRUs), Combatant Commands (COCOMs), Corps and Divisions for Active and Reserve personnel stationed in CONUS and OCONUS. Training products will be developed using the Oracle Usability Productivity Kit, which includes instructor manuals, lessons plans, an Electronic Performance Support System and job aids. The deployment approach will implement pre-deployment activities at each location, beginning 360 days in advance of deployment start date. This approach includes on-site data conversion, workflow verification, and "over-the-shoulder" support.

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 89	<b>P-1 Line Item Number / Title:</b> 9921B66701 / Integrated Personnel and Pay System-Army (IPPS-A)	<b>Item Number / Title [DODIC]:</b> B66706 / IPPS-A INC 2

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	25.630	16.140	16.800	18.674	-	18.674
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	25.630	16.140	16.800	18.674	-	18.674
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>25.630</b>	<b>16.140</b>	<b>16.800</b>	<b>18.674</b>	<b>-</b>	<b>18.674</b>

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

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

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
<b>Flyaway Cost</b>																		
Non Recurring Cost																		
Software Non-Recurring	12,933.000	1	12.933	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Non Recurring Cost	-	-	12.933	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Flyaway Cost	-	-	<b>12.933</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Hardware Cost</b>																		
Non Recurring Cost																		
System Infrastructure Hardware	4,037.000	1	4.037	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Non Recurring Cost	-	-	4.037	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Hardware Cost	-	-	<b>4.037</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Package Fielding Cost</b>																		
Recurring Cost																		
New Equipment Training <sup>(†)</sup>	4,330.000	2	8.660	16,140.000	1	16.140	16,800.000	1	16.800	18,674.000	1	18.674	-	-	-	18,674.000	1	18.674
Subtotal: Recurring Cost	-	-	8.660	-	-	16.140	-	-	16.800	-	-	18.674	-	-	-	-	-	18.674
Subtotal: Package Fielding Cost	-	-	<b>8.660</b>	-	-	<b>16.140</b>	-	-	<b>16.800</b>	-	-	<b>18.674</b>	-	-	-	-	-	<b>18.674</b>
<b>Gross/Weapon System Cost</b>	-	-	<b>25.630</b>	-	-	<b>16.140</b>	-	-	<b>16.800</b>	-	-	<b>18.674</b>	-	-	-	-	-	<b>18.674</b>

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 89	<b>P-1 Line Item Number / Title:</b> 9921B66701 / Integrated Personnel and Pay System-Army (IPPS-A)	<b>Item Number / Title [DODIC]:</b> B66706 / IPPS-A INC 2

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

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	-	-	-	-	-
	Total Obligation Authority	16.140	16.800	18.674	-	18.674
<b>Total: Secondary Distribution</b>	Quantity	-	-	-	-	-
	<b>Total Obligation Authority</b>	<b>16.140</b>	<b>16.800</b>	<b>18.674</b>	-	<b>18.674</b>

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

**UNCLASSIFIED**

<b>Exhibit P-5a, Procurement History and Planning:</b> PB 2020 Army							<b>Date:</b> March 2019					
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 89			<b>P-1 Line Item Number / Title:</b> 9921B66701 / Integrated Personnel and Pay System-Army (IPPS-A)				<b>Item Number / Title [DODIC]:</b> B66706 / IPPS-A INC 2					

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
New Equipment Training		2016	VAR / VAR	Option / CPIF	ACC-NJ	Sep 2016	Aug 2017	1	4,446.000	Y		
New Equipment Training		2017	VAR / VAR	Option / CPIF	ACC-NJ	Sep 2017	Jun 2018	1	4,214.000	Y		
New Equipment Training		2018	VAR / VAR	Option / CPIF	ACC-NJ	Aug 2018	Aug 2018	1	16,140.000	Y		
New Equipment Training		2019	VAR / VAR	Option / CPIF	ACC-NJ	Dec 2018	Aug 2019	1	16,800.000	Y		
New Equipment Training		2020	VAR / VAR	Option / CPIF	ACC-NJ	Jan 2020	Mar 2020	1	18,674.000	Y		

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 89: Elect Equip - Tactical C2 Systems	<b>P-1 Line Item Number / Title:</b> 9966BZ9966 / Reconnaissance and Surveying Instrument Set
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ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	191	390	195	80	-	80	103	-	-	-	-	959
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	122.623	6.093	6.823	11.000	-	11.000	12.130	-	-	-	-	158.669
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	122.623	6.093	6.823	11.000	-	11.000	12.130	-	-	-	-	158.669
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>122.623</b>	<b>6.093</b>	<b>6.823</b>	<b>11.000</b>	<b>-</b>	<b>11.000</b>	<b>12.130</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>158.669</b>

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

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	642.005	15.623	34.990	137.500	-	137.500	117.767	-	-	-	-	165.453

**Description:**

The Instrument Set, Reconnaissance and Surveying (commonly known as ENFIRE) is a Digital technical stand off engineering and data collection tool set designed to perform reconnaissance, obstacle reporting, construction management, and surveying using precision measuring devices in conjunction with a tablet computer that contains user friendly Geographic Information System (GIS) to auto populate Road, Bridge, Minefield, and UXO report forms. It allows greater accuracy and precision of measurements and faster, automatic information collection and less error-prone dissemination. ENFIRE is Common Joint Mapping Tool Kit (CJMTK) compatible for geospatial interoperability and allows data collection from a distance, minimizing exposure to enemy observation; greatly improving safety to soldiers. ENFIRE kits are comprised of Hardware and Software that are Commercial Off the Shelf (COTS) and Government Off the Shelf (GOTS) procurements.

ENFIRE incorporates the ability to automatically populate field data on digital forms used for road, bridge, hasty minefield, ford, tunnel and Improvised Explosive Device (IED) reconnaissance/reporting with relevant information from peripheral devices included in the ENFIRE set. ENFIRE sets are used at the Battalion, Company, Platoon, and Squad levels as a means to facilitate rapid collection and dissemination of information to commanders in the field. Information may be disseminated via the Battle Command Common Services to other ENFIRE sets and to other Mission Command (MC) and Intelligence systems. ENFIRE also has broad area application as a common computing platform for the engineer platoon with plans to incorporate research and development efforts that have application across Military and General Engineering disciplines.

The long distance laser range finder allows soldiers to quickly and accurately determine a target's bearing and distance from the users' location at a significant standoff range. Used in conjunction with the Defense Advanced Global Positioning System Receiver and ESRI Runtime software, ENFIRE users are able to create overlays of bridges, roads, hasty minefields, and IEDs on digital maps as they collect information related to these targets. Using the video camcorder and digital scanner, ENFIRE users can also collect picture and scanned image files that can be associated with bridge, road, hasty minefield and IED information for reporting purposes. Reports can be generated in hard or soft copy for rapid dissemination.

The ENFIRE Army Acquisition Objective (AAO) is 2763.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army									
Quantity	47	29	15	-	15	18	-	-	-
Total Obligation Authority	0.719	1.010	2.065	-	2.065	2.236	-	-	-

**UNCLASSIFIED**

<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2020 Army							<b>Date:</b> March 2019		
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 89: Elect Equip - Tactical C2 Systems					<b>P-1 Line Item Number / Title:</b> 9966BZ9966 / Reconnaissance and Surveying Instrument Set				
<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A			<b>Program Elements for Code B Items:</b> N/A			<b>Other Related Program Elements:</b> N/A			
<b>Line Item MDAP/MAIS Code:</b> N/A									

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
ANG	Quantity	230	110	45	-	45	40	-	-	-
	Total Obligation Authority	3.593	3.853	6.185	-	6.185	4.735	-	-	-
AR	Quantity	113	56	20	-	20	45	-	-	-
	Total Obligation Authority	1.781	1.960	2.750	-	2.750	5.159	-	-	-
<b>Total:</b>	<b>Quantity</b>	<b>390</b>	<b>195</b>	<b>80</b>	<b>-</b>	<b>80</b>	<b>103</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>6.093</b>	<b>6.823</b>	<b>11.000</b>	<b>-</b>	<b>11.000</b>	<b>12.130</b>	<b>-</b>	<b>-</b>	<b>-</b>

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 89: Elect Equip - Tactical C2 Systems	<b>P-1 Line Item Number / Title:</b> 9966BZ9966 / Reconnaissance and Surveying Instrument Set
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ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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**Line Item MDAP/MAIS Code:** N/A

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	BZ9966 / Reconnaissance and Surveying Instrument Set	P-5a	A		191 / 122.623	390 / 6.093	195 / 6.823	80 / 11.000	- / -	80 / 11.000
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>191 / 122.623</b>	<b>390 / 6.093</b>	<b>195 / 6.823</b>	<b>80 / 11.000</b>	<b>- / -</b>	<b>80 / 11.000</b>

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

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

**Justification:**  
 FY 2020 Base procurement dollars in the amount of \$11.000 million support the procurement of up to 80 ENFIRE systems, fielding, New Equipment Training (NET), and integration of Security and interoperability updates for ENFIRE systems issued to Active Duty, National Guard and Army Reserve Engineer units. Security and interoperability updates are critical to the cyber security posture of the system and are required for connection to NIPR and SIPR networks. ENFIRE kits are comprised of Commercial Off the Shelf equipment.

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

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 89	<b>P-1 Line Item Number / Title:</b> 9966BZ9966 / Reconnaissance and Surveying Instrument Set	<b>Item Number / Title [DODIC]:</b> BZ9966 / Reconnaissance and Surveying Instrument Set

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A	<b>MDAP/MAIS Code:</b>
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<b>Resource Summary</b>	<b>Prior Years</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Procurement Quantity (Units in Each)	191	390	195	80	-	80
Gross/Weapon System Cost (\$ in Millions)	122.623	6.093	6.823	11.000	-	11.000
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	122.623	6.093	6.823	11.000	-	11.000
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>122.623</b>	<b>6.093</b>	<b>6.823</b>	<b>11.000</b>	<b>-</b>	<b>11.000</b>

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

Initial Spares (\$ in Millions)	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	642.005	15.623	34.990	137.500	-	137.500

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

<b>Cost Elements</b>	<b>Prior Years</b>			<b>FY 2018</b>			<b>FY 2019</b>			<b>FY 2020 Base</b>			<b>FY 2020 OCO</b>			<b>FY 2020 Total</b>		
	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>
<b>Flyaway Cost</b>																		
<b>Recurring Cost</b>																		
ENFIRE Systems <sup>(†)</sup>	65.209	1,316	85.815	38.961	77	3.000	58.361	61	3.560	72.500	80	5.800	-	-	-	72.500	80	5.800
Project Management and Administration	-	-	10.401	-	-	1.229	-	-	1.229	-	-	1.229	-	-	-	-	-	1.229
Fielding / New Equipment Training	-	-	6.618	-	-	1.376	-	-	1.376	-	-	1.376	-	-	-	-	-	1.376
Spares	-	-	0.599	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tech Refresh Systems	-	-	2.958	-	-	-	-	-	-	25.000	80	2.000	-	-	-	25.000	80	2.000
Engineering and Integration and ILS	1,623.200	10	16.232	-	-	0.488	-	-	0.658	-	-	0.595	-	-	-	-	-	0.595
<i>Subtotal: Recurring Cost</i>	-	-	122.623	-	-	6.093	-	-	6.823	-	-	11.000	-	-	-	-	-	11.000
<i>Subtotal: Flyaway Cost</i>	-	-	122.623	-	-	6.093	-	-	6.823	-	-	11.000	-	-	-	-	-	11.000
<b>Gross/Weapon System Cost</b>	<b>642.005</b>	<b>191</b>	<b>122.623</b>	<b>15.623</b>	<b>390</b>	<b>6.093</b>	<b>34.990</b>	<b>195</b>	<b>6.823</b>	<b>137.500</b>	<b>80</b>	<b>11.000</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>137.500</b>	<b>80</b>	<b>11.000</b>

<b>Secondary Distribution</b>		<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Army	Quantity	47	29	15	-	15
	Total Obligation Authority	0.719	1.010	2.065	-	2.065
ANG	Quantity	230	110	45	-	45
	Total Obligation Authority	3.593	3.853	6.185	-	6.185



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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 89	<b>P-1 Line Item Number / Title:</b> 9966BZ9966 / Reconnaissance and Surveying Instrument Set	<b>Item Number / Title [DODIC]:</b> BZ9966 / Reconnaissance and Surveying Instrument Set

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A	<b>MDAP/MAIS Code:</b>
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Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
AR	Quantity	113	56	20	-	20
	Total Obligation Authority	1.781	1.960	2.750	-	2.750
<b>Total:</b>	<b>Quantity</b>	<b>390</b>	<b>195</b>	<b>80</b>	-	<b>80</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>6.093</b>	<b>6.823</b>	<b>11.000</b>	-	<b>11.000</b>

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

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<b>Exhibit P-5a, Procurement History and Planning:</b> PB 2020 Army								<b>Date:</b> March 2019				
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 89			<b>P-1 Line Item Number / Title:</b> 9966BZ9966 / Reconnaissance and Surveying Instrument Set					<b>Item Number / Title [DODIC]:</b> BZ9966 / Reconnaissance and Surveying Instrument Set				
<b>Cost Elements</b>	<b>O C O</b>	<b>FY</b>	<b>Contractor and Location</b>	<b>Method/Type or Funding Vehicle</b>	<b>Location of PCO</b>	<b>Award Date</b>	<b>Date of First Delivery</b>	<b>Qty (Each)</b>	<b>Unit Cost (\$ K)</b>	<b>Specs Avail Now?</b>	<b>Date Revision Available</b>	<b>RFP Issue Date</b>
ENFIRE Systems		2016	Chenega Technical Innovations / Dumfries, VA	C / CPFF	US Army Geospatial Center	Jun 2016	Oct 2017	190	62.860	Y		Feb 2016
ENFIRE Systems		2017	Chenega Technical Innovations / Dumfries, VA	Option / CPFF	US Army Geospatial Center	Jun 2017	Nov 2017	191	60.000	Y		
ENFIRE Systems		2018	Chenega Technical Innovations / Dumfries, VA	Option / CPFF	US Army Geospatial Center	Jun 2018	Nov 2018	77	38.961	Y		
ENFIRE Systems		2019	Chenega Technical Innovations / Dumfries, VA	Option / CPFF	US Army Geospatial Center	Jun 2019	Nov 2019	61	58.361	Y		
ENFIRE Systems		2020	Chenega Technical Innovations / Dumfries, VA	Option / CPFF	US Army Geospatial Center	Jun 2020	Nov 2020	80	72.500	Y		

**Remarks:**  
ENFIRE Hardware and Software are 100% COTS/GOTS procurements.

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 89: Elect Equip - Tactical C2 Systems	<b>P-1 Line Item Number / Title:</b> 9971B99901 / MOD of In-Svc Equipment (ENFIRE)
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	212	137	297	350	-	350	150	160	200	250	-	1,756
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	2.703	1.134	1.177	7.317	-	7.317	3.007	3.461	4.000	5.029	-	27.828
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	2.703	1.134	1.177	7.317	-	7.317	3.007	3.461	4.000	5.029	-	27.828
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>2.703</b>	<b>1.134</b>	<b>1.177</b>	<b>7.317</b>	<b>-</b>	<b>7.317</b>	<b>3.007</b>	<b>3.461</b>	<b>4.000</b>	<b>5.029</b>	<b>-</b>	<b>27.828</b>

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

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	12.750	8.277	3.963	20.906	-	20.906	20.047	21.631	20.000	20.116	-	15.847

**Description:**

Mod of In-Svc Equipment Instrument Set, Reconnaissance and Surveying (commonly known as ENFIRE) supports tech refresh of fielded systems. Tech refresh of ENFIRE is on a five year cycle and is the replacement of the laptop and selected peripherals. ENFIRE tech refresh kits are comprised of commercial off the shelf equipment.

The Instrument Set, Reconnaissance and Surveying (commonly known as ENFIRE) is a digital technical stand off engineering and data collection tool set, designed to perform reconnaissance, obstacle reporting, construction management, and surveying using precision measuring devices in conjunction with a tablet computer that contains user friendly Geographic Information System (GIS) to auto populate road, bridge, minefield, and Unexploded Ordnance (UXO) report forms. It allows greater accuracy and precision of measurements and faster, automatic information collection and less error-prone dissemination. ENFIRE is Common Joint Mapping Tool Kit (CJMTK) compatible for geospatial interoperability and allows data collection from a distance, minimizing exposure to enemy observation; greatly improving safety to soldiers.

ENFIRE incorporates the ability to automatically populate field data on digital forms used for road, bridge, hasty minefield, ford, tunnel and Improvised Explosive Device (IED) reconnaissance/reporting with relevant information from peripheral devices included in the ENFIRE set. ENFIRE sets are used at the Battalion, Company, Platoon, and Squad levels as a means to facilitate rapid collection and dissemination of information to commanders in the field. Information may be disseminated via the Battle Command Common Services to other ENFIRE sets and to other Mission Command (MC) and Intelligence systems. ENFIRE also has broad area application as a common computing platform for the engineer platoon; with plans to incorporate research and development efforts that have application across Military and General Engineering disciplines.

The long distance laser range finder allows soldiers to quickly and accurately determine a target's bearing and distance from the users' location at a significant standoff range. Used in conjunction with the Defense Advanced Global Positioning System Receiver and ArcMap software, ENFIRE users are able to create overlays of bridges, roads, hasty minefields, and IEDs on digital maps as they collect information related to these targets. Using the video camcorder and digital scanner, ENFIRE users can also collect picture and scanned image files that can be associated with bridge, road, hasty minefield and IED information for reporting purposes. Reports can be generated in hard or soft copy for rapid dissemination.

ENFIRE Army Acquisition Objective (AAO) = 2,864

ENFIRE Hardware and Software are Commercial Off the Shelf (COTS) and Government Off the Shelf (GOTS) procurements.

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 89: Elect Equip - Tactical C2 Systems	<b>P-1 Line Item Number / Title:</b> 9971B99901 / MOD of In-Svc Equipment (ENFIRE)
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	137	297	350	-	350	150	160	200	250
	Total Obligation Authority	1.134	1.177	7.317	-	7.317	3.007	3.461	4.000	5.029
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	<b>137</b>	<b>297</b>	<b>350</b>	<b>-</b>	<b>350</b>	<b>150</b>	<b>160</b>	<b>200</b>	<b>250</b>
	<b>Total Obligation Authority</b>	<b>1.134</b>	<b>1.177</b>	<b>7.317</b>	<b>-</b>	<b>7.317</b>	<b>3.007</b>	<b>3.461</b>	<b>4.000</b>	<b>5.029</b>

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 89: Elect Equip - Tactical C2 Systems	<b>P-1 Line Item Number / Title:</b> 9971B99901 / MOD of In-Svc Equipment (ENFIRE)
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	B99902 / Mod of Family of Survey Equipment				212 / 2.703	137 / 1.134	297 / 1.177	350 / 7.317	- / -	350 / 7.317
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>212 / 2.703</b>	<b>137 / 1.134</b>	<b>297 / 1.177</b>	<b>350 / 7.317</b>	<b>- / -</b>	<b>350 / 7.317</b>

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

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

**Justification:**  
 FY 2020 Base procurement dollars in the amount of \$7.317 million supports tech refresh of up to 488 ENFIRE systems. ENFIRE tech refresh kits are comprised of commercial off the shelf equipment.

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

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 89	<b>P-1 Line Item Number / Title:</b> 9971B99901 / MOD of In-Svc Equipment (ENFIRE)	<b>Item Number / Title [DODIC]:</b> B99902 / Mod of Family of Survey Equipment

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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<b>Resource Summary</b>	<b>Prior Years</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Procurement Quantity <i>(Units in Each)</i>	212	137	297	350	-	350
Gross/Weapon System Cost <i>(\$ in Millions)</i>	2.703	1.134	1.177	7.317	-	7.317
Less PY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-
Net Procurement (P-1) <i>(\$ in Millions)</i>	2.703	1.134	1.177	7.317	-	7.317
Plus CY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-
<b>Total Obligation Authority</b> <i>(\$ in Millions)</i>	<b>2.703</b>	<b>1.134</b>	<b>1.177</b>	<b>7.317</b>	<b>-</b>	<b>7.317</b>

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

Initial Spares <i>(\$ in Millions)</i>	-	-	-	-	-	-
Gross/Weapon System Unit Cost <i>(\$ in Thousands)</i>	12.750	8.277	3.963	20.906	-	20.906

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

<b>Cost Elements</b>	<b>Prior Years</b>			<b>FY 2018</b>			<b>FY 2019</b>			<b>FY 2020 Base</b>			<b>FY 2020 OCO</b>			<b>FY 2020 Total</b>		
	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																		
Tech Refresh Kits	12.750	212	2.703	8.277	137	1.134	3.963	297	1.177	20.906	350	7.317	-	-	-	20.906	350	7.317
<i>Subtotal: Recurring Cost</i>	-	-	2.703	-	-	1.134	-	-	1.177	-	-	7.317	-	-	-	-	-	7.317
<i>Subtotal: Hardware Cost</i>	-	-	2.703	-	-	1.134	-	-	1.177	-	-	7.317	-	-	-	-	-	7.317
<b>Gross/Weapon System Cost</b>	<b>12.750</b>	<b>212</b>	<b>2.703</b>	<b>8.277</b>	<b>137</b>	<b>1.134</b>	<b>3.963</b>	<b>297</b>	<b>1.177</b>	<b>20.906</b>	<b>350</b>	<b>7.317</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>20.906</b>	<b>350</b>	<b>7.317</b>

<b>Secondary Distribution</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Army	137	297	350	-	350
Total Obligation Authority	1.134	1.177	7.317	-	7.317
<b>Total: Secondary Distribution</b>	<b>137</b>	<b>297</b>	<b>350</b>	<b>-</b>	<b>350</b>
Total Obligation Authority	1.134	1.177	7.317	-	7.317

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 92: Elect Equip - Automation	<b>P-1 Line Item Number / Title:</b> 3001BE4169 / Army Training Modernization
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	2,483	7,641	-	-	-	-	-	-	-	-	10,124
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	334.833	11.575	12.265	14.578	6.014	20.592	19.438	19.495	18.607	19.602	-	456.407
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	334.833	11.575	12.265	14.578	6.014	20.592	19.438	19.495	18.607	19.602	-	456.407
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>334.833</b>	<b>11.575</b>	<b>12.265</b>	<b>14.578</b>	<b>6.014</b>	<b>20.592</b>	<b>19.438</b>	<b>19.495</b>	<b>18.607</b>	<b>19.602</b>	<b>-</b>	<b>456.407</b>

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

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	-	4.662	1.605	-	-	-	-	-	-	-	-	45.082

**Description:**

Army Training Modernization (ATM) consists of three related efforts to include Army National Guard (ARNG) Distributed Learning Program (DLP), Other Training Modernization, and Distributed Learning System (DLS) to acquire Digital Training Facilities (DTF). DTFs allow rapid delivery of high quality instruction to Army personnel. Infrastructure acquired is based on industry standards and complies with the Joint Technical Architecture (JTA) and Defense Information Infrastructure Common Operating Environment (DII COE), where applicable. This assures compatibility with other military services and that commercial, state, and other resources can be leveraged to achieve cost effective solutions to support all Army components.

ATM provides a cost effective solution for training Army personnel. Supported training enhancements will help reduce the current backlog of Military Operational Specialty (MOS) training. Army can significantly increase levels of MOS qualification, hence readiness, with standardized Army courseware delivered through Distributed Learning (DL) technology. Implementation of these technology enablers reduce resident training requirements and Soldiers spend less time in the training base and more time in units, thereby increasing readiness. ATM delivers standardized training to Active Component (AC) and Reserve Component (RC) Soldiers as well as Department of the Army Civilians (DAC).

The DLP/DLS provide infrastructure for Soldiers to train at or near their assigned station in lieu of resident training at Army schools. DLP and DLS will provide approximately 549 modern distance learning (DL) enabled DTFs and associated supporting infrastructure to augment training at existing resident Army schools. Moreover, DLS has fielded 30 Deployed Digital Training Campus (DDTC) to allow training while units are deployed. This allows Army to both increase the number of Army personnel receiving required training and the amount of training that can be provided to each individual.

DLS provides the information technology for delivery and management of training in support of individual and collective task training. Benefits include increased training effectiveness and efficiency, improved readiness, and increased training for customers. Key customers: Soldiers (Active, National Guard, and Reserve) and Army Civilians. Key Stakeholders: Army Training and Doctrine Command (Functional Proponent Agent), all other Army Commands, Program Executive Officer - Enterprise Information Systems, and Army General Staff. DLS provides capabilities using Commercial-Off-The-Shelf (COTS) solutions: (1) Digital Training Facilities (DTF): electronic classrooms that deliver multimedia courseware for self-paced training or group training events; (2) Enterprise Management Center (EMC): centralized system management of the DLS information resources; (3) Army Learning Management System (ALMS): a web-based information system for centralizing, standardizing, and optimizing training, training management, and training delivery functions; (4) Deployed Digital Training Campuses (DDTC): electronic transportable classrooms that deliver multimedia courseware for self-paced instruction or group training events in a deployed location; and, (5) Army e-Learning: web-based training products used to acquire and sustain business, information technology or foreign language skills. As a whole, DLS facilitates the Training Mission Area mission to teach technical and tactical proficiency, develop military occupational specialty (MOS) skills, develop Leaders, support Army Training Transformation, Sustainable Readiness Model (SRM) and Lifelong Learning, promote self-development, and sustain individual and unit combat skills.

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 92: Elect Equip - Automation	<b>P-1 Line Item Number / Title:</b> 3001BE4169 / Army Training Modernization
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

The United States Army Intelligence Center of Excellence (USAICoE) trains Military Intelligence (MI) Soldiers, leaders from all services, the professional civilian Intelligence workforce and mobilized reserve components as a power support platform for the Active Army. Because of Military Intelligence's reliance on Information Technology, information systems are the primary weapons for the Military Intelligence Corps, and a digital infrastructure that comprises the systems, networks, and databases that MI Soldiers and Leaders will use in the Force is required for training. The USAICoE G-6 is chartered with continuously maintaining and improving this vital digital training infrastructure, which encompasses 5 discreet network enclaves, each operating at different levels of classification, 25 training buildings, 4 field sites, 325 digital classrooms, and 3 data centers. The USAICoE G-6 operates and maintains the largest single site installation of Distributed Common Ground System-Army (DCGS-A).

<b>Secondary Distribution</b>		<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
Army	Quantity	2,483	7,641	-	-	-	-	-	-	-
	Total Obligation Authority	11.575	12.265	14.578	6.014	20.592	19.438	19.495	18.607	19.602
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	<b>2,483</b>	<b>7,641</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
	<b>Total Obligation Authority</b>	<b>11.575</b>	<b>12.265</b>	<b>14.578</b>	<b>6.014</b>	<b>20.592</b>	<b>19.438</b>	<b>19.495</b>	<b>18.607</b>	<b>19.602</b>



**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 92: Elect Equip - Automation	<b>P-1 Line Item Number / Title:</b> 3001BE4169 / Army Training Modernization
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	BE4171 / DISTRIBUTIVE TRAINING TECHNOLOGY				- / 62.577	- / 4.710	- / 4.624	- / 4.646	- / -	- / 4.646
P-5	BE4172 / OTHER TRAINING MODERNIZATION	P-5a			- / 69.018	- / 4.382	- / -	- / -	- / 6.014	- / 6.014
P-5	BE4173 / Distributed Learning System (DLS)	P-5a			- / 203.238	2,483 / 2.483	7,641 / 7.641	- / 9.932	- / -	- / 9.932
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 334.833</b>	<b>2,483 / 11.575</b>	<b>7,641 / 12.265</b>	<b>- / 14.578</b>	<b>- / 6.014</b>	<b>- / 20.592</b>

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

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

**Justification:**  
 FY 2020 (BE4171) Base procurement dollars in the amount of \$4.646 million support technical refresh of the ARNG Distributed Learning (DL) Program's 403 ARNG DL Classrooms. The ARNG DL Classrooms provide online capabilities in communities throughout the nation to support the training and readiness of Soldiers and units, assist in the generation of operational forces, and enhance routine and emergency operations for the Army National Guard. Technical refresh includes replacement of student and instructor workstations, audio/video equipment, printers, and network connectivity equipment that are past end-of-life or need upgrading to comply with current cybersecurity standards.

FY 2020 (BE4172) OCO procurement dollars in the amount of \$6.014 million support the United States Army Intelligence Center of Excellence Soldiers and Leaders from all services with network equipment including servers, firewalls, and other related hardware.

FY 2020 (BE4173) Base procurement dollars in the amount of \$9.932 million funds the DLS Enterprise Technology Refreshment (Tech Refresh) program in support of all increments (Digital Training Facilities (DTF), Enterprise Management Center (EMC), Army Learning Management System (ALMS), and Deployed Digital Training Campus (DDTC)). Tech Refresh extends the service life by staying ahead of the obsolescence curve with cost-effective planned technology upgrades, refreshers, and insertions, based on market research and system performance requirements (current and projected). With the advance of information technology, Tech Refresh maintains continued supportability of the DLS Enterprise and avoids disruption of Army Training. Funds will also be used for software and engineering changes required to enhance the ALMS assessment capabilities. This will expand the automated capability for the creation, storage, management, and administration of online testing and course product evaluations, including surveys, to support Army Soldier and civilian training and education.

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

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 92	<b>P-1 Line Item Number / Title:</b> 3001BE4169 / Army Training Modernization	<b>Item Number / Title [DODIC]:</b> BE4171 / DISTRIBUTIVE TRAINING TECHNOLOGY

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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<b>Resource Summary</b>	<b>Prior Years</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	62.577	4.710	4.624	4.646	-	4.646
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	62.577	4.710	4.624	4.646	-	4.646
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>62.577</b>	<b>4.710</b>	<b>4.624</b>	<b>4.646</b>	<b>-</b>	<b>4.646</b>

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

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

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

<b>Cost Elements</b>	<b>Prior Years</b>			<b>FY 2018</b>			<b>FY 2019</b>			<b>FY 2020 Base</b>			<b>FY 2020 OCO</b>			<b>FY 2020 Total</b>		
	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)
Flyaway Cost																		
Recurring Cost																		
Distributive Training Facility Refresh	20,859.000	3	62.577	4,710.000	1	4.710	4,624.000	1	4.624	4,646.000	1	4.646	-	-	-	4,646.000	1	4.646
<i>Subtotal: Recurring Cost</i>	-	-	62.577	-	-	4.710	-	-	4.624	-	-	4.646	-	-	-	-	-	4.646
<i>Subtotal: Flyaway Cost</i>	-	-	62.577	-	-	4.710	-	-	4.624	-	-	4.646	-	-	-	-	-	4.646
<b>Gross/Weapon System Cost</b>	-	-	62.577	-	-	4.710	-	-	4.624	-	-	4.646	-	-	-	-	-	4.646

<b>Secondary Distribution</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Army					
Quantity	-	-	-	-	-
Total Obligation Authority	4.710	4.624	4.646	-	4.646
<b>Total: Secondary Distribution</b>					
Quantity	-	-	-	-	-
Total Obligation Authority	4.710	4.624	4.646	-	4.646

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 92	<b>P-1 Line Item Number / Title:</b> 3001BE4169 / Army Training Modernization	<b>Item Number / Title [DODIC]:</b> BE4172 / OTHER TRAINING MODERNIZATION

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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<b>Resource Summary</b>	<b>Prior Years</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Procurement Quantity (Units in Each)	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	69.018	4.382	-	-	6.014	6.014
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	69.018	4.382	-	-	6.014	6.014
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>69.018</b>	<b>4.382</b>	<b>-</b>	<b>-</b>	<b>6.014</b>	<b>6.014</b>

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

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

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

<b>Cost Elements</b>	<b>Prior Years</b>			<b>FY 2018</b>			<b>FY 2019</b>			<b>FY 2020 Base</b>			<b>FY 2020 OCO</b>			<b>FY 2020 Total</b>		
	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>
Flyaway Cost																		
Non Recurring Cost																		
NTNF <sup>(t)</sup>	34,509.000	2	69.018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
USAICoE MI Systems IMT <sup>(t)</sup>	-	-	-	4,382.000	1	4.382	-	-	-	-	-	-	-	-	-	-	-	-
USAICoE MI Systems Training <sup>(t)</sup>	-	-	-	-	-	-	-	-	-	-	-	6,014.000	1	6.014	6,014.000	1	6.014	
<i>Subtotal: Non Recurring Cost</i>	-	-	69.018	-	-	4.382	-	-	-	-	-	0.000	-	6.014	-	-	6.014	
<i>Subtotal: Flyaway Cost</i>	-	-	69.018	-	-	4.382	-	-	-	-	-	0.000	-	6.014	-	-	6.014	
<b>Gross/Weapon System Cost</b>	-	-	<b>69.018</b>	-	-	<b>4.382</b>	-	-	-	-	-	-	-	<b>6.014</b>	-	-	<b>6.014</b>	

<b>Secondary Distribution</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Army					
Quantity	-	-	-	-	-
Total Obligation Authority	4.382	-	0.000	6.014	6.014
<b>Total: Secondary Distribution</b>					
Quantity	-	-	-	-	-
Total Obligation Authority	4.382	-	-	6.014	6.014

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

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<b>Exhibit P-5a, Procurement History and Planning:</b> PB 2020 Army							<b>Date:</b> March 2019				
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 92			<b>P-1 Line Item Number / Title:</b> 3001BE4169 / Army Training Modernization				<b>Item Number / Title [DODIC]:</b> BE4172 / OTHER TRAINING MODERNIZATION				

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
NTNF		2016	GCSS Army Supply System / Fort Leonard Wood	Reqn	Fort Leonard Wood, MO	Sep 2016	Jan 2017	1	38.000	Y		
USAICoE MI Systems IMT		2018	TBS / TBS	C / TBD	Fort Leavenworth, KS	Oct 2017	Jan 2018	1	4,382.000	Y		
USAICoE MI Systems Training	✓	2020	TBS / TBS	C / TBD	Fort Leavenworth, KS	Oct 2019	Jan 2020	1	6,014.000	N		

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

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 92	<b>P-1 Line Item Number / Title:</b> 3001BE4169 / Army Training Modernization	<b>Item Number / Title [DODIC]:</b> BE4173 / Distributed Learning System (DLS)

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity (Units in Each)	-	2,483	7,641	-	-	-
Gross/Weapon System Cost (\$ in Millions)	203.238	2.483	7.641	9.932	-	9.932
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	203.238	2.483	7.641	9.932	-	9.932
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>203.238</b>	<b>2.483</b>	<b>7.641</b>	<b>9.932</b>	<b>-</b>	<b>9.932</b>

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

Initial Spares (\$ in Millions)	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	-	1.000	1.000	-	-	-

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Flyaway Cost																		
Recurring Cost																		
System Fielding & Implementation <sup>(†)</sup>	31,177.500	2	62.355	323.000	1	0.323	1,245.000	1	1.245	1,618.000	1	1.618	-	-	-	1,618.000	1	1.618
Army Learning Management System <sup>(†)</sup>	17,348.000	2	34.696	1,009.000	1	1.009	3,328.000	1	3.328	4,326.000	1	4.326	-	-	-	4,326.000	1	4.326
Enterprise Technology Refreshment <sup>(†)</sup>	53,093.500	2	106.187	1,151.000	1	1.151	3,068.000	1	3.068	3,988.000	1	3.988	-	-	-	3,988.000	1	3.988
<i>Subtotal: Recurring Cost</i>	-	-	203.238	-	-	2.483	-	-	7.641	-	-	9.932	-	-	-	-	-	9.932
<i>Subtotal: Flyaway Cost</i>	-	-	203.238	-	-	2.483	-	-	7.641	-	-	9.932	-	-	-	-	-	9.932
<b>Gross/Weapon System Cost</b>	-	-	203.238	1.000	2,483	2.483	1.000	7,641	7.641	-	-	9.932	-	-	-	-	-	9.932

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	2,483	7,641	-	-	-
<b>Total:</b>	2,483	7,641	9,932	-	9,932
<b>Secondary Distribution</b>	2,483	7,641	9,932	-	9,932

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

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<b>Exhibit P-5a, Procurement History and Planning: PB 2020 Army</b>							<b>Date:</b> March 2019				
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 92			<b>P-1 Line Item Number / Title:</b> 3001BE4169 / Army Training Modernization				<b>Item Number / Title [DODIC]:</b> BE4173 / Distributed Learning System (DLS)				

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
System Fielding & Implementation		2018	Info Sys Engr Cmd / Ft. Detrick, MD	MIPR	CECOM, Ft Detrick, MD	Oct 2017	Nov 2017	1	323.000	Y		
System Fielding & Implementation		2019	Info Sys Engr Cmd / Ft. Detrick, MD	MIPR	CECOM, Ft Detrick, MD	Oct 2018	Nov 2018	1	1,245.000	N		
System Fielding & Implementation		2020	Info Sys Engr Cmd / Ft. Detrick, MD	MIPR	CECOM, Ft Detrick, MD	Oct 2019	Nov 2019	1	1,618.000	N		
Army Learning Management System		2018	IBM Corporation / Fairfax, VA	C / FFP	MICC, Ft Eustis, VA	Apr 2018	Apr 2018	1	1,009.000	Y		
Army Learning Management System		2019	IBM Corporation / Fairfax, VA	C / FFP	MICC, Ft Eustis, VA	Feb 2019	Apr 2019	1	3,328.000	N		
Army Learning Management System		2020	IBM Corporation / Fairfax, VA	C / FFP	MICC, Ft Eustis, VA	Feb 2020	Apr 2020	1	4,326.000	N		
EnterpriseTechnology Refreshment		2018	CDW Government LLC / Vernon Hills, IL	C / FFP	MICC, Ft Eustis, VA	May 2018	May 2018	1	1,151.000	Y		
EnterpriseTechnology Refreshment		2019	To Be Determined / TBD	C / FFP	MICC, Ft Eustis, VA	Apr 2019	Apr 2019	1	3,068.000	N		
EnterpriseTechnology Refreshment		2020	To Be Determined / TBD	C / FFP	MICC, Ft Eustis, VA	Apr 2020	Apr 2020	1	3,988.000	N		

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 92: Elect Equip - Automation	<b>P-1 Line Item Number / Title:</b> 3002BD3000 / Automated Data Processing Equip
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	3,656.878	84.983	219.812	139.342	32.700	172.042	155.240	163.425	132.648	123.518	Continuing	Continuing
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	3,656.878	84.983	219.812	139.342	32.700	172.042	155.240	163.425	132.648	123.518	Continuing	Continuing
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>3,656.878</b>	<b>84.983</b>	<b>219.812</b>	<b>139.342</b>	<b>32.700</b>	<b>172.042</b>	<b>155.240</b>	<b>163.425</b>	<b>132.648</b>	<b>123.518</b>	<b>Continuing</b>	<b>Continuing</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-

**Description:**

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 information technology (IT) procurements consist of COTS/GOTS solutions; all quantities and unit costs vary by system configuration, site, and geographical location.

The Automated Data Processing Equipment (ADPE) program supports the Army's sustaining base automation systems. Each system/program/initiative provides a separate and unique capability that is not funded or supported in another procurement budget line. The Army's primary sustaining base Information Management (IM) goal is to provide information services for the sustainment and readiness of the forces at minimum cost. A stable modernization program is essential to maintain efficiency, increase productivity, and reduce operation and maintenance costs through technological advancement. The Army's modernization strategy to support its warfighting forces in the 21st Century leverages and aligns the use of automation technology to consolidate, streamline, and modernize its management information systems to support Command, Control, Communications, Computers (C4) for the Warfighter, power projection strategies, battle space awareness, Army Transformation, focused logistics, and downsized force structures. Modernization plans flow from strategic planning (mission needs) and ensure standardization, interoperability, and systemic replacement of equipment that is obsolete due to technology changes, reliability, and serviceability. The ADPE program provides combat service support to the Warfighter in the areas of command and control, logistics, personnel, and other sustaining base functions.

**OPTICAL DIGITAL EQUIP (BD3956):**

**ARMY RECORDS INFORMATION MANAGEMENT SYSTEM (ARIMS):** The ARIMS is the Department of the Army's enterprise record keeping system. It is used to identify, collect, preserve, and retrieve electronic record information and index hard copy records with retention periods ranging from 7 to 150 years in 130 Army-owned Records Holding Areas and 16 Federal Records Centers. With over 68,000 users, ARIMS provides the central capability for sharing information that documents the conduct of the Army's business, contingency and war-time operations, and ensures economy and efficiency in documenting Army policies, decisions, and operations. The ARIMS web-based tools reduce the administrative burden of the Warfighter, ensure that the Army's official and historical records are preserved, improve and sustain legitimate access to Army records, and promote compliance with governing statutes. The ARIMS supports Army-wide record management activities, including those addressing Department of Army responsibilities under the Freedom of Information Act (FOIA), the Privacy Act, Executive Order 13526 Declassification requirements, and the Army's combat records research role as the Department of Defense Executive Agent for Post-Traumatic Stress Disorder (PTSD) and other health related claims filed by Veterans. Specialized record collections include Gulf War Declassification, Operation Enduring Freedom, Operation Iraqi Freedom, Operation New Dawn, and other contingency operations. Technology refresh ensures the Army's records comply with statutory and regulatory requirements, preserves individual record integrity, mitigates the risk of historical information loss, and ensures official Army records are available for Congressional, Government Accountability Office, Executive Branch, and FOIA requirements. Under the Army Data Center Consolidation Plan (ADCCP) initiative, ARIMS is identified as an Army application pending data center 'hosting' disposition.

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<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 92: Elect Equip - Automation		<b>P-1 Line Item Number / Title:</b> 3002BD3000 / Automated Data Processing Equip
<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
<b>Line Item MDAP/MAIS Code:</b> N/A		
<p>INTERACTIVE PERSONNEL ELECTRONIC RECORDS MANAGEMENT SYSTEM (iPERMS): The iPERMS supports the Army's military personnel management mission on a 24 hours a day/7 days a week basis as required by Titles 10 and 44 US Code and DoD Directive 5015.2. The iPERMS is the Records Management Application (RMA) for the Army Military Human Resource Record (AMHRR), also known as the Official Military Personnel File (OMPF). It is used by Army Human Resource Managers and Soldiers throughout the world as the authoritative source for Army personnel documents and is also the repository for Soldier pay-substantiating documents. The documents in iPERMS are critical to the Army's Promotion, Command, and School Selection Board processes for both Enlisted and Officer Soldiers, and Army Audit Readiness. Over 160 million AMHRR/OMPF documents in iPERMS support the Active Army, Army Reserve, and Army National Guard personnel functions at all command levels and are available to the individual Soldier via web access. Currently, 6.7 million personnel files are supported by iPERMS and the number of files increases each year; the system also supports other activities such as the Department of Veteran Affairs, Department of Labor, and Federal, State, and local Law Enforcement agencies. The iPERMS will interface directly with, but not be subsumed by, the Integrated Personnel and Pay System-Army (IPPS-A). This program is linked to RDTE Program Element 0665013A, Project Number T05, Project Title Army Business System Modernization Initiatives.</p> <p>STRATEGIC LOGISTICS PROGRAM (SLP) (BD7000): LOGISTICS TECHNOLOGY ASSESSMENT (LTA): LTA invests in innovative information technology solutions that improve Army logistics processes by reducing demand and/or creating logistics efficiencies. LTA procures GOTS/COTS products and integrates them in a field-based system of systems assessment environment for use and implementation planning. Solutions include mobile applications to automate the capture and processing of fuel and ammunition consumption and delivery, mobile and head-worn devices to automate maintenance operations, and Condition Based Maintenance (CBM) solutions that wirelessly transmit health and usage data off of Army platforms. LTA will ensure that targeted tactical solutions interoperate with the logistics applications maintained at Army Data Centers, such as the Army's Enterprise Resources Planning (ERP) environment, and that they communicate over standard Army Networks. This program directly supports Army Operating Concept requirements to create logistics efficiencies and reduce demand, thus enabling the Army to maintain equipment readiness with reduced logistics footprint and costs.</p> <p>HQ MANAGEMENT INFORMATION SYSTEMS (BE4161): HEADQUARTERS, DEPARTMENT OF THE ARMY AUTOMATED DATA PROCESSING EQUIPMENT (HQDA ADPE): The HQDA ADPE provides life cycle replacement of Video Teleconferencing environments at the Army directorates and agencies in the Pentagon and National Capital Region including both classified and unclassified systems. The legacy systems are replaced with Internet Protocol (IP)-based Video Teleconferencing (VTC) systems that offer significant improvement in reliability and availability for remote collaboration. The robust IP-based VTC environment helps eliminate costly dedicated Integrated Services Digital Network (ISDN) lines and unreliable ISDN-based systems, and also enables a significant reduction in local and temporary duty travel costs. This program also supports HQDA staff elements with other audio visual and training tools.</p> <p>STRATEGIC COMMAND CENTERS (SCC): The SCC provides core Command, Control, Communications, and Computers (C4) infrastructure for Joint, Coalition and Interagency C4 capabilities at Army and Army supported command centers. These include European Command (EUCOM), US Africa Command (AFRICOM), US Forces Korea (USFK), Joint Special Operations Command (JSOC), Southern Command (SOUTHCOM), HQDA Army Operations Center (AOC), and the Alternate National Military Command Center (ANMCC)-Site R. Specifically, SCC provides resources for Army supported Combatant Commander (COCOM) C4 infrastructure in support of other IT programs of record (POR) such as the Global Command and Control System (GCCS) Family of Systems (FoS). The SCC provides core C4 infrastructure for Joint and COCOM sites to include system and technical facilities, Protected Distribution Systems, and site preparation for other support equipment such as Video Teleconference (VTC), data, voice, displays, audio-visual equipment, cabling, and lighting. This infrastructure supports COCOM requirements for Command and Control (C2) operations and worldwide Information Assurance and Security Assistance. These sites are designated as key National Military Command System (NMCS) Command Centers and are required to operate 24 hours a day/7 days a week.</p> <p>U.S. FORCES KOREA (USFK) HEADQUARTERS (HQ) COMMAND, CONTROL, COMMUNICATIONS, COMPUTERS AND INFORMATION TECHNOLOGY (C4IT): The USFK HQ C4IT network provides the end user computing and application environments for USFK. It supports users at Yongsan, Camp Humphreys, and other sites on peninsula, with both classified and unclassified computing capabilities for US and alliance forces. Systems and services include information assurance and security to further automate infrastructure scanning and patching to identify security vulnerabilities, take corrective actions, and investigate security incidents. These networks support US and Alliance planning and C4 tools such as Theater Operational Planning Assessment System (TOPAS) and Theater Effects Base Operations (TEBO). These tools provide vital support to the theater's battle Command and Control capabilities by projecting and evaluating effects of Theater Operations in order to shape strategy, battle plans, and contingency operations on peninsula. Tools provide advanced concept technology demonstration as well as communications, computing and intelligence capabilities, tailored to peninsula operational requirements. Network infrastructure supports capabilities to include Directory, File, Print, and Web server processing; storage and switching; data replication for Continuity of Operations Planning (COOP), data recovery, and improved capacity for basic store and retrieve capabilities.</p>		



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<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 92: Elect Equip - Automation		<b>P-1 Line Item Number / Title:</b> 3002BD3000 / Automated Data Processing Equip
<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
<b>Line Item MDAP/MAIS Code:</b> N/A		
<p>JOINT TASK FORCE MIGRANT OPERATIONS (JTFMO) NETWORK. This system provides the U.S. Southern Command, Component Services, and interagency partners with the communications infrastructure and processes to support a mass migration event. The system will enable JTFMO to process migrants, including children, at a rate that would minimize processing time and other impacts to the migrant population. The communications infrastructure is at end of life; technical refresh is required to ensure reliable and secure telephone and data networks to support JTFMO operations.</p> <p>U.S. ARMY SOUTH (ARSOUTH) HEADQUARTERS INFRASTRUCTURE. The existing Secret Internet Protocol Router (SIPR) infrastructure at the ARSOUTH HQ is a keyed Mechanical Transfer Registered Jack (MTRJ) fiber solution installed in 2003. The manufacturer no longer produces MTRJ connectors, which makes the SIPR infrastructure obsolete and places the secure voice and data services at high risk of increased degradation and failure.</p> <p>TRAIN ADVISE ASSIST COMMAND-SOUTH (TAAC-S) KANDAHAR COMBINED OPERATIONS AND INTELLIGENCE CENTER (COIC) MODERNIZATION. The TAAC-S COIC supports NATO's Resolute Support mission and Operation Freedom's Sentinel mission within Afghanistan. The COIC provides 24 hours a day/7 days a week situational awareness of theater assets required to advise and assist Afghan forces in the U.S. Central Command's area of responsibility. The modernization effort provides the capability to monitor feeds from Top Secret/Sensitive Compartmented Information down to coalition secure information feeds (secure networks). Information is displayed graphically, including a Common Operating Picture, can support live video/secure video teleconference feeds, and will ensure that the COIC is compatible with the Home Station Mission Command Center configurations and design.</p> <p>COMBINED ENTERPRISE REGIONAL INFORMATION EXCHANGE SYSTEM-SOUTHWEST ASIA (CENTRIXS-SWA). CENTRIXS-SWA is a collection of classified coalition networks (enclaves) that enable information sharing through the use of email and Web services, instant messaging or chat, the Common Operational Picture service, and Voice over Internet Protocol (VoIP). CENTRIXS-SWA is the primary mission command platform for US Forces-Afghanistan in support of Operation Freedom's Sentinel. With deployments of Security Force Assistance Brigades, Army expects increased usage of this network enclave. Modernization of CENTRIXS-SWA will ensure high availability and low latency of the network during combat operations.</p> <p>MACOM AUTOMATION SYSTEMS (BE4162): ARMY COMPUTING INFRASTRUCTURE (ACI): This program supports the Army Network Modernization Strategy Line of Effort (LOE) 1, Unified Network. The Army Computing Infrastructure (ACI) resources equipment that provides for Joint Information Environment (JIE)-defined Installation Service Nodes (ISN) at Army Installations within both CONUS and OCONUS sites. ACI implements an enterprise approach to Network Operations by delivering the following capabilities: consolidation of disparate Department of Defense Information Network-Army (DoDIN-A) Operations Tools into a single hosted platform with the Global Enterprise Fabric (GEF); security management from the enterprise level with a common view of the entire network with the Base Management System (BMS); modernization of designated Army Enterprise Data Centers (AEDC); and modernization of the Enterprise Protected - Domain Name System (EP-DNS) for NIPR and SIPR. This infrastructure is critical to reduce network latency, defend against cyberattacks, and enable network operators to manage Army communications systems to ensure greater responsiveness and network availability for the Warfighter and civilian workforce during military operations, training, and business operations.</p> <p>BATTLE LAB COLLABORATIVE SIMULATION ENVIRONMENT (BLCSE): This program supports the Army Network Modernization Strategy Line of Effort (LOE) 1, Unified Network. The BLCSE provides warfighters and concept/capability developer's critical mission essential means to experiment and collaborate in a secure, persistent, integrated, innovative, and operationally relevant simulation environment across multiple Army, Joint, and Academic communities. BLCSE provides the critical collaboration connections between Army Futures Command (AFC), the Army Battle Labs (Maneuver, Fires, Aviation, Maneuver Support, Intelligence, Sustainment, Mission Command, Cyber, Space, and Special Operations), Critical Academic partnerships, and the Joint Service community, which provide the overall experimentation community the ability to support Critical Mission Essential Army Experimentation. BLCSE is a federation of constructive simulations, mission command systems, infrastructure, network, collaborative tools, certified common scenarios, and authoritative system performance data operating on a closed, secure, persistent network that permanently supports over 20 sites. The environment can be extended to other sites (including OCONUS), based on mission requirements. It currently has two separate network enclaves: secret and secret releasable to "Five Eyes", an intelligence alliance consisting of Australia, Canada, New Zealand, the United Kingdom and the United States. This partnership of Allied and Coalition forces use the BLCSE while participating in joint Army Experimentation. BLCSE is not a stand-alone system, but an integrated and distributed simulation capability that enables multi-echelon, integrated experiments in support of Army Experimentation by immersing leaders and soldiers in the Future Operational Environment. BLCSE provides substantial cost avoidance to the Army Experimentation Community through delivery of an enterprise solution that consolidates network capabilities while reducing travel, shipping, equipment, and facility costs required to support the Army Experimentation Program. The Army experimentation program ensures the technical infrastructure used to support the execution of complex distributed experiments remains current, reliable, and provides consistent support to critical concept and capabilities development activities. BLCSE is a key enabler of the Army Experimentation Program and the Army's development of concepts and capabilities to support the Future Force.</p>		

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<b>Line Item MDAP/MAIS Code:</b> N/A		
<p>US ARMY TRAINING AND DOCTRINE COMMAND (TRADOC) INSTITUTIONAL ARMY BATTLE COMMAND SYSTEM (ABCS) TRAINING BASE (TIABCSTB): The Army approved Mission Command Training Strategy (MCTS) is focused at the Doctrine, Organization, Training, Material, Leadership and Education, Personnel, and Facilities (DOTMLPF) implication of the Army Battle Command Systems (ABCS) which are the principal digital Command and Control (C2) system for battlefield commanders from battalion to corps. The ABCS consists of the Global Command and Control System Army (GCCS-A), Advanced Field Artillery Tactical Data System (AFATDS), All Source Analysis System (ASAS), Battle Command Sustainment Support System (BCS3), Army Missile Defense Warning System (AMDWS), Maneuver Control System (MCS), Force XXI Battle Command Brigade and Below (FBCB2), and Tactical Airspace Information System (TAIS). This program enables commanders, battle staff, and Soldiers to exploit new digital command and control capabilities on the battlefield. The institutional Battle Command Training and Distributed System (BCT&amp;DS) is integral to the MCTS while supporting the operational forces Active Army, National Guard, and Army Reserve digital training requirements in real time within a networked Army Battle Command (ABC) learning environment. It is designed, developed, and engineered to support institutional operational adaptation. It enables the TRADOC institutional training domain to accomplish 24 hours a day/7 days a week training in support of the Army Campaign Plan. This infrastructure can demonstrate and exercise digital battle command and staff functions, integrate live, virtual, constructive multi-media educational assets, and conduct robust individual and collective training events exercises. The BCT&amp;DS is a subset of the institutional Mission Command Art &amp; Sciences Program (MCASP) and supports the Army Mission Command Training Strategy. This BCT&amp;DS capability is provided at specified TRADOC schools.</p> <p>ARMY TRAINING INFORMATION ARCHITECTURE (ATIA): The ATIA infrastructure provides the operational environment supporting the Army's learning management systems, the Central Army Registry (CAR), Training Development Capability (TDC), and system interfaces to the Army Training Requirements and Resources System (ATRRS). These systems are the official repository of Army training products and services in accordance with Army Regulation 25-30 and TRADOC Regulation 350-70. The ATIA facilitates mission information infrastructure critical to all Army training development and management. It is used by over 480,000 Active, Guard, and Reserve Soldiers and trainers in residence and is available to deployed Soldiers via distance learning.</p> <p>ACQUISITION, LOGISTICS, AND TECHNOLOGY ENTERPRISE SYSTEMS AND SERVICES (ALTESS): The ALTESS is an accredited Army Data Center providing full life-cycle information technology solutions, support and services to the Acquisition community, the Army and Department of Defense (DoD). ALTESS host over 63 critical enterprise information systems in an all hazards secure environment at the lowest possible cost serving millions of users worldwide. These systems include direct war fighter support, Congressional budget reporting, and major Army IT systems that serve the entire Army population. Funding provides for the minimal infrastructure and services capabilities as mandated in the DOD Core Data Center Architecture and Cybersecurity requirements. These capabilities are the infrastructure costs, mandated security (physical and IT), foundation network, storage, business processes and FTEs to meet the attributes mandated by DoD to deliver standardized capabilities to host and service IT systems in an efficient manner.</p> <p>ARMY TRAINING INFORMATION SYSTEM (ATIS): The ATIS will provide a common operational picture (COP) of the training environment through integrated, interoperable training development, management, scheduling, and delivery capabilities. Existing training information systems do not provide Commanders, leaders, Soldiers, and civilians a centralized COP of the training environment that enables persistent, consistent access to the Training and Education information and products necessary to support readiness to meet emerging threats. Without ATIS, Army organizations will continue to develop and maintain a multitude of training information systems that are not part of an enterprise, thus inhibiting visualization, understanding, and informed decision making.</p> <p>ACADEMIC NETWORK VIRTUALIZATION (ANV): The Defense Language Institute Foreign Language Center (DLIFLC) academic network provides high-speed access to authentic language materials accelerating language acquisition for DoD linguists. The network provides virtualized desktop capability on mobile computing platforms to improve efficiency and security. The ANV leverages mobile computing technology to improve time on task for the DLIFLC student population. The DLIFLC has directly correlated both the speed of language acquisition and proficiency levels reached by students to the amount of exposure students have to authentic language content. The intent is to recapitalize the investment to ensure the continued functionality of the current mobile technology fleet by delivering virtual desktop capability through the student mobile devices. This will be accomplished through the replacement of end-of-life equipment to provide better virtual learning opportunities to the total force through immersive training events delivered via the web and mobile applications as well as language training detachments.</p> <p>PERSISTENT TRAINING ENVIRONMENT (PTE) CYBER RANGE: The United States Army Cyber School Virtual Training Area (CSVTA) provides global, always-on access for members of the Cyber Mission Force to hone individual skills in their own time on their own terms. It provides a safe, sandboxed environment that prevents inadvertent damage to the Department of Defense Information Network as a result of training and experimentation. The CSVTA also supports official courseware and provides for rapid changes and near-limitless scalability at a dramatically lower cost than traditional contracted Cyber Ranges. The CSVTA was developed entirely by uniformed personnel using free and open-source commercial tools and commodity hardware, which prevents vendor lock-in and maximizes the utility of increasingly-limited resources. Instead of requiring a large team of IT personnel to manage, update, and maintain, the CSVTA can be run by a very small, competent team and be grown without practical limit to support new requirements of the Cyber Mission Force at a cost comparable to large public cloud providers.</p>		

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<b>Line Item MDAP/MAIS Code:</b> N/A		
<p>U.S. AFRICA COMMAND (AFRICOM) HEADQUARTERS (HQ) AUTOMATED DATA PROCESSING EQUIPMENT (ADPE): The AFRICOM HQ ADPE provides the end user computing services and application environments for AFRICOM. It supports users at Kelly Barracks, Germany, and Molesworth, United Kingdom, with both classified and unclassified computing capabilities as well as the hardware supporting these services within the various AFRICOM offices. The systems and services include cyber protection and physical security measures to further automate infrastructure scanning and patching to identify security vulnerabilities, investigate security incidents, and take corrective actions. It provides unified communications servers integrating voice, teleconferencing, video teleconferencing, collaboration, and messaging services to enhance mission success throughout the area of operation. The video infrastructure supports increasing requirements for high definition video. It provides centralized management and control of physical and virtual servers to enhance computing capabilities and reduce the physical footprint of the hardware infrastructure that supports directory, file, and print services; web servers processing; storage and switching; data replication for Continuity of Operations Planning (COOP); and data recovery.</p> <p>U.S. SOUTHERN COMMAND (SOUTHCOM) HEADQUARTERS (HQ) AUTOMATED DATA PROCESSING EQUIPMENT (ADPE): The SOUTHCOM HQ ADPE provides the end user computing services and application environments for SOUTHCOM. It supports users at the United States Army Garrison - Miami (USAG-M) in Doral, Florida, and Security Cooperation Offices (SCO) co-located with U.S. Embassies throughout the USSOUTHCOM area of responsibility (AOR) with both classified and unclassified computing capabilities as well as the hardware supporting these services within the SOUTHCOM HQ. The systems and services include cyber protection to further automate infrastructure scanning and patching to identify security vulnerabilities, investigate security incidents, and take corrective actions. The program provides unified communications servers integrating voice, teleconferencing, video teleconferencing, collaboration, and messaging services to enhance mission success throughout the SOUTHCOM AOR. It provides centralized management and control of physical and virtual servers to enhance computing capabilities and reduce the physical footprint of the hardware infrastructure that supports directory, file, and print services; web server processing; storage and switching; data replication for Continuity of Operations Planning (COOP); and data recovery.</p> <p>U.S. EUROPEAN COMMAND (EUCOM) JOINT OPERATIONS CENTER (JOC): The EUCOM JOC modernization at Patch Barracks will improve operational network capabilities and system availability/reliability. It will integrate emerging technologies to optimize COCOM coordination, collaboration and interoperability with adjacent and subordinate commands. This effort will implement multi-enclave client back-end infrastructure, integrate additional coalition feeds into the JOC, upgrade back-end processing capabilities, and share C2 capabilities with alternate JOC locations in Stuttgart.</p> <p>U.S. EUROPEAN COMMAND (EUCOM) DEFENSE THREAT REDUCTION AGENCY (DTRA) BALANCE SURVIVABILITY ASSESSMENT REMEDIATION: During the Defense Threat Reduction Agency (DTRA) Balance Survivability Assessment inspection, DTRA identified several findings at sites across the European Theater. Remediation requirements will include the engineering, furnishing, installation, securing and testing (EFIS&amp;T) of end-to-end network redundancy, end user device redundancy, and physical diversity for critical Command and Control (C2) systems supporting EUCOM HQ staff functions and DoD primary mission essential functions (MEFs).</p> <p>ARMY KNOWLEDGE ONLINE (AKO): As the Army's Enterprise Portal and Army Intranet service provider, AKO is the centerpiece of the Army's Knowledge Management (AKM) strategy and supports the Army Campaign Plan. AKO Forward, a subset of AKO services, is designed to reduce response times for Soldiers on the edge of the Army's network (South West Asia, Europe and Pacific). AKO and AKO-Secret provide enterprise services (Single Sign-On (SSO) user authentication, global web-based collaboration, community pages, shared files and storage) for Army military, civilian, and retiree populations.</p> <p>PERSONNEL AUTOMATION SYSTEMS (BE4164):</p> <p>PERSONNEL ENTERPRISE SUPPORT-AUTOMATION (PES-A): The PES-A is an Information Technology (IT) Enterprise infrastructure acquisition program that provides integrated support to the Army Human Resources (HR) community and the Army Accessioning IT Mission which encompasses the entire automation support for the Army recruiting, accessioning, and Reserve Officers' Training Corps commissioning missions that satisfy Army manning and force strength requirements supporting the Warfighter. The PES-A is critical to the execution of the day-to-day operations for the Active Army and its components in terms of strength accounting, personnel movement, assignment actions, career management, training, recruiting, reenlistment, and mobilization by providing the hardware, network, and connectivity capabilities that serve as the technical foundation for core Army HR systems, applications, and services supporting the Warfighter. These systems include the Enlisted, Officer, and General Officer Selection Boards, the Soldier's Management System (SMS), the Wounded Warrior System, and the Defense Casualty Information Processing System (DCIPS). The PES-A supports the readiness and well-being of Army personnel enabling efficient and effective management of Soldiers world-wide. This integrated infrastructure serves as the backbone for applications to ensure that crucial data and information is available at all times to Soldiers, Army Leaders, the Department of Defense, and ultimately, Congress. The Army Accessioning IT Mission serves as an enabler for Total Army recruiting [Active, Reserve, and Army National Guard (ARNG)], in the public, educational, and commercial sectors, where the accessioning force and future force reside while exchanging data with Army and Department of Defense (DoD) automated personnel systems. The Army Accessioning IT Mission provides essential automation capabilities to field recruiters, special mission recruiters, and guidance counselors for the Regular Army, Reserves, and ARNG. It reduces administrative tasks while providing essential data on applicants and newly enlisted Soldiers to leadership. The Army Accessioning IT Mission facilitates responses to changes from Office of the Secretary of</p>		

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**Exhibit P-40, Budget Line Item Justification:** PB 2020 Army **Date:** March 2019

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 92: Elect Equip - Automation	<b>P-1 Line Item Number / Title:</b> 3002BD3000 / Automated Data Processing Equip
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Defense and Department of the Army concerning accessioning business processes. Operationally it captures applicant information and supports electronic projection of that data and supporting documents. It also provides Continuity of Operations and disaster recovery for Primary Mission Essential Function applications and databases. It maintains historical production data, produces management reports, supports the presentation of Army opportunities, and is the sole information source for delivering leads to recruiters. The Army Accessioning IT Mission also provides the overarching support structure for cyber recruiting and applicant self-processing.

UNITED STATES MILITARY ENTRANCE PROCESSING COMMAND (USMEPCOM) INTEGRATED RESOURCE SYSTEM (USMIRS): The USMIRS provides the automation and communications capability for USMEPCOM to meet its peacetime, mobilization and wartime military manpower accession mission for the Department of Defense (DoD). The USMIRS is used at 65 Military Entrance Processing Stations (MEPS) and approximately 365 Military Entrance Test (MET) sites throughout the US and its territories. The USMIRS is the only official DoD joint accession resource system that processes applicants for enlistment into all Services. It collects, stores, edits, processes, and reports applicant and enlistment data on every US Military applicant to determine their aptitude, medical, and past conduct qualifications for service. The USMIRS interfaces with the Social Security Administration, the United States Citizen and Immigration Service, the Federal Bureau of Investigation through the Office of Personnel Management, commercial and DoD drug laboratories, the recruiting services, the Defense Manpower Data Center, and many other DoD systems. The USMIRS processes approximately 926.8 thousand individual records annually through its Data Services. This program is linked to RDTE Program Element 0605013A, Project Number T04, Project Title USMEPCOM Transformation - IT Modernization.

SOLDER FOR LIFE-TRANSITION ASSISTANCE PROGRAM XXI (SFL-TAP XXI): The Transition Assistance Program (TAP-XXI) application provides an interactive, multimedia approach to pre-separation counseling and job assistance training. This application uses full motion video, graphics, and sound to train clients; and schedules clients for classroom-type instruction. It integrates a complete range of transition services and benefits for Soldiers, Department of Army civilian employees, and their family members as they transition from the military. TAP-XXI is a web-based, three-tiered application with a centralized database for all Transition sites. The user interface is browser-based, the application is based on a storefront intranet model to provide access from within Transition centers. There is no application processing on the desktops located at Transition Centers. TAP-XXI application suite consists of the following subsystems: Transition Assistance Program - Support (TAP-Support), Transition Assistance Program -Online (TAP-Online) and TAP Virtual (Immersive Terf). The infrastructure modernization will provide system stability, support expansion requirements, and ensure reliable customer support.

ACCESSIONS INFORMATION ENVIRONMENT (AIE): The AIE is a fully integrated Army-wide Enterprise Resource Planning (ERP) system for the accessions workforce to acquire the best-qualified talent (officer/enlisted) to meet all Army warfighting and manning requirements. AIE will support core accessions capabilities, including lead generation and management, prospecting, interviewing, processing, intelligence, marketing, training, leader development, and pay incentives. This system will ensure that every Army recruiter has the information needed to obtain leads for potential recruits, engender commitments, and engage communities (for example, geographic regions and universities) for direct contact with young Americans. Senior Army Leadership has accelerated AIE due to degradation of performance and unreliability of the legacy Army Recruiting Information Support System (ARISS). This program is a new start and is linked to RDTE Program Element 0605013A, Project Number FL9, Project Title Army Accessioning IT Development.

PERSONNEL AUTOMATION SYSTEMS - WEST POINT (BE4175):

US MILITARY ACADEMY (USMA) INFORMATION TECHNOLOGY (IT): The USMA is an accredited institution of higher learning graduating approximately 1,100 Second Lieutenants to support the Army each year. The USMA IT sustains the mission of the Academy as it maintains pace with Army transformation, remains a competitive Tier 1 university, and supports 4,400 Cadets in accordance with Title 10 USC 4342. Many non-DoD affiliations affect USMA IT mission requirements, specifically, the Accreditation Board of Engineering and Technology (ABET), Middle States Accreditation Board, and Computer Science Accreditation Board (CSAB). These accreditation efforts look at future plans for IT. To maintain its accreditation standards and to instruct and prepare future Army leaders to operate in the sophisticated high-tech warfare of Joint and Army Visions for 2020 and beyond, USMA must employ technology unique to the cadet education and development mission in spaces where cadets, staff, and faculty congregate and collaborate to include cadet barracks, administrative buildings, academic classrooms, and laboratories. The USMA IT is essential to every aspect of education, training, and Command and Control (C2) of the USMA and West Point Garrison. The USMA IT procurement directly supports the Army's core competency to train and equip Soldiers and to grow and develop our future leaders.

<b>Secondary Distribution</b>		<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	84.983	219.812	139.342	32.700	172.042	155.240	163.425	132.648	123.518
<b>Total:</b>	<b>Quantity</b>	-	-	-	-	-	-	-	-	-

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<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2020 Army							<b>Date:</b> March 2019			
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 92: Elect Equip - Automation					<b>P-1 Line Item Number / Title:</b> 3002BD3000 / Automated Data Processing Equip					
<b>ID Code</b> (A=Service Ready, B=Not Service Ready):			<b>Program Elements for Code B Items:</b> N/A			<b>Other Related Program Elements:</b> N/A				
<b>Line Item MDAP/MAIS Code:</b> N/A										

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Secondary Distribution	Total Obligation Authority	84.983	219.812	139.342	32.700	172.042	155.240	163.425	132.648	123.518

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**UNCLASSIFIED**

**Exhibit P-40, Budget Line Item Justification:** PB 2020 Army **Date:** March 2019

**Appropriation / Budget Activity / Budget Sub Activity:**  
2035A: Other Procurement, Army / BA 02: Communications and Electronics  
Equipment / BSA 92: Elect Equip - Automation

**P-1 Line Item Number / Title:**  
3002BD3000 / Automated Data Processing Equip

**ID Code** (A=Service Ready, B=Not Service Ready): **Program Elements for Code B Items:** N/A **Other Related Program Elements:** N/A

**Line Item MDAP/MAIS Code:** N/A

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	BD3956 / OPTICAL DIGITAL EQUIP	P-5a	A		- / 101.654	- / 1.242	- / 1.914	- / 2.431	- / -	- / 2.431
P-5	BD7000 / STRATEGIC LOGISTICS PROGRAM (SLP)	P-5a			- / 384.729	- / 0.751	- / 0.757	- / 0.772	- / -	- / 0.772
P-5	BE4161 / HQ MANAGEMENT INFORMATION SYSTEMS	P-5a			- / 940.828	- / 15.934	- / 47.531	- / 15.519	- / 9.700	- / 25.219
P-5	BE4162 / MACOM AUTOMATION SYSTEMS	P-5a			- / 1,379.167	- / 48.219	- / 132.328	- / 57.861	- / 23.000	- / 80.861
P-5	BE4164 / PERSONNEL AUTOMATION SYSTEMS	P-5a			- / 844.320	- / 15.537	- / 26.888	- / 59.509	- / -	- / 59.509
P-5	BE4175 / Personnel Automation Systems - West Point	P-5a			- / 6.180	- / 3.300	- / 10.394	- / 3.250	- / -	- / 3.250
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 3,656.878</b>	<b>- / 84.983</b>	<b>- / 219.812</b>	<b>- / 139.342</b>	<b>- / 32.700</b>	<b>- / 172.042</b>

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.

**Justification:**

**OPTICAL DIGITAL EQUIP (BD3956):**  
FY2020 Base procurement dollars in the amount of \$1.295 million support ARIMS infrastructure components to include servers, storage, routers, firewalls, and telecommunications equipment. These components are required to maintain ARIMS baseline and increase records storage capability, which is necessary for the capture of large volumes of Contingency Operations and official Army records. Technology refreshment will significantly improve research and response time in support of Veterans' Post-Traumatic Stress Disorder (PTSD) claims and Freedom of Information Act (FOIA) inquiries, reduce the data center foot print, and reduce overall maintenance costs.

FY2020 Base procurement dollars in the amount of \$1.136 million support initial iPERMS Enterprise Application Migration and life cycle replacement of hardware to include Network Area Storage, optical storage libraries, servers, system components, and related peripherals. Storage requirements grow with each year due to Army personnel records and the DoD/NARA requirement to maintain all personnel records for 62 years after separation of the individual service member. These procurements will enhance system stability, support expansion requirements, and ensure reliable customer support at all levels.

**STRATEGIC LOGISTICS PROGRAM (SLP) (BD7000):**  
FY2020 Base procurement dollars in the amount of \$0.772 million support LTA COTS/GOTS solutions that can be leveraged to create logistics efficiencies and reduce demand. These assets will be deployed at operationally relevant assessment environments to automate logistics supply, maintenance and distribution processes. Investments entail GOTS mobile devices and applications for fuel and ammunition distribution tracking; software to integrate automated feeds of fuel, ammunition and Class IX consumption/supply status into a common logistics portal; mechanics aids such as wearable technology (e.g. goggles) and augmented reality applications; and wireless communication devices to transmit the health/usage of assets to Army standard networks. FY19 funds will enable LTA to meet the objectives of the Deputy Chief of Staff G-4 to establish a connected logistics enterprise and establishes an enduring "sense and respond" logistics environment to identify opportunities to reduce Soldier touch points and decrease logistics demand through the integration of existing technologies.

**HQ MANAGEMENT INFORMATION SYSTEMS (BE4161):**  
FY2020 Base procurement dollars in the amount of \$1.376 million support HQDA ADPE requirements for replacement of aged Video Teleconferencing (VTC) systems with high definition monitors, cameras, integrated microphones, and Internet Protocol-based connectivity. Funds also support the U.S. Army Combat Readiness Center (USACRC) safety systems, audio visual equipment, and training tools.

FY2020 Base procurement dollars in the amount of \$6.768 million support global SCC requirements for systems engineering and installation of Command, Control, Communication, Computers (C4) infrastructure, hardware (hubs, servers, protected cable distribution systems, secure video teleconferencing systems, integration and monitoring equipment), software, and program management costs associated with the upgrades and modernization of integrated C4 capabilities and applications.

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<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 92: Elect Equip - Automation		<b>P-1 Line Item Number / Title:</b> 3002BD3000 / Automated Data Processing Equip
<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
<b>Line Item MDAP/MAIS Code:</b> N/A		
<p>FY2020 Base procurement dollars in the amount of \$7.375 million support USFK HQ C4IT network requirements including Lifecycle Replacement of critical network support equipment (servers, switches, routers, etc.) for Theater Mission Command networks supporting the alliance.</p> <p>FY2020 OCO Procurement dollars in the amount of \$0.650 million support the JTFMO network with the first phase of life cycle replacement of critical hardware components in the JTFMO communications infrastructure.</p> <p>FY2020 Procurement dollars in the amount of \$1.250 million support the ARSOUTH HQ with the first phase of critical SIPR upgrades, to include replacement of 10,656 MTRJ connectors, in Building 1000 at U.S. Army South HQ.</p> <p>FY2020 OCO procurement dollars in the amount of \$5.300 million support the TAAC-S COIC with a video wall, A/V system, and VTC system. It also includes modernization of all routers, switches, and network storage that support the network backbone connectivity. These systems will enable collaboration between U.S. and Afghan Forces and ensure the fastest possible transition for unit rotation at the TAAC-S COIC.</p> <p>FY2020 OCO procurement dollars in the amount of \$2.500 million support CENTRIXS-SWA lifecycle replacement of hardware and software. It includes routers at the Tier 1 level, switches at the Tier 1 and Tier 2 levels, and network storage.</p> <p>MACOM AUTOMATION SYSTEMS (BE4162): FY2020 Base procurement dollars in the amount of \$24.300 million will procure hardware and software for 2 Army Enterprise Data Centers (AEDC) located at Redstone Arsenal and Grafenwoehr, Germany. It also provides for Global Enterprise Fabric, Regional Cyber Center (RCC) fabric nodes, and installation of Base Management System (BMS) applications (software, licenses, and infrastructure) for up to at 14 regional sites.</p> <p>FY2020 Base procurement dollars in the amount of \$5.639 million support the BLCSE with critical replacement of wide area networking infrastructure equipment, which include servers, switches, and routers. It also provides for life cycle replacement of critical technical infrastructure IT equipment such as Scientific Workstations specific to the BLCSE network..</p> <p>FY2020 Base procurement dollars in the amount of \$0.442 million support TIABCSTB infrastructure and control tools including servers, virtualization hardware, switches, and blade server kits.</p> <p>FY2020 Base procurement dollars in the amount of \$0.793 million support ATIA infrastructure to include Virtual Storage Area Network storage, virtual servers, and associated software for life cycle support of the existing infrastructure.</p> <p>FY2020 Base procurement dollars in the amount of \$0.644 million support ALTESS technical refresh on mandatory core infrastructure elements of the Acquisition Domain's enterprise data center. This includes network and communication equipment, storage area network, chiller and UPS infrastructure, and various peripheral devices which allows for cost avoidance being utilized in a shared environment.</p> <p>FY2020 Base procurement dollars in the amount of \$2.868 million support ATIS infrastructure to include Virtual Storage Area Network storage, virtual servers, and associated software for life cycle support of the existing infrastructure.</p> <p>FY2020 Base procurement dollars in the amount of \$1.190 million support ANV with network equipment including servers, routers, switches, wireless access points, firewalls, Storage Area Network (SAN), and fiber optic cable.</p> <p>FY2020 Base procurement dollars in the amount of \$2.700 million support PTE CYBER Range with network equipment including switches, firewalls, and other related infrastructure.</p> <p>FY2020 Base procurement dollars in the amount of \$4.513 million support AFRICOM ADPE network devices, storage, computer hardware, and power supplies. It also procures Ethernet switches, servers (database, application, and/or web), and computing capabilities.</p>		

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<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 92: Elect Equip - Automation		<b>P-1 Line Item Number / Title:</b> 3002BD3000 / Automated Data Processing Equip
<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
<b>Line Item MDAP/MAIS Code:</b> N/A		
<p>FY2020 Base procurement dollars in the amount of \$6.277 million support SOUTHCOM ADPE network devices, computer hardware and procures audio/visual switches and displays as wells as storage.</p> <p>FY2020 Base procurement dollars in the amount of \$4.939 million support EUCOM JOC with virtual technologies, multi-enclave clients, firewalls, video teleconferencing equipment, local networking, end user devices and storage capacity supporting multiple coalition and classified enclaves.</p> <p>FY2020 OCO procurement dollars in the amount of \$23.000 million support EUCOM DTRA Remediation with networking and routing equipment such as routers, external/internal switches, firewalls, DMZs, core switches, crypto, modems, and workstations, to create redundant processing and pathways for classified C2 functionality, installation locations are within multiple facilities on Patch Barracks.</p> <p>FY2020 Base procurement dollars in the amount of \$3.556 million support AKO Tech Refresh and will include 35 appliance upgrades for Search, Single Sign On (SSO), Network Oracle, and Monitoring.</p> <p>PERSONNEL AUTOMATION SYSTEMS (BE4164): FY2020 Base procurement dollars in the amount of \$38.075 million support PES-A and AA-IAA Enterprise application migration, integration into a single architecture, and lifecycle replacement of the Human Resources Center of Excellence (HRCoE) Datacenter IT infrastructure at Ft. Knox, to include: mainframe, web and blade servers, network, backup/recovery, storage, Storage Area Network (SAN), routers, switches, load balance appliances telephony, disaster recovery equipment, Information Assurance compliance, and data center/architecture consolidation requirements.</p> <p>FY2020 Base procurement dollars in the amount of \$10.810 million will be used to purchase infrastructure items to support USMIRS, the Defense Accession Network (DAN) and general operations. This includes user equipment to support Military Health System (MHS) - GENESIS implementation, as well as lifecycle replacement items such as servers, network, backup/recovery, storage, telephony equipment, disaster recovery, and other system components to maintain security and operational support for USMIRS and administrative systems.</p> <p>FY2020 Base procurement dollars in the amount of \$0.624 million support SFL-TAP XXI with additional infrastructure, to include servers and storage devices, to support the Commanders Reporting Requirement and the Terf Immersive Migration into the HRC Data Center. The addition of servers to the TAPXXI footprint will support increasing storage requirements and improve system response times.</p> <p>FY2020 Base procurement dollars in the amount of \$10.000 million support AIE with commercial-off-the-shelf (COTS) software licenses as an enterprise software system, and training. COTS software licenses expected to be procured include the database, applications (for example, customer relationship management, data analytics, and visualization), and the user interface/system-to-system interface capabilities of AIE.</p> <p>PERSONNEL AUTOMATION SYSTEMS - WEST POINT (BE4175) FY2020 Base procurement dollars in the amount of \$3.250 million support USMA IT academic audio/visual equipment and computing capabilities for academic facilities and computer lab infrastructure; modernization to DA standards of the Academy Management System (Enterprise Resource Planning (ERP) for grades and class scheduling); Academy Management System (AMS) Modernization - Phase I, Assessment of System and Critical Mission Functions; Distributed Antenna System Academic Expansion - Phase IV - Building 606, Arvin, Bartlett; a cloud-based email system transition to a FEDRAMP certified service and migration from a local Microsoft Exchange platform to a cloud-based supported platform; expansion of the campus wireless infrastructure to support the Cadets, faculty and staff in areas where there is a continued academic requirement to be connected to the Defense Research and Engineering Network (DREN) and its available resources.</p>		



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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>													<b>Date:</b> March 2019												
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 92						<b>P-1 Line Item Number / Title:</b> 3002BD3000 / Automated Data Processing Equip						<b>Item Number / Title [DODIC]:</b> BD3956 / OPTICAL DIGITAL EQUIP													
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A									<b>MDAP/MAIS Code:</b>																
<b>Resource Summary</b>				<b>Prior Years</b>		<b>FY 2018</b>		<b>FY 2019</b>		<b>FY 2020 Base</b>		<b>FY 2020 OCO</b>		<b>FY 2020 Total</b>											
Procurement Quantity (Units in Each)				-		-		-		-		-		-											
Gross/Weapon System Cost (\$ in Millions)				101.654		1.242		1.914		2.431		-		2.431											
Less PY Advance Procurement (\$ in Millions)				-		-		-		-		-		-											
Net Procurement (P-1) (\$ in Millions)				101.654		1.242		1.914		2.431		-		2.431											
Plus CY Advance Procurement (\$ in Millions)				-		-		-		-		-		-											
<b>Total Obligation Authority (\$ in Millions)</b>				<b>101.654</b>		<b>1.242</b>		<b>1.914</b>		<b>2.431</b>		<b>-</b>		<b>2.431</b>											
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>																									
Initial Spares (\$ in Millions)				-		-		-		-		-		-											
Gross/Weapon System Unit Cost (\$ in Thousands)				-		-		-		-		-		-											
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																									
<b>Cost Elements</b>	<b>Prior Years</b>			<b>FY 2018</b>			<b>FY 2019</b>			<b>FY 2020 Base</b>			<b>FY 2020 OCO</b>			<b>FY 2020 Total</b>									
	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>							
Hardware Cost																									
Recurring Cost																									
(ARIMS) Hardware <sup>(†)</sup>	6,104.000	2	12.208	933.000	1	0.933	849.000	1	0.849	1,295.000	1	1.295	-	-	-	1,295.000	1	1.295							
(iPERMS) Hardware <sup>(†)</sup>	-	-	-	-	-	-	-	-	-	1,136.000	1	1.136	-	-	-	1,136.000	1	1.136							
<i>Subtotal: Recurring Cost</i>	-	-	12.208	-	-	0.933	-	-	0.849	-	-	2.431	-	-	-	-	-	2.431							
Non Recurring Cost																									
(iPERMS) Hardware <sup>(†)</sup>	44,365.000	2	88.730	309.000	1	0.309	1,065.000	1	1.065	-	-	-	-	-	-	-	-	-							
<i>Subtotal: Non Recurring Cost</i>	-	-	88.730	-	-	0.309	-	-	1.065	-	-	-	-	-	-	-	-	-							
<i>Subtotal: Hardware Cost</i>	-	-	100.938	-	-	1.242	-	-	1.914	-	-	2.431	-	-	-	-	-	2.431							
Software Cost																									
Non Recurring Cost																									
(iPERMS) Software	716.000	1	0.716	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-							
<i>Subtotal: Non Recurring Cost</i>	-	-	0.716	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-							
<i>Subtotal: Software Cost</i>	-	-	0.716	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-							
<b>Gross/Weapon System Cost</b>	-	-	101.654	-	-	1.242	-	-	1.914	-	-	2.431	-	-	-	-	-	2.431							
<b>Secondary Distribution</b>																<b>FY 2018</b>		<b>FY 2019</b>		<b>FY 2020 Base</b>		<b>FY 2020 OCO</b>		<b>FY 2020 Total</b>	
Army		Quantity		-		-		-		-		-		-		-									

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>	<b>Date:</b> March 2019
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<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 92	<b>P-1 Line Item Number / Title:</b> 3002BD3000 / Automated Data Processing Equip	<b>Item Number / Title [DODIC]:</b> BD3956 / OPTICAL DIGITAL EQUIP
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A	<b>MDAP/MAIS Code:</b>
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		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
<b>Secondary Distribution</b>						
	Total Obligation Authority	1.242	1.914	2.431	-	2.431
<b>Total:</b>	<b>Quantity</b>	-	-	-	-	-
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>1.242</b>	<b>1.914</b>	<b>2.431</b>	<b>-</b>	<b>2.431</b>

(t) indicates the presence of a P-5a

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**Exhibit P-5a, Procurement History and Planning: PB 2020 Army** **Date:** March 2019

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 92	<b>P-1 Line Item Number / Title:</b> 3002BD3000 / Automated Data Processing Equip	<b>Item Number / Title [DODIC]:</b> BD3956 / OPTICAL DIGITAL EQUIP
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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
(ARIMS) Hardware		2018	Various / Various	C / Various	ACC, New Jersey	Sep 2018	Oct 2019	1	933.000	Y		
(ARIMS) Hardware		2019	TBS / TBS	C / BOA	ACC, New Jersey	Aug 2019	Oct 2019	1	849.000	N		
(ARIMS) Hardware		2020	TBS / TBS	C / BOA	ACC, New Jersey	May 2020	Aug 2020	1	1,295.000	N		
(iPERMS) Hardware		2020	TBS / TBS	C / FFP	MICC, Ft. Knox, KY	May 2020	Jul 2020	1	1,136.000	N		
(iPERMS) Hardware		2018	World Wide Technology, Inc. / Maryland Heights, MO	C / FFP	MICC, Ft. Knox, KY	May 2018	May 2018	1	309.000	Y		
(iPERMS) Hardware		2019	TBS / TBS	C / FFP	MICC, Ft. Knox, KY	May 2019	Jul 2019	1	1,065.000	N		

**Remarks:**  
 All IT procurements consist of COTS/GOTS solutions; all quantities and unit costs vary by system configuration and site. ACC - Army Contracting Command; MICC - Mission and Installation Contracting Command.  
 FY18 ARIMS \$933:  
 Four Points Technology LLC, Chantilly, VA 20151, \$3  
 Four LLC, Herndon, VA \$43  
 DLT Solutions LLC, Herndon, VA, \$2  
 Carahsoft Technology Corp, Reston, VA, \$4  
 Hewlett Packard Enterprise Company, Reston, VA, \$704  
 Microtechnologies LLC, Vienna, VA \$111  
 TBS/TBS \$67

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>													<b>Date:</b> March 2019							
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 92						<b>P-1 Line Item Number / Title:</b> 3002BD3000 / Automated Data Processing Equip						<b>Item Number / Title [DODIC]:</b> BD7000 / STRATEGIC LOGISTICS PROGRAM (SLP)								
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :										<b>MDAP/MAIS Code:</b>										
<b>Resource Summary</b>				<b>Prior Years</b>		<b>FY 2018</b>		<b>FY 2019</b>		<b>FY 2020 Base</b>		<b>FY 2020 OCO</b>		<b>FY 2020 Total</b>						
Procurement Quantity (Units in Each)				-		-		-		-		-		-						
Gross/Weapon System Cost (\$ in Millions)				384.729		0.751		0.757		0.772		-		0.772						
Less PY Advance Procurement (\$ in Millions)				-		-		-		-		-		-						
Net Procurement (P-1) (\$ in Millions)				384.729		0.751		0.757		0.772		-		0.772						
Plus CY Advance Procurement (\$ in Millions)				-		-		-		-		-		-						
<b>Total Obligation Authority (\$ in Millions)</b>				<b>384.729</b>		<b>0.751</b>		<b>0.757</b>		<b>0.772</b>		<b>-</b>		<b>0.772</b>						
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>																				
Initial Spares (\$ in Millions)				-		-		-		-		-		-		-				
Gross/Weapon System Unit Cost (\$ in Thousands)				-		-		-		-		-		-		-				
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																				
<b>Cost Elements</b>		<b>Prior Years</b>			<b>FY 2018</b>			<b>FY 2019</b>			<b>FY 2020 Base</b>			<b>FY 2020 OCO</b>			<b>FY 2020 Total</b>			
		<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	
Hardware Cost																				
Non Recurring Cost																				
Logistics Technology Assessment (LTA) HW <sup>(†)</sup>		149,260.000	2	298.520	114.000	1	0.114	116.000	1	0.116	116.000	1	0.116	-	-	-	116.000	1	0.116	
<i>Subtotal: Non Recurring Cost</i>		-	-	298.520	-	-	0.114	-	-	0.116	-	-	0.116	-	-	-	-	-	0.116	
<i>Subtotal: Hardware Cost</i>		-	-	298.520	-	-	0.114	-	-	0.116	-	-	0.116	-	-	-	-	-	0.116	
Software Cost																				
Non Recurring Cost																				
Logistics Technology Assessment (LTA) SW <sup>(†)</sup>		43,104.500	2	86.209	637.000	1	0.637	641.000	1	0.641	656.000	1	0.656	-	-	-	656.000	1	0.656	
<i>Subtotal: Non Recurring Cost</i>		-	-	86.209	-	-	0.637	-	-	0.641	-	-	0.656	-	-	-	-	-	0.656	
<i>Subtotal: Software Cost</i>		-	-	86.209	-	-	0.637	-	-	0.641	-	-	0.656	-	-	-	-	-	0.656	
<b>Gross/Weapon System Cost</b>		-	-	384.729	-	-	0.751	-	-	0.757	-	-	0.772	-	-	-	-	-	0.772	
<b>Secondary Distribution</b>						<b>FY 2018</b>			<b>FY 2019</b>			<b>FY 2020 Base</b>			<b>FY 2020 OCO</b>			<b>FY 2020 Total</b>		
Army						Quantity			-			-			-			-		
						Total Obligation Authority			0.751			0.757			0.772			-		

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 92	<b>P-1 Line Item Number / Title:</b> 3002BD3000 / Automated Data Processing Equip	<b>Item Number / Title [DODIC]:</b> BD7000 / STRATEGIC LOGISTICS PROGRAM (SLP)

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :		<b>MDAP/MAIS Code:</b>				
<b>Secondary Distribution</b>		<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
<b>Total:</b>	<b>Quantity</b>	-	-	-	-	-
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	0.751	0.757	0.772	-	0.772

(t) indicates the presence of a P-5a

**UNCLASSIFIED**

<b>Exhibit P-5a, Procurement History and Planning:</b> PB 2020 Army							<b>Date:</b> March 2019				
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 92			<b>P-1 Line Item Number / Title:</b> 3002BD3000 / Automated Data Processing Equip				<b>Item Number / Title [DODIC]:</b> BD7000 / STRATEGIC LOGISTICS PROGRAM (SLP)				

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
Logistics Technology Assessment (LTA) HW		2018	Battlefield System Engineering Services / Atlanta, GA	C / FP	Redstone Arsenal, AL	Sep 2018	Dec 2018	1	114.000	Y		
Logistics Technology Assessment (LTA) HW		2019	TBS / TBS	C / FP	TBS	Aug 2019	Dec 2019	1	116.000	N		
Logistics Technology Assessment (LTA) HW		2020	TBS / TBS	C / FP	TBS	Jun 2020	Jul 2020	1	116.000	N		
Logistics Technology Assessment (LTA) SW		2018	Battlefield System Engineering Services / Atlanta, GA	C / FP	Redstone Arsenal, AL	Sep 2018	Dec 2018	1	637.000	Y		Jun 2018
Logistics Technology Assessment (LTA) SW		2019	TBS / TBS	C / FP	TBS	Aug 2019	Dec 2019	1	641.000	N		Jun 2019
Logistics Technology Assessment (LTA) SW		2020	TBS / TBS	C / FP	TBS	May 2020	Jul 2020	1	656.000	N		

**Remarks:**

All IT procurements consist of COTS/GOTS solutions; all quantities and unit costs vary by system configuration and site.

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 92	<b>P-1 Line Item Number / Title:</b> 3002BD3000 / Automated Data Processing Equip	<b>Item Number / Title [DODIC]:</b> BE4161 / HQ MANAGEMENT INFORMATION SYSTEMS

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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Resource Summary		Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity (Units in Each)		-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)		940.828	15.934	47.531	15.519	9.700	25.219
Less PY Advance Procurement (\$ in Millions)		-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)		940.828	15.934	47.531	15.519	9.700	25.219
Plus CY Advance Procurement (\$ in Millions)		-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>		<b>940.828</b>	<b>15.934</b>	<b>47.531</b>	<b>15.519</b>	<b>9.700</b>	<b>25.219</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares (\$ in Millions)	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	-	-	-	-	-	-	-

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Hardware Cost																		
Non Recurring Cost																		
(HQDA ADPE) Hardware	18,568.000	2	37.136	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(PITI) Hardware	749,689.000	1	749.689	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(DCIN/PCIS) Hardware	10,102.000	1	10.102	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SCC Hardware <sup>(†)</sup>	12,411.500	2	24.823	6,394.000	1	6.394	6,970.000	1	6.970	6,768.000	1	6.768	-	-	-	6,768.000	1	6.768
-Army Operations Center (AOC) (Pentagon)	2,053.000	1	2.053	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-Joint Special Operations Center (JSOC)	843.000	1	0.843	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
USFK Hardware <sup>(†)</sup>	1,490.000	1	1.490	5,926.000	1	5.926	16,340.000	1	16.340	7,375.000	1	7.375	-	-	-	7,375.000	1	7.375
Domain and VTC Bridge	500.000	1	0.500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FORSCOM Hardware <sup>(†)</sup>	-	-	-	-	-	-	479.000	1	0.479	-	-	-	-	-	-	-	-	-
(HQDA ADPE) USACRC Hardware <sup>(†)</sup>	-	-	-	1,505.000	1	1.505	1,261.000	1	1.261	1,376.000	1	1.376	-	-	-	1,376.000	1	1.376
(HQDA ADPE) G3 Hardware <sup>(†)</sup>	-	-	-	729.000	1	0.729	-	-	-	-	-	-	-	-	-	-	-	-

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>												<b>Date:</b> March 2019					
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 92						<b>P-1 Line Item Number / Title:</b> 3002BD3000 / Automated Data Processing Equip						<b>Item Number / Title [DODIC]:</b> BE4161 / HQ MANAGEMENT INFORMATION SYSTEMS					
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :												<b>MDAP/MAIS Code:</b>					

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
TRADOC CCOE Cyber Initiatives OCO <sup>(†)</sup>	-	-	-	-	-	-	5,140.000	1	5.140	-	-	-	-	-	-	-	-	-
TRADOC Cyber IT Training OCO <sup>(†)</sup>	-	-	-	-	-	-	7,140.000	1	7.140	-	-	-	-	-	-	-	-	-
TRADOC ICOE Intel Initiatives OCO <sup>(†)</sup>	-	-	-	-	-	-	4,514.000	1	4.514	-	-	-	-	-	-	-	-	-
ARSOUTH Windows 10 OMC-GTMO OCO <sup>(†)</sup>	-	-	-	-	-	-	1,600.000	1	1.600	-	-	-	-	-	-	-	-	-
ARSOUTH Network Proxy-GTMO OCO <sup>(†)</sup>	-	-	-	-	-	-	370.000	1	0.370	-	-	-	-	-	-	-	-	-
ARSOUTH JTF-GTMO Zero Client/VDI OCO <sup>(†)</sup>	-	-	-	-	-	-	358.000	1	0.358	-	-	-	-	-	-	-	-	-
IMCOM Operations Center/VTC Infrastructure <sup>(†)</sup>	-	-	-	-	-	-	3,359.000	1	3.359	-	-	-	-	-	-	-	-	-
G-2 FALCON-I OCO	28,500.000	1	28.500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G-2 Dionysus OCO	1,600.000	1	1.600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
JTFMO Network OCO <sup>(†)</sup>	-	-	-	-	-	-	-	-	-	-	-	-	650.000	1	0.650	650.000	1	0.650
ARSOUTH HQ Infrastructure OCO <sup>(†)</sup>	-	-	-	-	-	-	-	-	-	-	-	-	1,250.000	1	1.250	1,250.000	1	1.250
TAAC-S COIC OCO <sup>(†)</sup>	-	-	-	-	-	-	-	-	-	-	-	-	5,300.000	1	5.300	5,300.000	1	5.300
CENTRIXS-SWA OCO <sup>(†)</sup>	-	-	-	-	-	-	-	-	-	-	-	-	2,500.000	1	2.500	2,500.000	1	2.500
<i>Subtotal: Non Recurring Cost</i>	-	-	856.736	-	-	14.554	-	-	47.531	-	-	15.519	-	-	9.700	-	-	25.219
<i>Subtotal: Hardware Cost</i>	-	-	856.736	-	-	14.554	-	-	47.531	-	-	15.519	-	-	9.700	-	-	25.219
<b>Software Cost</b>																		
<b>Non Recurring Cost</b>																		
(HQDA ADPE) Software	2,256.500	2	4.513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(PITI) Software	75,840.000	1	75.840	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Non Recurring Cost</i>	-	-	80.353	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 92		<b>P-1 Line Item Number / Title:</b> 3002BD3000 / Automated Data Processing Equip
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :		<b>MDAP/MAIS Code:</b>
<b>Item Number / Title [DODIC]:</b> BE4161 / HQ MANAGEMENT INFORMATION SYSTEMS		

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
<i>Subtotal: Software Cost</i>	-	-	80.353	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Support - Program Management Cost</b>																		
Contractor Management <sup>(t)</sup>	1,869.500	2	3.739	1,380.000	1	1.380	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - Program Management Cost</i>	-	-	3.739	-	-	1.380	-	-	-	-	-	-	-	-	-	-	-	-
<b>Gross/Weapon System Cost</b>	-	-	940.828	-	-	15.934	-	-	47.531	-	-	15.519	-	-	9.700	-	-	25.219

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	-	-	-	-	-
	Total Obligation Authority	15.934	47.531	15.519	9.700	25.219
<b>Total:</b>	<b>Quantity</b>	-	-	-	-	-
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>15.934</b>	<b>47.531</b>	<b>15.519</b>	<b>9.700</b>	<b>25.219</b>

<sup>(t)</sup> indicates the presence of a P-5a

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**Exhibit P-5a, Procurement History and Planning: PB 2020 Army** **Date:** March 2019

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 92	<b>P-1 Line Item Number / Title:</b> 3002BD3000 / Automated Data Processing Equip	<b>Item Number / Title [DODIC]:</b> BE4161 / HQ MANAGEMENT INFORMATION 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
SCC Hardware		2018	Various / Various	C / FP	Various	Mar 2018	May 2018	1	6,394.000	Y		
SCC Hardware		2019	TBS / TBS	C / FP	TBS	Mar 2019	May 2019	1	6,970.000	N		
SCC Hardware		2020	TBS / TBS	C / FP	TBS	Mar 2020	May 2020	1	6,768.000	N		
USFK Hardware		2018	Various / Various	C / FFP	Various	May 2018	Jun 2018	1	5,926.000	Y		
USFK Hardware		2019	TBS / TBS	C / FFP	TBS	May 2019	Jun 2019	1	16,340.000	N		
USFK Hardware		2020	TBS / TBS	C / FFP	TBS	May 2020	Jun 2020	1	7,375.000	N		
FORSCOM Hardware		2019	TBS / TBS	C / FP	TBS	Apr 2019	Jun 2019	1	479.000	N		
(HQDA ADPE) USACRC Hardware		2018	Various / Various	C / FFP	ACC-APG, Natick, MA	Aug 2018	May 2019	1	1,505.000	Y		
(HQDA ADPE) USACRC Hardware		2019	TBS / TBS	C / FFP	TBS	Apr 2019	Jun 2019	1	1,261.000	N		
(HQDA ADPE) USACRC Hardware		2020	TBS / TBS	C / FFP	TBS	Mar 2020	Apr 2020	1	1,376.000	N		
(HQDA ADPE) G3 Hardware		2018	TBS / TBS	C / FFP	TBS	May 2018	Jul 2018	1	729.000	Y		
TRADOC CCOE Cyber Initiatives OCO		2019	TBS / TBS	C / FFP	TBS	Apr 2019	Jun 2019	1	5,140.000	N		
TRADOC Cyber IT Training OCO		2019	TBS / TBS	C / FFP	TBS	Apr 2019	Jun 2019	1	7,140.000	N		
TRADOC ICOE Intel Initiatives OCO		2019	TBS / TBS	C / FFP	TBS	Apr 2019	Jul 2019	1	4,514.000	N		
ARSOUTH Windows 10 OMC-GTMO OCO		2019	TBS / TBS	C / FFP	TBS	Apr 2019	Jul 2019	1	1,600.000	N		
ARSOUTH Network Proxy-GTMO OCO		2019	TBS / TBS	C / FFP	TBS	Mar 2019	Jun 2019	1	370.000	N		
ARSOUTH JTF-GTMO Zero Client/VDI OCO		2019	TBS / TBS	C / FFP	TBS	Mar 2019	Jul 2019	1	358.000	N		
IMCOM Operations Center/VTC Infrastructure		2019	TBS / TBS	C / FFP	TBS	Mar 2019	May 2019	1	3,359.000	N		
JTFMO Network OCO	✓	2020	TBS / TBS	C / FFP	TBS	Apr 2020	May 2020	1	650.000	N		
ARSOUTH HQ Infrastructure OCO	✓	2020	TBS / TBS	C / FFP	TBS	Apr 2020	May 2020	1	1,250.000	N		
TAAC-S COIC OCO	✓	2020	TBS / TBS	C / FFP	TBS	Apr 2020	Jul 2020	1	5,300.000	N		
CENTRIXS-SWA OCO	✓	2020	TBS / TBS	C / FFP	TBS	Jun 2020	Aug 2020	1	2,500.000	N		
Contractor Management		2018	PM I3C2 / Ft. Belvoir, VA	RO	PEO EIS, Ft. Belvoir, VA	Oct 2017	Sep 2018	1	1,380.000	N		

**Remarks:**  
 All IT procurements consist of COTS/GOTS solutions; all quantities and unit costs vary by system configuration and site. ACC-APG - Army Contracting Command-Aberdeen Proving Ground; ACC-RI - Army Contracting Command-Rock Island; PM I3C2 - Product Manager, Installation Information Infrastructure-Communications and Capabilities; PEO EIS - Program Executive Office, Enterprise Information Systems; National Security Agency; GSA T&NS - General Services Administration Telecommunications and Network Services.  
 FY18 HQDA ADPE (USACRC) \$1505  
 Iron Bow Technologies - Chantilly, VA - \$928  
 Wildflower International LTD, Sante Fe, NM - \$328

**UNCLASSIFIED**

<b>Exhibit P-5a, Procurement History and Planning:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 92	<b>P-1 Line Item Number / Title:</b> 3002BD3000 / Automated Data Processing Equip	<b>Item Number / Title [DODIC]:</b> BE4161 / HQ MANAGEMENT INFORMATION SYSTEMS
TBS/TBS \$249		

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 92	<b>P-1 Line Item Number / Title:</b> 3002BD3000 / Automated Data Processing Equip	<b>Item Number / Title [DODIC]:</b> BE4162 / MACOM AUTOMATION SYSTEMS

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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<b>Resource Summary</b>	<b>Prior Years</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Procurement Quantity (Units in Each)	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	1,379.167	48.219	132.328	57.861	23.000	80.861
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	1,379.167	48.219	132.328	57.861	23.000	80.861
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>1,379.167</b>	<b>48.219</b>	<b>132.328</b>	<b>57.861</b>	<b>23.000</b>	<b>80.861</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares (\$ in Millions)	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	-	-	-	-	-	-

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

<b>Cost Elements</b>	<b>Prior Years</b>			<b>FY 2018</b>			<b>FY 2019</b>			<b>FY 2020 Base</b>			<b>FY 2020 OCO</b>			<b>FY 2020 Total</b>		
	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>
<b>Hardware Cost</b>																		
<b>Recurring Cost</b>																		
(ATIA) Hardware <sup>(†)</sup>	1,415.000	2	2.830	557.000	1	0.557	786.000	1	0.786	793.000	1	0.793	-	-	-	793.000	1	0.793
(ANV) Hardware <sup>(†)</sup>	2,550.500	2	5.101	1,057.000	1	1.057	1,168.000	1	1.168	1,190.000	1	1.190	-	-	-	1,190.000	1	1.190
(AOS) Hardware	1,688.000	1	1.688	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(ATIS) Hardware <sup>(†)</sup>	-	-	-	-	-	-	2,700.000	1	2.700	1,663.000	1	1.663	-	-	-	1,663.000	1	1.663
<b>Subtotal: Recurring Cost</b>	-	-	<b>9.619</b>	-	-	<b>1.614</b>	-	-	<b>4.654</b>	-	-	<b>3.646</b>	-	-	-	-	-	<b>3.646</b>
<b>Non Recurring Cost</b>																		
(ACI) Army-wide Hardware <sup>(†)</sup>	155,557.500	2	311.115	20,715.000	1	20.715	45,071.000	1	45.071	23,306.000	1	23.306	-	-	-	23,306.000	1	23.306
(BLCSE) Hardware <sup>(†)</sup>	6,070.500	2	12.141	1,064.000	1	1.064	5,300.000	1	5.300	5,639.000	1	5.639	-	-	-	5,639.000	1	5.639
(TIABCSTB) Hardware <sup>(†)</sup>	2,992.000	1	2.992	818.000	1	0.818	434.000	1	0.434	442.000	1	0.442	-	-	-	442.000	1	0.442
(SPS) Hardware	3,101.000	1	3.101	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(ALTESS) Hardware <sup>(†)</sup>	44,715.000	1	44.715	-	-	-	644.000	1	0.644	644.000	1	0.644	-	-	-	644.000	1	0.644
(AcqBiz) Hardware	4,825.000	1	4.825	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(AFRICOM HQ ADPE) Hardware <sup>(†)</sup>	2,427.000	2	4.854	2,485.000	1	2.485	4,428.000	1	4.428	4,513.000	1	4.513	-	-	-	4,513.000	1	4.513
(KT) Hardware	105,171.000	1	105.171	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(DRSN) Hardware	9,653.000	1	9.653	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 92		<b>P-1 Line Item Number / Title:</b> 3002BD3000 / Automated Data Processing Equip
		<b>Item Number / Title [DODIC]:</b> BE4162 / MACOM AUTOMATION SYSTEMS
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :		<b>MDAP/MAIS Code:</b>

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
(AKO) Refresh Hardware <sup>(†)</sup>	71,534.000	1	71.534	2,797.000	1	2.797	-	-	-	3,556.000	1	3.556	-	-	-	3,556.000	1	3.556
(EKR) Hardware	1,570.000	1	1.570	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(TJAGLCS Infrastructure) Hardware <sup>(†)</sup>	1,354.000	1	1.354	417.000	1	0.417	-	-	-	-	-	-	-	-	-	-	-	-
Mission Command Facility (MCF) XVIII ABN Corp	1,504.000	1	1.504	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SOUTHCOM Hardware <sup>(†)</sup>	-	-	-	3,000.000	1	3.000	10,200.000	1	10.200	6,277.000	1	6.277	-	-	-	6,277.000	1	6.277
PTE CYBER RANGE Hardware <sup>(†)</sup>	-	-	-	1,604.000	1	1.604	2,569.000	1	2.569	2,700.000	1	2.700	-	-	-	2,700.000	1	2.700
USARPAC Hardware <sup>(†)</sup>	-	-	-	4,218.000	1	4.218	2,580.000	1	2.580	-	-	-	-	-	-	-	-	-
MDW Conmy Hall Hardware <sup>(†)</sup>	-	-	-	-	-	-	7,014.000	1	7.014	-	-	-	-	-	-	-	-	-
EUCOM ADPE Hardware <sup>(†)</sup>	-	-	-	4,887.000	1	4.887	37,538.000	1	37.538	4,939.000	1	4.939	-	-	-	4,939.000	1	4.939
EUCOM ADPE EDI <sup>(†)</sup>	-	-	-	-	-	-	-	-	-	-	-	-	23,000.000	1	23.000	23,000.000	1	23.000
IMCOM EUSTIS EMC Hardware <sup>(†)</sup>	-	-	-	-	-	-	587.000	1	0.587	-	-	-	-	-	-	-	-	-
ARCYBER AES3 OCO <sup>(†)</sup>	-	-	-	-	-	-	4,370.000	1	4.370	-	-	-	-	-	-	-	-	-
ARCYBER GMN OCO <sup>(†)</sup>	-	-	-	-	-	-	4,983.000	1	4.983	-	-	-	-	-	-	-	-	-
EUCOM EMCC JOC Fusion Wall OCO	929.000	1	0.929	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ARCENT SWA COIC Modernization OCO	6,971.000	1	6.971	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FORSCOM Data Center <sup>(†)</sup>	1,099.000	1	1.099	4,245.000	1	4.245	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Non Recurring Cost</i>	-	-	583.528	-	-	46.250	-	-	125.718	-	-	52.016	-	-	23.000	-	-	75.016
<i>Subtotal: Hardware Cost</i>	-	-	<b>593.147</b>	-	-	<b>47.864</b>	-	-	<b>130.372</b>	-	-	<b>55.662</b>	-	-	<b>23.000</b>	-	-	<b>78.662</b>
Software Cost																		
Recurring Cost																		

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 92	<b>P-1 Line Item Number / Title:</b> 3002BD3000 / Automated Data Processing Equip	<b>Item Number / Title [DODIC]:</b> BE4162 / MACOM AUTOMATION SYSTEMS

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
(ACI) R Army-wide Software	723,286.000	1	723.286	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(ATIS) Software <sup>(†)</sup>	-	-	-	-	-	-	1,956.000	1	1.956	1,205.000	1	1.205	-	-	-	1,205.000	1	1.205
<i>Subtotal: Recurring Cost</i>	-	-	723.286	-	-	-	-	-	1.956	-	-	1.205	-	-	-	-	-	1.205
Non Recurring Cost																		
(ACI) N-R Army-wide Software <sup>(†)</sup>	41,084.000	1	41.084	-	-	-	-	-	-	994.000	1	0.994	-	-	-	994.000	1	0.994
(BLSCE) Software	523.000	1	0.523	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(TIABCSTB) Software	885.000	1	0.885	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(ATIA) Software <sup>(†)</sup>	216.000	1	0.216	147.000	1	0.147	-	-	-	-	-	-	-	-	-	-	-	-
(SPS) Software	804.000	1	0.804	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(ISM) Software	835.000	1	0.835	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(KT) Software	17,049.000	1	17.049	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(TJAGLCS Infrastructure) Software <sup>(†)</sup>	637.000	1	0.637	208.000	1	0.208	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Non Recurring Cost</i>	-	-	62.033	-	-	0.355	-	-	-	-	-	0.994	-	-	-	-	-	0.994
<i>Subtotal: Software Cost</i>	-	-	785.319	-	-	0.355	-	-	1.956	-	-	2.199	-	-	-	-	-	2.199
Support - Program Management Cost																		
Contractor Management	701.000	1	0.701	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - Program Management Cost</i>	-	-	0.701	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Gross/Weapon System Cost</b>	-	-	1,379.167	-	-	48.219	-	-	132.328	-	-	57.861	-	-	23.000	-	-	80.861

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	-	-	-	-	-
	Total Obligation Authority	48.219	132.328	57.861	23.000	80.861
<b>Total:</b>	Quantity	-	-	-	-	-
<b>Secondary Distribution</b>	Total Obligation Authority	48.219	132.328	57.861	23.000	80.861

(†) indicates the presence of a P-5a

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Exhibit P-5a, Procurement History and Planning: PB 2020 Army								Date: March 2019				
Appropriation / Budget Activity / Budget Sub Activity: 2035A / 02 / 92			P-1 Line Item Number / Title: 3002BD3000 / Automated Data Processing Equip					Item Number / Title [DODIC]: BE4162 / MACOM AUTOMATION SYSTEMS				
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
(ATIA) Hardware		2018	Dell Federal Systems LP / Rock Round, TX	C / FFP	MICC, Fort Eustis, VA	May 2018	Jun 2018	1	557.000	Y		
(ATIA) Hardware		2019	TBS / TBS	C / FP	MICC, Fort Eustis, VA	Jul 2019	Sep 2019	1	786.000	N		
(ATIA) Hardware		2020	TBS / TBS	C / FP	MICC, Fort Eustis, VA	Jun 2020	Sep 2020	1	793.000	N		
(ANV) Hardware		2018	Various / Various	C / FFP	TBS	Sep 2018	Nov 2018	1	1,057.000	Y		
(ANV) Hardware		2019	TBS / TBS	C / FP	TBS	Jun 2019	Aug 2019	1	1,168.000	N		
(ANV) Hardware		2020	TBS / TBS	C / FP	TBS	Jun 2020	Aug 2020	1	1,190.000	N		
(ATIS) Hardware		2019	TBS / TBS	C / FFP	TBS	Apr 2019	Jul 2019	1	2,700.000	N		
(ATIS) Hardware		2020	TBS / TBS	C / FFP	TBS	Apr 2020	Jul 2020	1	1,663.000	N		
(ACI) Army-wide Hardware		2018	Various / Various	C / FP	ACC-APG, Aberdeen Proving Ground, MD	Apr 2018	Jun 2018	1	20,715.000	Y		
(ACI) Army-wide Hardware		2019	TBS / TBS	C / FP	ACC-APG, Aberdeen Proving Ground, MD	Apr 2019	Jun 2019	1	45,071.000	N		
(ACI) Army-wide Hardware		2020	TBS / TBS	C / FP	ACC-APG, Aberdeen Proving Ground, MD	Apr 2020	Jun 2020	1	23,306.000	N		
(BLCSE) Hardware		2018	Various / Various	C / FFP	Various	Sep 2018	Dec 2018	1	1,064.000	Y		
(BLCSE) Hardware		2019	TBS / TBS	C / FP	TBS	Jun 2019	Aug 2019	1	5,300.000	N		
(BLCSE) Hardware		2020	TBS / TBS	C / FP	TBS	Jun 2020	Aug 2020	1	5,639.000	N		
(TIABCSTB) Hardware		2018	Various / Various	C / FFP	MICC, Ft. Eustis, VA	May 2018	Jun 2018	1	818.000	Y		
(TIABCSTB) Hardware		2019	TBS / TBS	C / FFP	MICC, Ft. Eustis, VA	May 2019	Jun 2019	1	434.000	N		
(TIABCSTB) Hardware		2020	TBS / TBS	C / FFP	MICC, Ft. Eustis, VA	May 2020	Aug 2020	1	442.000	N		
(ALTESS) Hardware		2019	TBS / TBS	C / FFP	TBS	Mar 2019	May 2019	1	644.000	N		
(ALTESS) Hardware		2020	TBS / TBS	C / FFP	TBS	Mar 2020	May 2020	1	644.000	N		
(AFRICOM HQ ADPE) Hardware		2018	Various / Various	C / FP	Various	Apr 2018	Jul 2018	1	2,485.000	Y		
(AFRICOM HQ ADPE) Hardware		2019	TBS / TBS	C / FP	TBS	Apr 2019	Jul 2019	1	4,428.000	N		
(AFRICOM HQ ADPE) Hardware		2020	TBS / TBS	C / FP	TBS	Apr 2020	Jul 2020	1	4,513.000	N		
(AKO) Refresh Hardware		2018	Various / Various	C / FFP	Various	May 2018	Jul 2018	1	2,797.000	Y		
(AKO) Refresh Hardware		2020	TBS / TBS	C / FFP	TBS	Mar 2020	May 2020	1	3,556.000	N		
(TJAGLCS Infrastructure) Hardware		2018	TBS / TBS	C / FP	TBS	Feb 2018	Mar 2018	1	417.000	N		
SOUTHCOM Hardware		2018	Various / Various	C / FP	Various	Apr 2018	Jun 2018	1	3,000.000	Y		
SOUTHCOM Hardware		2019	TBS / TBS	C / FP	TBS	Apr 2019	Jun 2019	1	10,200.000	N		
SOUTHCOM Hardware		2020	TBS / TBS	C / FP	TBS	Apr 2020	Jun 2020	1	6,277.000	N		
PTE CYBER RANGE Hardware		2018	Various / Various	C / FFP	Various	Sep 2018	Oct 2018	1	1,604.000	Y		

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<b>Exhibit P-5a, Procurement History and Planning: PB 2020 Army</b>							<b>Date:</b> March 2019					
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 92			<b>P-1 Line Item Number / Title:</b> 3002BD3000 / Automated Data Processing Equip				<b>Item Number / Title [DODIC]:</b> BE4162 / MACOM AUTOMATION SYSTEMS					

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
PTE CYBER RANGE Hardware		2019	TBS / TBS	C / FP	TBS	Mar 2019	Apr 2019	1	2,569.000	N		
PTE CYBER RANGE Hardware		2020	TBS / TBS	C / FP	TBS	Mar 2020	Jun 2020	1	2,700.000	N		
USARPAC Hardware		2018	Various / Various	C / FFP	Various	May 2018	Aug 2018	1	4,218.000	Y		
USARPAC Hardware		2019	TBS / TBS	C / FFP	TBS	May 2019	Aug 2019	1	2,580.000	N		
MDW Conmy Hall Hardware		2019	TBS / TBS	C / FFP	TBS	Mar 2019	Apr 2019	1	7,014.000	N		
EUCOM ADPE Hardware		2018	GSA-FAS / Philadelphia, PA	MIPR	EUCOM, Germany	Sep 2018	Nov 2018	1	4,887.000	Y		
EUCOM ADPE Hardware		2019	TBS / TBS	C / FFP	TBS	May 2019	Jul 2019	1	37,538.000	N		
EUCOM ADPE Hardware		2020	TBS / TBS	C / FFP	TBS	Apr 2020	Jul 2020	1	4,939.000	N		
EUCOM ADPE EDI	✓	2020	TBS / TBS	C / FFP	TBS	Apr 2020	Jul 2020	1	23,000.000	N		
IMCOM EUSTIS EMC Hardware		2019	TBS / TBS	C / FFP	TBS	Jul 2019	Oct 2019	1	587.000	N		
ARCYBER AES3 OCO		2019	TBS / TBS	C / FP	TBS	Jun 2019	Aug 2019	1	4,370.000	N		
ARCYBER GMN OCO		2019	TBS / TBS	C / FP	TBS	Jul 2019	Sep 2019	1	4,983.000	N		
FORSCOM Data Center		2018	Hewlett Packard / Reston, VA	C / FFP	MICC, Ft Bragg, NC	Aug 2018	Jan 2019	1	4,245.000	Y		
(ATIS) Software		2019	TBS / TBS	C / FFP	TBS	Apr 2019	Jul 2019	1	1,956.000	N		
(ATIS) Software		2020	TBS / TBS	C / FFP	TBS	Apr 2020	Jul 2020	1	1,205.000	N		
(ACI) N-R Army-wide Software		2020	TBS / TBS	C / FFP	ACC-APG, Aberdeen Proving Ground, MD	Apr 2020	Jun 2020	1	994.000	N		
(ATIA) Software		2018	Affigent, LLC / Herndon, VA	C / FFP	MICC, Fort Eustis, VA	May 2018	Jun 2018	1	147.000	Y		
(TJAGLCS Infrastructure) Software		2018	TBS / TBS	C / FP	TBS	Jun 2018	Jul 2018	1	208.000	Y		

**Remarks:**  
 All IT procurements consist of COTS/GOTS solutions; all quantities and unit costs vary by system configuration and site. MICC - Mission Installation Contracting Center; ACC-APG - Army Contracting Command-Aberdeen Proving Ground; USACE - U.S. Army Corps of Engineers; PM I3C2 - Product Manager Installation Information Infrastructure-Communications and Capabilities; PEO EIS - Program Executive Office, Enterprise Information Systems; GSA FAS - General Services Administration-Federal Acquisition Services.  
 FY18 ACI \$20715  
 IRON BOW TECHNOLOGIES, LLC, Herndon, VA - \$16159/ ACC-APG - Ft. Huachuca, AZ  
 TBS/TBS \$4556  
 FY18 TIABCSTB \$818:  
 FORCE 3, LLC, Crofton, MD - \$407/ MICC - Ft. Eustis, VA  
 IRON BOW TECHNOLOGIES, LLC, Herndon, VA - \$261/ MICC - Presidio of Monterey (RC - West), CA  
 TBS/TBS \$150  
 FY18 ANV \$1057:  
 IRONBOW TECHNOLOGIES, LLC, Herndon, VA - \$914/ MICC - Presidio of Monterey (RC - West), CA  
 TBS/TBS \$143  
 FY18 PTE CYBER \$1604:  
 UFA,INC, Burlington, MA - \$17/ MICC - Ft. Rucker, AL  
 Affigent, LLC, Herndon, VA - \$1588/ MICC - Ft. Gordon, GA  
 FY18 BLCSE \$1064:  
 UFA,INC, Burlington, MA - \$153/ MICC - Ft. Rucker, AL



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<b>Exhibit P-5a, Procurement History and Planning:</b> PB 2020 Army		<b>Date:</b> March 2019
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<p>ZIVARO, INC, Denver, CO - \$184/ MICC - Ft. Eustis, VA  IMMIXTECHNOLOGY, INC, McLean VA - \$288/ MICC - Ft. Eustis, VA  CDW Government, LLC, Vernon Hills, IL - \$439/ MICC - Ft. Eustis, VA  FY18 AKO \$2797:  Dynamic Systems, El Segundo, CA - \$252/ACC - Joint Base McGuire-Dix-Lakehurst, NJ  Virginia Energy &amp; Lighting LLC, Chesterfield, VA - \$500/MICC - Ft. Lee, VA  Insight Public Sector, Inc., Chantilly, VA - \$323/ACC-RI - Rock Island, IL  FORCE 3, LLC, Crofton, MD - \$608/ACC-NJ - Joint Base McGuire-Dix-Lakehurst, NJ  TBS/TBS - \$1114</p>		

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 92	<b>P-1 Line Item Number / Title:</b> 3002BD3000 / Automated Data Processing Equip	<b>Item Number / Title [DODIC]:</b> BE4164 / PERSONNEL AUTOMATION SYSTEMS

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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<b>Resource Summary</b>	<b>Prior Years</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	844.320	15.537	26.888	59.509	-	59.509
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	844.320	15.537	26.888	59.509	-	59.509
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>844.320</b>	<b>15.537</b>	<b>26.888</b>	<b>59.509</b>	<b>-</b>	<b>59.509</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

<b>Cost Elements</b>	<b>Prior Years</b>			<b>FY 2018</b>			<b>FY 2019</b>			<b>FY 2020 Base</b>			<b>FY 2020 OCO</b>			<b>FY 2020 Total</b>		
	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)
<b>Hardware Cost</b>																		
<b>Recurring Cost</b>																		
(ACCHR) Recurring Hardware <sup>(†)</sup>	-	-	-	1,829.000	1	1.829	-	-	-	-	-	-	-	-	-	-	-	-
(USMA) Hardware	17,602.000	1	17.602	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(AA-IAA) Hardware Recurring	71,182.000	1	71.182	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Subtotal: Recurring Cost</b>	-	-	<b>88.784</b>	-	-	<b>1.829</b>	-	-	-	-	-	-	-	-	-	-	-	-
<b>Non Recurring Cost</b>																		
(AA-IAA) Hardware Non-Recurring	6,236.000	1	6.236	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(PES-A) Hardware <sup>(†)</sup>	344,167.000	2	688.334	8,954.000	1	8.954	18,315.000	1	18.315	38,075.000	1	38.075	-	-	-	38,075.000	1	38.075
(MIRS) Hardware <sup>(†)</sup>	22,595.000	2	45.190	4,754.000	1	4.754	7,967.000	1	7.967	10,810.000	1	10.810	-	-	-	10,810.000	1	10.810
(ACCHR) Non-Recurring Hardware	9,098.000	1	9.098	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SFL-TAP Hardware <sup>(†)</sup>	-	-	-	-	-	-	606.000	1	0.606	-	-	-	-	-	-	-	-	-
<b>Subtotal: Non Recurring Cost</b>	-	-	<b>748.858</b>	-	-	<b>13.708</b>	-	-	<b>26.888</b>	-	-	<b>48.885</b>	-	-	-	-	-	<b>48.885</b>
<b>Subtotal: Hardware Cost</b>	-	-	<b>837.642</b>	-	-	<b>15.537</b>	-	-	<b>26.888</b>	-	-	<b>48.885</b>	-	-	-	-	-	<b>48.885</b>
<b>Software Cost</b>																		
<b>Recurring Cost</b>																		

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 92	<b>P-1 Line Item Number / Title:</b> 3002BD3000 / Automated Data Processing Equip	<b>Item Number / Title [DODIC]:</b> BE4164 / PERSONNEL AUTOMATION SYSTEMS

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
AIE Software & Training <sup>(†)</sup>	-	-	-	-	-	-	-	-	-	10,000.000	1	10.000	-	-	-	10,000.000	1	10.000
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	10.000	-	-	-	-	-	10.000
Non Recurring Cost																		
(ACCHR) Software	2,441.000	1	2.441	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(Keystone) Software Non-Recurring	900.000	1	0.900	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(PES-A) Software	3,337.000	1	3.337	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SFL-TAP Software <sup>(†)</sup>	-	-	-	-	-	-	-	-	-	624.000	1	0.624	-	-	-	624.000	1	0.624
<i>Subtotal: Non Recurring Cost</i>	-	-	6.678	-	-	-	-	-	-	-	-	0.624	-	-	-	-	-	0.624
<i>Subtotal: Software Cost</i>	-	-	6.678	-	-	-	-	-	-	-	-	10.624	-	-	-	-	-	10.624
<b>Gross/Weapon System Cost</b>	-	-	844.320	-	-	15.537	-	-	26.888	-	-	59.509	-	-	-	-	-	59.509

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	-	-	-	-	-
	Total Obligation Authority	15.537	26.888	59.509	-	59.509
<b>Total:</b>	Quantity	-	-	-	-	-
<b>Secondary Distribution</b>	Total Obligation Authority	15.537	26.888	59.509	-	59.509

(†) indicates the presence of a P-5a

**UNCLASSIFIED**

**Exhibit P-5a, Procurement History and Planning: PB 2020 Army** **Date:** March 2019

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 92	<b>P-1 Line Item Number / Title:</b> 3002BD3000 / Automated Data Processing Equip	<b>Item Number / Title [DODIC]:</b> BE4164 / PERSONNEL AUTOMATION 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
(ACCHR) Recurring Hardware		2018	Various / Various	C / FP	MICC, Ft. Belvoir, VA	Aug 2019	Oct 2019	1	1,829.000	Y		
(PES-A) Hardware		2018	Various / Various	C / FFP	MICC, Ft. Knox, KY	Jun 2018	Aug 2018	1	8,954.000	Y		
(PES-A) Hardware		2019	Various / Various	C / FFP	MICC, Ft. Knox, KY	Jun 2019	Aug 2019	1	18,315.000	Y		
(PES-A) Hardware		2020	TBS / TBS	C / FFP	MICC, Ft. Knox, KY	Apr 2020	Apr 2020	1	38,075.000	N		
(MIRS) Hardware		2018	Various / Various	C / FFP	MICC, Ft. Knox, KY	Sep 2018	Oct 2018	1	4,754.000	Y		
(MIRS) Hardware		2019	TBS / TBS	C / FFP	MICC, Ft. Knox, KY	Jul 2019	Aug 2019	1	7,967.000	N		
(MIRS) Hardware		2020	TBS / TBS	C / FFP	MICC, Ft. Knox, KY	Apr 2020	Jul 2020	1	10,810.000	N		
SFL-TAP Hardware		2019	TBS / TBS	C / FFP	TBS	Apr 2019	Jul 2019	1	606.000	N		
AIE Software & Training		2020	TBS / TBS	C / FFP	ACC-NJ, Picatinny Arsenal, NJ	Mar 2020	Jun 2020	1	10,000.000	N		
SFL-TAP Software		2020	TBS / TBS	C / FFP	MICC, Ft. Knox, KY	Apr 2020	Jul 2020	1	624.000	N		

**Remarks:**  
 All IT procurements consist of COTS/GOTS solutions; all quantities and unit costs vary by system configuration and site. MICC - Mission and Installation Contracting Command; ACC-NJ - Army Contracting Command-New Jersey; MDL - McGuire-Dix-Lakehurst.  
 FY18 ACCHR \$1829  
 Dell Marketing, Austin, TX - \$263  
 Xerox Corporation - Alexandria, VA - \$1334  
 TBS/TBS \$232  
 FY18 PES-A \$8954  
 Affigent LLC - Herndon, VA - \$2802  
 World Wide Technology - Maryland Heights, MO - \$3353  
 CDW Government, LLC - Vernon Hills, IL - \$1809  
 Iron Bow Technologies - Chantilly, VA - \$129  
 INDY RDC - Indianapolis, IN - \$645  
 TBS/TBS \$216  
 FY19 PES-A \$18315  
 World Wide Technology - Maryland Heights, MO - \$1886  
 TBS/TBS \$16429  
 FY18 MIRS \$4754  
 Iron Bow Technologies - Chantilly, VA - \$2732  
 World Wide Technology - Maryland Heights, MO - \$1862  
 TBS/TBS \$160

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 92		<b>P-1 Line Item Number / Title:</b> 3002BD3000 / Automated Data Processing Equip
		<b>Item Number / Title [DODIC]:</b> BE4175 / Personnel Automation Systems - West Point

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	6.180	3.300	10.394	3.250	-	3.250
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	6.180	3.300	10.394	3.250	-	3.250
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>6.180</b>	<b>3.300</b>	<b>10.394</b>	<b>3.250</b>	<b>-</b>	<b>3.250</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares (\$ in Millions)	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	-	-	-	-	-	-

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Hardware Cost																		
Recurring Cost																		
U. S. Military Academy (USMA) Hardware <sup>(†)</sup>	3,090.000	2	6.180	3,300.000	1	3.300	10,394.000	1	10.394	3,250.000	1	3.250	-	-	-	3,250.000	1	3.250
Subtotal: Recurring Cost	-	-	6.180	-	-	3.300	-	-	10.394	-	-	3.250	-	-	-	-	-	3.250
Subtotal: Hardware Cost	-	-	<b>6.180</b>	-	-	<b>3.300</b>	-	-	<b>10.394</b>	-	-	<b>3.250</b>	-	-	-	-	-	<b>3.250</b>
<b>Gross/Weapon System Cost</b>	-	-	<b>6.180</b>	-	-	<b>3.300</b>	-	-	<b>10.394</b>	-	-	<b>3.250</b>	-	-	-	-	-	<b>3.250</b>

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army					
Quantity	-	-	-	-	-
Total Obligation Authority	3.300	10.394	3.250	-	3.250
<b>Total: Secondary Distribution</b>					
Quantity	-	-	-	-	-
Total Obligation Authority	<b>3.300</b>	<b>10.394</b>	<b>3.250</b>	<b>-</b>	<b>3.250</b>

<sup>(†)</sup> indicates the presence of a P-5a

**UNCLASSIFIED**

<b>Exhibit P-5a, Procurement History and Planning:</b> PB 2020 Army							<b>Date:</b> March 2019				
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 92			<b>P-1 Line Item Number / Title:</b> 3002BD3000 / Automated Data Processing Equip				<b>Item Number / Title [DODIC]:</b> BE4175 / Personnel Automation Systems - West Point				

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
U. S. Military Academy (USMA) Hardware		2018	Various / Various	Various	Various	Sep 2018	Sep 2018	1	3,300.000	Y		
U. S. Military Academy (USMA) Hardware		2019	Various / Various	Various	Various	Dec 2018	Apr 2019	1	10,394.000	N		
U. S. Military Academy (USMA) Hardware		2020	TBS / TBS	C / FFP	MICC, West Point, NY	Feb 2020	May 2020	1	3,250.000	N		

**Remarks:**  
 All IT procurements consist of COTS/GOTS solutions; all quantities and unit costs vary by system configuration and site. MICC - Mission and Installation Contracting Command. ACC - Army Contracting Command.  
 FY18 USMA \$3300:  
 Native American Industrial Solutions, LLC, Pawley Island, SC - \$1213/ ACC Rock Island, IL  
 Tri-Force Consulting Services, Inc., Lansdale, PA - \$1052/ MICC West Point, NY  
 Donnelly & Moore, Inc., New City, NY - \$201/ ACC Rock Island, IL  
 Iron Bow Technologies, LLC, Herndon, VA - \$464/ MICC West Point, NY  
 TBS/TBS \$370  
 FY19 USMA \$10,394  
 Blackboard, Inc., Washington DC - \$664/ ACC Rock Island, IL  
 TBS/TBS \$9730

**UNCLASSIFIED**

**Exhibit P-40, Budget Line Item Justification:** PB 2020 Army **Date:** March 2019

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 92: Elect Equip - Automation	<b>P-1 Line Item Number / Title:</b> 3004B55500 / General Fund Enterprise Business Systems Fam
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	269.978	4.465	10.976	15.802	-	15.802	12.109	4.571	-	-	-	317.901
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	269.978	4.465	10.976	15.802	-	15.802	12.109	4.571	-	-	-	317.901
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>269.978</b>	<b>4.465</b>	<b>10.976</b>	<b>15.802</b>	<b>-</b>	<b>15.802</b>	<b>12.109</b>	<b>4.571</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>317.901</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-

**Description:**

B55511 - General Fund Enterprise Business System-Sensitive Activities (GFEBs-SA): GFEBs-SA is a designated National Security System (NSS) leveraging the GFEBs base system as the Army's core financial management system certified by the Chief Financial Officers Council. The GFEBs base system has reached Full Deployment and is currently in sustainment. The Army still has classified and sensitive financial activity remaining in legacy systems that cannot be processed in the fully-fielded GFEBs system; therefore, GFEBs-SA is an essential financial program designed to enable the auditability that is needed to comply with the Chief Financial Officers (CFO) Act and the Federal Financial Management Improvement Act (FFMIA), and prevent compromise of data that could cause grave harm to U.S. forces. To protect sensitive information and enable clean auditability, the Army requires a separate instance of GFEBs operated on a secure network for processing sensitive and classified financial transactions. GFEBs-SA will integrate with GFEBs to provide secure, web-based financial execution and reporting capabilities for the Army's classified and sensitive activities. GFEBs-SA is envisioned as a fully functional GFEBs application operated on a secure network (SIPRNET), leveraging off of the sustained system design and implementation that includes additional performance requirements designed to protect sensitive intelligence operations and special operations missions. It will process Secret Collateral and below information while providing GFEBs capabilities such as distribution and execution of appropriated funds, cost management, financial reporting, and asset management. GFEBs-SA will be implemented and deployed to 3,000 users across 100 locations worldwide. GFEBs-SA will support information exchanges with organizations that support the Army's sensitive activities mission, including cross-security domain integration between SIPRNet and NIPRNet with GFEBs and other system partners. Services will be capable of being upgraded throughout the life of the program in order to incorporate advances in best business practices and technology.

BE4168 - General Fund Business Enterprise System (GFEBs): GFEBs is the Army's core financial management system for administering its General Fund. Full Deployment was reached in 2012 and the system is currently in sustainment while also conducting capability enhancements to meet policy and user needs. GFEBs follows the DoD Business Enterprise Architecture which is aligned to the mandated Federal Enterprise Architecture. GFEBs was implemented to fulfill the needs and comply with the Federal Financial Management Improvement Act, The Chief Financial Officers Act of 1990, the Government Performance and Results Act of 1993, the Government Management Reform Act of 1994, the Clinger-Cohen Act of 1996, and to fulfill the stated mission of the Assistant Secretary of the Army for Financial Management and Comptroller. GFEBs subsumed the capabilities, in full or in part, of financial systems operating in excess of 40 years including the Standard Finance System and other costly feeder systems which do not allow the Department of Defense or the U.S. government to achieve an unqualified audit opinion on its financial statements. GFEBs was developed using a commercial off-the-shelf Enterprise Resource Planning system that is certified by the Chief, Financial Officer Council and provides six core financial functions (United States General Ledger (USGL), Cost Management, Funds Control, Payable Management, Real Property, Receivable Management and Reports). GFEBs allows tactical commanders to make informed decisions with virtually real time information. On 1 October 2008, GFEBs deployed Wave 1 to end users at Fort Jackson Garrison, Defense Finance Accounting Service (DFAS) Indianapolis, and several other organizations. The Full Deployment Decision was received by the Milestone Decision Authority on 24 June 2011, and Full Deployment was achieved on 1 July 2012. In addition to providing general sustainment efforts, the program requires OPA funding to provide hardware and software upgrades needed to meet audit readiness, compliance, and SAP standards.

**UNCLASSIFIED**

<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2020 Army							<b>Date:</b> March 2019			
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 92: Elect Equip - Automation					<b>P-1 Line Item Number / Title:</b> 3004B55500 / General Fund Enterprise Business Systems Fam					
<b>ID Code</b> (A=Service Ready, B=Not Service Ready):			<b>Program Elements for Code B Items:</b> N/A			<b>Other Related Program Elements:</b> N/A				
<b>Line Item MDAP/MAIS Code:</b> N/A										

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	4.465	10.976	15.802	-	15.802	12.109	4.571	-	-
<b>Total:</b> Secondary Distribution	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	4.465	10.976	15.802	-	15.802	12.109	4.571	-	-



**UNCLASSIFIED**

**Exhibit P-40, Budget Line Item Justification:** PB 2020 Army **Date:** March 2019

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 92: Elect Equip - Automation	<b>P-1 Line Item Number / Title:</b> 3004B55500 / General Fund Enterprise Business Systems Fam
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	B55511 / GFEBS SENSITIVE ACTIVITIES	P-5a			- / 8.228	- / -	- / 6.424	- / 11.248	- / -	- / 11.248
P-5	BE4168 / General Fund Enterprise Business System	P-5a			- / 261.750	- / 4.465	- / 4.552	- / 4.554	- / -	- / 4.554
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 269.978</b>	<b>- / 4.465</b>	<b>- / 10.976</b>	<b>- / 15.802</b>	<b>- / -</b>	<b>- / 15.802</b>

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.

**Justification:**  
 B55511 - GFEBS-SA: FY20 Procurement dollars for GFEBS-SA in the amount of \$11.248 million is required for Enterprise Resource Planning (ERP) licenses and fielding activities, including deployment, user training, and on-site support to end users post-deployment.  
  
 BE4168 - GFEBS: FY20 Procurement dollars for GFEBS in the amount of \$4.554 million supports software and hardware infrastructure upgrades to bring GFEBS reporting and analytics in-line with processing performance thresholds established in the GFEBS Capabilities Production Document (CPD). Software upgrades support auditability and compliancy requirements as well as the maintenance of the system's required software standards.

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 92	<b>P-1 Line Item Number / Title:</b> 3004B55500 / General Fund Enterprise Business Systems Fam	<b>Item Number / Title [DODIC]:</b> B55511 / GFEB S SENSITIVE ACTIVITIES

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	8.228	-	6.424	11.248	-	11.248
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	8.228	-	6.424	11.248	-	11.248
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>8.228</b>	<b>-</b>	<b>6.424</b>	<b>11.248</b>	<b>-</b>	<b>11.248</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares (\$ in Millions)	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	-	-	-	-	-	-

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
<b>Software Cost</b>																		
Non Recurring Cost																		
Software <sup>(1)</sup>	8,228.000	1	8.228	-	-	-	6,424.000	1	6.424	538.000	1	0.538	-	-	-	538.000	1	0.538
Subtotal: Non Recurring Cost	-	-	8.228	-	-	-	-	-	6.424	-	-	0.538	-	-	-	-	-	0.538
Subtotal: Software Cost	-	-	<b>8.228</b>	-	-	-	-	-	<b>6.424</b>	-	-	<b>0.538</b>	-	-	-	-	-	<b>0.538</b>
<b>Package Fielding Cost</b>																		
Non Recurring Cost																		
Deployment Activities	-	-	-	-	-	-	-	-	-	10,710.000	1	10.710	-	-	-	10,710.000	1	10.710
Subtotal: Non Recurring Cost	-	-	-	-	-	-	-	-	-	-	-	10.710	-	-	-	-	-	10.710
Subtotal: Package Fielding Cost	-	-	-	-	-	-	-	-	-	-	-	<b>10.710</b>	-	-	-	-	-	<b>10.710</b>
<b>Gross/Weapon System Cost</b>	-	-	<b>8.228</b>	-	-	-	-	-	<b>6.424</b>	-	-	<b>11.248</b>	-	-	-	-	-	<b>11.248</b>

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	-	-	-	-	-
	Total Obligation Authority	-	6.424	11.248	-	11.248
<b>Total:</b>	<b>Quantity</b>	-	-	-	-	-

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 92	<b>P-1 Line Item Number / Title:</b> 3004B55500 / General Fund Enterprise Business Systems Fam	<b>Item Number / Title [DODIC]:</b> B55511 / GFEB S SENSITIVE ACTIVITIES

**ID Code** (A=Service Ready, B=Not Service Ready) : \_\_\_\_\_ **MDAP/MAIS Code:** \_\_\_\_\_

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Secondary Distribution	Total Obligation Authority	-	6.424	11.248	-	11.248

(t) indicates the presence of a P-5a

**UNCLASSIFIED**

<b>Exhibit P-5a, Procurement History and Planning:</b> PB 2020 Army							<b>Date:</b> March 2019				
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 92			<b>P-1 Line Item Number / Title:</b> 3004B55500 / General Fund Enterprise Business Systems Fam				<b>Item Number / Title [DODIC]:</b> B55511 / GFEB S SENSITIVE ACTIVITIES				

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
Software		2019	Various SW Manufacturers / Various	Various	Rock Island, IL	Oct 2018	Oct 2018	1	6,424.000	N		
Software		2020	Various SW Manufacturers / Various	Various	Rock Island, IL	Oct 2019	Oct 2019	1	538.000	Y		

**Remarks:**  
 Multiple (various) competitive contracts will be awarded for software (SW) requirements including user licenses, data storage, and system engineering tools.  
 Contract type (cost or fixed price) will be determined by the type of SW requirement.

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 92	<b>P-1 Line Item Number / Title:</b> 3004B55500 / General Fund Enterprise Business Systems Fam	<b>Item Number / Title [DODIC]:</b> BE4168 / General Fund Enterprise Business System

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	261.750	4.465	4.552	4.554	-	4.554
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	261.750	4.465	4.552	4.554	-	4.554
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>261.750</b>	<b>4.465</b>	<b>4.552</b>	<b>4.554</b>	<b>-</b>	<b>4.554</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares (\$ in Millions)	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	-	-	-	-	-	-

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
<b>Hardware Cost</b>																		
Non Recurring Cost																		
Hardware NonRecurring <sup>(f)</sup>	3,100.000	1	3.100	2,100.000	1	2.100	2,100.000	1	2.100	1,139.000	1	1.139	-	-	-	1,139.000	1	1.139
Subtotal: Non Recurring Cost	-	-	3.100	-	-	2.100	-	-	2.100	-	-	1.139	-	-	-	-	-	1.139
Subtotal: Hardware Cost	-	-	<b>3.100</b>	-	-	<b>2.100</b>	-	-	<b>2.100</b>	-	-	<b>1.139</b>	-	-	-	-	-	<b>1.139</b>
<b>Software Cost</b>																		
Recurring Cost																		
Software Recurring <sup>(f)</sup>	129,325.000	2	258.650	2,365.000	1	2.365	2,452.000	1	2.452	3,415.000	1	3.415	-	-	-	3,415.000	1	3.415
Subtotal: Recurring Cost	-	-	258.650	-	-	2.365	-	-	2.452	-	-	3.415	-	-	-	-	-	3.415
Subtotal: Software Cost	-	-	<b>258.650</b>	-	-	<b>2.365</b>	-	-	<b>2.452</b>	-	-	<b>3.415</b>	-	-	-	-	-	<b>3.415</b>
<b>Gross/Weapon System Cost</b>	<b>-</b>	<b>-</b>	<b>261.750</b>	<b>-</b>	<b>-</b>	<b>4.465</b>	<b>-</b>	<b>-</b>	<b>4.552</b>	<b>-</b>	<b>-</b>	<b>4.554</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>4.554</b>

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	-	-	-	-	-
	Total Obligation Authority	4.465	4.552	4.554	-	4.554
<b>Total:</b>	Quantity	-	-	-	-	-

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<b>Exhibit P-5, Cost Analysis:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 92	<b>P-1 Line Item Number / Title:</b> 3004B55500 / General Fund Enterprise Business Systems Fam	<b>Item Number / Title [DODIC]:</b> BE4168 / General Fund Enterprise Business System

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Secondary Distribution	Total Obligation Authority	4.465	4.552	4.554	-	4.554

(t) indicates the presence of a P-5a

**UNCLASSIFIED**

<b>Exhibit P-5a, Procurement History and Planning:</b> PB 2020 Army							<b>Date:</b> March 2019				
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 92			<b>P-1 Line Item Number / Title:</b> 3004B55500 / General Fund Enterprise Business Systems Fam				<b>Item Number / Title [DODIC]:</b> BE4168 / General Fund Enterprise Business System				

Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty <i>(Each)</i>	Unit Cost <i>(\$ K)</i>	Specs Avail Now?	Date Revision Available	RFP Issue Date
Hardware NonRecurring		2019	Various HW Manufacturers / Various	C / Various	Rock Island, IL	Oct 2018	Sep 2019	1	2,100.000	N		
Hardware NonRecurring		2020	Various HW Manufacturers / Various	C / Various	Rock Island, IL	Oct 2019	Sep 2020	1	1,139.000	N		
Software Recurring		2019	Various SW Manufacturers / Various	C / Various	Rock Island, IL	Oct 2018	Sep 2019	1	2,452.000	N		
Software Recurring		2020	Various SW Manufacturers / Various	C / Various	Rock Island, IL	Oct 2019	Sep 2020	1	3,415.000	N		

**Remarks:**

Multiple (various) competitive contracts will be awarded for hardware and software efforts to support infrastructure upgrades.

Contract type (cost or fixed price) will be determined by the type of HW or SW requirement.

**UNCLASSIFIED**

**Exhibit P-40, Budget Line Item Justification:** PB 2020 Army **Date:** March 2019

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 92: Elect Equip - Automation	<b>P-1 Line Item Number / Title:</b> 3005B66501 / High Perf Computing Mod Pgm (HPCMP)
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	4	4	4	-	4	4	4	4	1	-	25
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	248.868	66.363	66.330	67.610	-	67.610	68.477	70.852	72.276	74.607	-	735.383
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	248.868	66.363	66.330	67.610	-	67.610	68.477	70.852	72.276	74.607	-	735.383
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>248.868</b>	<b>66.363</b>	<b>66.330</b>	<b>67.610</b>	<b>-</b>	<b>67.610</b>	<b>68.477</b>	<b>70.852</b>	<b>72.276</b>	<b>74.607</b>	<b>-</b>	<b>735.383</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	-	16,590.750	16,582.500	16,902.500	-	16,902.500	17,119.250	17,713.000	18,069.000	74,607.000	-	29,415.320

**Description:**

The Department of Defense (DoD) High Performance Computing (HPC) Modernization Program, managed by the Army, supports the needs of all services for technological superiority and military dominance on the battlefield by providing advanced computational services to U.S. weapons system scientists and engineers. By exploiting continuous advances in high performance computing technology, the Defense Research, Development, Test and Evaluation (RDT&E) community is able to resolve critical scientific and engineering problems quickly and with more precision. The results of these efforts feed directly into the acquisition process by improving weapons system designs through an increased fundamental understanding of materials, aerodynamics, chemistry, fuels, acoustics, signal image recognition, electromagnetics, and other areas of basic and applied research as well as enabling advanced test and evaluation environments that allow synthetic scene generation, automatic control systems and virtual test environments. As such, HPC has been identified as a key enabling technology essential to achieving the objectives of the DoD's Science and Technology (S&T), Test and Evaluation (T&E), and acquisition communities. The program deploys supercomputers to provide world-class high performance computing (HPC) capability to the DoD-wide user community.

The HPC Modernization program provides focused modernization efforts crafted to ensure DoD's S&T and T&E communities are supported with current generation supercomputing capabilities. The HPC modernization program resulted from congressional language that recognized supercomputing as a national strategic asset and directed the DoD to focus on supercomputing modernization at laboratories and test centers to keep its forces and military systems on the leading technological edge.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army									
Quantity	4	4	4	-	4	4	4	4	1
Total Obligation Authority	66.363	66.330	67.610	-	67.610	68.477	70.852	72.276	74.607
<b>Total:</b>									
<b>Secondary Distribution</b>									
Quantity	<b>4</b>	<b>4</b>	<b>4</b>	<b>-</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>1</b>
Total Obligation Authority	<b>66.363</b>	<b>66.330</b>	<b>67.610</b>	<b>-</b>	<b>67.610</b>	<b>68.477</b>	<b>70.852</b>	<b>72.276</b>	<b>74.607</b>



**UNCLASSIFIED**

**Exhibit P-40, Budget Line Item Justification:** PB 2020 Army **Date:** March 2019

**Appropriation / Budget Activity / Budget Sub Activity:**  
 2035A: Other Procurement, Army / BA 02: Communications and Electronics  
 Equipment / BSA 92: Elect Equip - Automation

**P-1 Line Item Number / Title:**  
 3005B66501 / High Perf Computing Mod Pgm (HPCMP)

**ID Code** (A=Service Ready, B=Not Service Ready): **Program Elements for Code B Items:** N/A **Other Related Program Elements:** N/A

**Line Item MDAP/MAIS Code:** N/A

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	B66501 / High Perf Computing Mod Pgm (HPCMP)	P-5a			- / 248.868	4 / 66.363	4 / 66.330	4 / 67.610	- / -	4 / 67.610
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 248.868</b>	<b>4 / 66.363</b>	<b>4 / 66.330</b>	<b>4 / 67.610</b>	<b>- / -</b>	<b>4 / 67.610</b>

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.

**Justification:**  
 FY 2020 Base procurement dollars in the amount of \$63.610 million supports two large supercomputers for DoD Supercomputing Resource Center (DRSC) locations.  
  
 FY 2020 Base procurement in the amount of \$4.000 million is projected to support two (2) DoD HPC Project Investments (DHPs) for Army, Navy, and Air Force initiatives requiring unique specifications or computing classification above SECRET.

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 92	<b>P-1 Line Item Number / Title:</b> 3005B66501 / High Perf Computing Mod Pgm (HPCMP)	<b>Item Number / Title [DODIC]:</b> B66501 / High Perf Computing Mod Pgm (HPCMP)

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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Resource Summary		Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity (Units in Each)		-	4	4	4	-	4
Gross/Weapon System Cost (\$ in Millions)		248.868	66.363	66.330	67.610	-	67.610
Less PY Advance Procurement (\$ in Millions)		-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)		248.868	66.363	66.330	67.610	-	67.610
Plus CY Advance Procurement (\$ in Millions)		-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>		<b>248.868</b>	<b>66.363</b>	<b>66.330</b>	<b>67.610</b>	<b>-</b>	<b>67.610</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares (\$ in Millions)	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	-	16,590.750	16,582.500	16,902.500	-	16,902.500

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Hardware Cost																		
Non Recurring Cost																		
Dedicated HPC Project Investments <sup>(t)</sup>	1,539.000	9	13.851	2,275.000	2	4.550	2,291.500	2	4.583	2,000.000	2	4.000	-	-	-	2,000.000	2	4.000
Defense Supercomputing Resource Centers <sup>(t)</sup>	29,377.125	8	235.017	30,906.500	2	61.813	30,873.500	2	61.747	31,805.000	2	63.610	-	-	-	31,805.000	2	63.610
<i>Subtotal: Non Recurring Cost</i>	-	-	248.868	-	-	66.363	-	-	66.330	-	-	67.610	-	-	-	-	-	67.610
<i>Subtotal: Hardware Cost</i>	-	-	248.868	-	-	66.363	-	-	66.330	-	-	67.610	-	-	-	-	-	67.610
<b>Gross/Weapon System Cost</b>	-	-	248.868	16,590.750	4	66.363	16,582.500	4	66.330	16,902.500	4	67.610	-	-	-	16,902.500	4	67.610

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	4	4	4	-	4
	Total Obligation Authority	66.363	66.330	67.610	-	67.610
<b>Total: Secondary Distribution</b>	Quantity	4	4	4	-	4
	Total Obligation Authority	66.363	66.330	67.610	-	67.610

<sup>(t)</sup> indicates the presence of a P-5a

**UNCLASSIFIED**

**Exhibit P-5a, Procurement History and Planning: PB 2020 Army** **Date:** March 2019

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 92	<b>P-1 Line Item Number / Title:</b> 3005B66501 / High Perf Computing Mod Pgm (HPCMP)	<b>Item Number / Title [DODIC]:</b> B66501 / High Perf Computing Mod Pgm (HPCMP)
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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
Dedicated HPC Project Investments		2017	Cray, Inc. / Seattle, WA	C / CR	Navy (OPNAV N974B)	Aug 2017	Oct 2017	1	2,577.300	Y		
Dedicated HPC Project Investments		2017	HPE / Vienna, VA	SS / FFP	Army (ATEC)	Sep 2017	Nov 2017	1	1,958.800	Y		Aug 2017
Dedicated HPC Project Investments		2018	TBD / TBD	TBD	TBD	Sep 2018	May 2019	2	2,275.000	N		Jul 2018
Dedicated HPC Project Investments		2019	TBD / TBD	TBD	TBD	Sep 2019	May 2020	2	2,291.500	N		Jul 2018
Dedicated HPC Project Investments		2020	TBD / TBD	TBD	TBD	Sep 2020	May 2021	2	2,000.000	N		Jul 2020
Defense Supercomputing Resource Centers		2017	HPE / SGI / Annapolis Junction, MD	C / BOA	AFRL, Wright Patterson AFB	Sep 2017	Feb 2018	1	27,039.000	Y		Mar 2017
Defense Supercomputing Resource Centers		2017	HPE/SGI / Annalpolis Junction, MD	C / BOA	Navy DSRC Stennis Space Ctr	Sep 2017	Feb 2018	1	27,039.000	Y		Mar 2017
Defense Supercomputing Resource Centers		2018	TBD / TBD	C / BOA	Army ERDC DSRC, Vicksburg, MS	Sep 2018	Feb 2019	1	30,906.500	N		Mar 2018
Defense Supercomputing Resource Centers		2018	TBD - 1 / TBD - 1	C / BOA	Army ARL DSRC, Aberdeen, MD	Sep 2018	Feb 2019	1	30,906.500	N		Mar 2018
Defense Supercomputing Resource Centers		2019	TBD / TBD	C / BOA	AFRL, Wright Patterson AFB	Sep 2019	Feb 2020	1	31,253.900	N		Mar 2019
Defense Supercomputing Resource Centers		2019	TBD - 1 / TBD - 1	C / BOA	Navy DSRC Stennis Space Ctr	Sep 2019	Feb 2020	1	31,253.900	N		Mar 2019
Defense Supercomputing Resource Centers		2020	TBD / TBD	C / BOA	Army ERDC DSRC, Vicksburg, MS	Sep 2020	Feb 2021	1	31,805.000	N		Mar 2020
Defense Supercomputing Resource Centers		2020	TBD - 1 / TBD - 1	C / BOA	Army ARL DSRC, Aberdeen, MD	Sep 2020	Feb 2021	1	31,805.000	N		Mar 2020

**Remarks:**  
The High Performance Computing Modernization Program (HPCMP) has a five year broad ordering agreement (BOA) arrangement through Huntsville Engineering Support Center (Army Corps of Engineers), increasing speed to award and acceptance. All procurements are commercial off the shelf or government off the shelf (COTS/GOTS).

**UNCLASSIFIED**

**Exhibit P-40, Budget Line Item Justification:** PB 2020 Army **Date:** March 2019

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 92: Elect Equip - Automation	<b>P-1 Line Item Number / Title:</b> 3009B66001 / Contract Writing System
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	0.789	1.001	5.927	15.000	-	15.000	8.468	5.827	-	-	-	37.012
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	0.789	1.001	5.927	15.000	-	15.000	8.468	5.827	-	-	-	37.012
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>0.789</b>	<b>1.001</b>	<b>5.927</b>	<b>15.000</b>	<b>-</b>	<b>15.000</b>	<b>8.468</b>	<b>5.827</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>37.012</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-

**Description:**

The Army Contract Writing System (ACWS) will be the Army's single next-generation, enterprise-wide contract writing, management, execution, and close-out software system. ACWS will facilitate the standardization of Army Procurement business processes and streamline the integration with Army Enterprise Resource Planning (ERP) systems. As a financial feeder system, ACWS will meet the compliance requirements of the Federal Financial Management Improvement Act of 1996 (FFMIA). The system will meet the full scope of Army Contracting requirements, including those in secure and non-secure locations, those supporting combat or non-combat contingencies, those within or outside the borders of the Continental United States, those supporting grants and assistance agreements, and those performing weapons systems, construction, installation, and other specialized contracting activities. This is consistent with Undersecretary of Defense, Acquisition, Technology and Logistics (USD(AT&L)) Memorandum; Department of Defense (DoD) Functional Contract Writing and Administration, dated 21 October 2011, which directed each of the Services to develop a new contract writing system. Accordingly, Army received an OSD Deputy Chief Management Officer (DCMO) validated problem statement and the Army Acquisition Executive approved the ACWS Materiel Development Decision (MDD) on 29 October 2014. On 24 March 2016, the USD(AT&L) signed the program's RFP Release Acquisition Decision Memorandum (ADM) which designated ACWS as an unbaselined, Major Automated Information System Acquisition Category IAM program, and approved the Army's request to release an RFP to industry to procure a Commercial-off-the-Shelf (COTS) system. Since awarding a contract to CGI Federal Inc. on 22 May 2017, the program recently completed a robust risk reduction effort that aligned Army's business processes to the selected commercial-off-the-shelf product and reduced unnecessary requirements and interfaces. In August 2018, the program conducted a successful Baseline Authority to Proceed decision and obtained the Army Acquisition Executive's approval to award initial development task order. ACWS is on track to deploy a Minimum Viable Solution (MVS) to two pilot units in late FY19 early FY20 and achieve Initial Operational Capability (IOC) NLT 3Q FY20.

ACWS was approved by The Under Secretary of Defense for Acquisition and Sustainment (USD(A&S)) as one of the pilot programs supporting the FY 2018 National Defense Authorization Act (NDAA) Section 873 Agile Pilots. The duration of the ACWS 873 Pilot Program is planned through Full Development. As part of the Sec 873 activities ACWS is realigning and restructuring during the IOC development which will include a contract structure that enables Agile best practices and incremental capability delivery to the field. ACWS, as Sec 873 Agile Pilot Program, will support OSD need to quickly identify lessons learned, reduce procedural delays, improve policy, and enhance workforce training. Sec 873 Pilot Programs, such as ACWS, are intended to deliver greater capability to the Army rapidly and at lowered costs. Sec 873 Pilot provides programs the opportunity to restructure in order to streamline contract and acquisition approaches and tear down barriers to agile development without penalty. Lessons learned will be used to help shape agile policy, processes and tools for DoD.

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**Exhibit P-40, Budget Line Item Justification:** PB 2020 Army **Date:** March 2019

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 92: Elect Equip - Automation	<b>P-1 Line Item Number / Title:</b> 3009B66001 / Contract Writing System
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	B66002 / Army Contract Writing System				- / 0.789	- / 1.001	- / 5.927	- / 15.000	- / -	- / 15.000
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 0.789</b>	<b>- / 1.001</b>	<b>- / 5.927</b>	<b>- / 15.000</b>	<b>- / -</b>	<b>- / 15.000</b>

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.

**Justification:**  
 FY 2020 base procurement funds in the amount of \$15.000 million procure additional requisite ACWS software licenses for Initial Operating Capability (IOC) (estimated delivery to 4,500 users for receiving IOC capability). The license procurement supports pre-deployment activities including establishing both training and deployment teams for the IOC Release which will be deployed in first quarter FY 2021. Funding also supports system fielding activities (Organization Change Management) throughout the Acquisition, Testing, and Deployment Phase.

**UNCLASSIFIED**

**Exhibit P-5, Cost Analysis: PB 2020 Army** **Date:** March 2019

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 92	<b>P-1 Line Item Number / Title:</b> 3009B66001 / Contract Writing System	<b>Item Number / Title [DODIC]:</b> B66002 / Army Contract Writing System
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**ID Code** (A=Service Ready, B=Not Service Ready) : **MDAP/MAIS Code:**

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	0.789	1.001	5.927	15.000	-	15.000
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	0.789	1.001	5.927	15.000	-	15.000
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>0.789</b>	<b>1.001</b>	<b>5.927</b>	<b>15.000</b>	<b>-</b>	<b>15.000</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Software Cost																		
Recurring Cost																		
Software License	789.000	1	0.789	-	-	1.001	5,927.000	1	5.927	15,000.000	1	15.000	-	-	-	15,000.000	1	15.000
<i>Subtotal: Recurring Cost</i>	-	-	0.789	-	-	1.001	-	-	5.927	-	-	15.000	-	-	-	-	-	15.000
<i>Subtotal: Software Cost</i>	-	-	0.789	-	-	1.001	-	-	5.927	-	-	15.000	-	-	-	-	-	15.000
<b>Gross/Weapon System Cost</b>	-	-	<b>0.789</b>	-	-	<b>1.001</b>	-	-	<b>5.927</b>	-	-	<b>15.000</b>	-	-	-	-	-	<b>15.000</b>

**UNCLASSIFIED**

**Exhibit P-40, Budget Line Item Justification:** PB 2020 Army **Date:** March 2019

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 92: Elect Equip - Automation	<b>P-1 Line Item Number / Title:</b> 3051BD3501 / CSS Communications
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	386.049	-	-	24.700	-	24.700	57.700	80.000	109.600	116.300	-	774.349
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	386.049	-	-	24.700	-	24.700	57.700	80.000	109.600	116.300	-	774.349
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>386.049</b>	-	-	<b>24.700</b>	-	<b>24.700</b>	<b>57.700</b>	<b>80.000</b>	<b>109.600</b>	<b>116.300</b>	-	<b>774.349</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	14.702	-	14.702	14.652	15.595	14.431	14.372	-	29.293

**Description:**

The Combat Service Support (CSS) Communications funding line supports the Army's Network Modernization Strategy Line Of Effort (LOE) 1 (Unified Network).

The Combat Service Support (CSS) Communications program funding line will support the Army's full spectrum logistics communication requirements currently supported under two programs: A wireless capability, Combat Service Support Automated Information System Interface (CAISI) and Combat Service Support Satellite Communications (CSS SATCOM) Very Small Aperture Terminal (VSAT) terminal capability. The SATCOM VSAT Terminal augments the tactical communications network of the current force, at all logistics levels, with tailored commercial off-the-shelf (COTS) network capabilities for enabling Sustainment Information Systems (SIS) communications. Currently the VSAT and CAISI programs have a ROM of 32,600 end items fielded; 3,600 VSAT terminals and 36,175 CAISI systems (Fielded at an 8 to 1 ratio) supporting Army logistics operations, all of which were originally fielded in 2004 and cannot be technically or economically sustained past their 2022 end of life.

The VSAT modernization terminals are a COTS solution that will provide the (DoD Information Network -Army) DODIN-A access which SIS rely on, at home station (garrison) and into the tactical, operational and strategic battle space. This connectivity is provided where and when it is needed by user supported hardware, to support SIS within personnel administrative and logistical support areas, sustainment nodes, and even as far down as maintenance support teams providing front line maintenance actions. The emergence of new sustainment business process systems that use Enterprise Resource Planning (ERP) software, such as Global Combat Support System-Army (GCSS-Army), Integrated Personnel and Pay System-Army (IPPS-A) and GCSS-Marine, require global connectivity capabilities. These programs and associated data are enterprise level services that require units to have reliable, redundant and continuous reach back capabilities to the DODIN. Terminals will be optimized for sustainment operations in support of the Army as a component of a Joint Force and have the capabilities to support the Army's strategy for transitioning to Transport Convergence.

The CAISI modernization provides wireless and wired network access point services, which functions as a gateway to the enterprise data network in both the deployed and garrison environment. The wireless capability is a user operated and maintained system for SIS to exchange information, which is transmitted over COTS equipment utilizing the Transport Control Protocol/Internet Protocol networks. The CAISI overcomes current wireless and wired network security and distance limitations, by leveraging modern wireless technology and firewalls, which will increase the cyber secure security posture and be maintainable into the future.

The current iterations of the VSAT and CAISI programs were procured at a total RDT&E and Procurement cost of \$506.6M across two funding lines. The VSAT program began in 2004 and required \$325.3M in OPA, while CAISI was a pre-existing system and required \$56.5M RDT&E and \$124.8M OPA. Both the VSAT and CAISI system's technology is at end of life in 2022. O&M requirements to continue sustainment of the original systems are forecasted to drastically increase beyond 2022, as components are no longer in production or supported by manufacturers.

**UNCLASSIFIED**

<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 92: Elect Equip - Automation		<b>P-1 Line Item Number / Title:</b> 3051BD3501 / CSS Communications
<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
<b>Line Item MDAP/MAIS Code:</b> N/A		
Currently, all funding for VSAT and CAISI is under BD3501/3513 (CSS SATCOM VSAT). These requirements will be broken out into BD3513 (CSS SATCOM VSAT) and BD3512 (CAISI) in future budget submissions.		



**UNCLASSIFIED**

**Exhibit P-40, Budget Line Item Justification:** PB 2020 Army **Date:** March 2019

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 92: Elect Equip - Automation	<b>P-1 Line Item Number / Title:</b> 3051BD3501 / CSS Communications
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	BD3513 / CSS SATCOM	P-5a			- / 386.049	- / -	- / -	- / 24.700	- / -	- / 24.700
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 386.049</b>	<b>- / -</b>	<b>- / -</b>	<b>- / 24.700</b>	<b>- / -</b>	<b>- / 24.700</b>

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.

**Justification:**

The Combat Service Support (CSS) Communications funding line supports the Army's Network Modernization Strategy Line Of Effort (LOE) 1 (Unified Network).

FY 2020 Base procurement dollars in the amount of \$24.700 million procures the modernization of Combat Service Support Automated Information Systems (CAISI) wireless capability and the Very Small Aperture Terminal (VSAT) for Beyond Line Of Sight (BLOS) (\$8.954 million for CAISI INC 2/ \$15.746 million for VSAT). Equipment is critical for a more capable and cyber resilient replacement for existing VSAT/CAISI systems which are at end of life in 2022. Deployable satellite-based tactical logistics communication systems that include a wireless Local Area Network (LAN), support logisticians in deployed motor pools, warehouses, and airfields not collocated with Command Post Communications networks. Tactical satellite communications systems will deliver faster wireless with more efficient and secure commercial antenna solutions supporting Enterprise Resource Planning (ERP) software, such as Global Combat Support System-Army (GCSS-Army), Integrated Personnel and Pay System-Army (IPPS-A) and GCSS-Marine.

Currently, all funding for VSAT and CAISI is under BD3501/3513 (CSS SATCOM VSAT). These requirements will be broken out into BD3513 (CSS SATCOM VSAT) and BD3512 (CAISI) in future budget submissions.

IAW Section 1815 of the FY08 NDAA this item is necessary for use by the active components and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities."

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 92	<b>P-1 Line Item Number / Title:</b> 3051BD3501 / CSS Communications	<b>Item Number / Title [DODIC]:</b> BD3513 / CSS SATCOM

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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<b>Resource Summary</b>	<b>Prior Years</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	386.049	-	-	24.700	-	24.700
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	386.049	-	-	24.700	-	24.700
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>386.049</b>	-	-	<b>24.700</b>	-	<b>24.700</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	14.702	-	14.702

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

<b>Cost Elements</b>	<b>Prior Years</b>			<b>FY 2018</b>			<b>FY 2019</b>			<b>FY 2020 Base</b>			<b>FY 2020 OCO</b>			<b>FY 2020 Total</b>		
	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)	<b>Unit Cost</b> (\$ K)	<b>Qty</b> (Each)	<b>Total Cost</b> (\$ M)
<b>Flyaway Cost</b>																		
Recurring Cost																		
Combat Service Support Automated Information Systems (CAISI) Modernization <sup>(1)</sup>	-	-	193.025	-	-	-	-	-	-	50.541	157	7.935	-	-	-	50.541	157	7.935
Very Small Aperture Terminal (VSAT) Modernization <sup>(1)</sup>	-	-	193.024	-	-	-	-	-	-	169.312	93	15.746	-	-	-	169.312	93	15.746
<i>Subtotal: Recurring Cost</i>	-	-	<i>386.049</i>	-	-	-	-	-	-	-	-	<i>23.681</i>	-	-	-	-	-	<i>23.681</i>
<i>Subtotal: Flyaway Cost</i>	-	-	<i>386.049</i>	-	-	-	-	-	-	-	-	<i>23.681</i>	-	-	-	-	-	<i>23.681</i>
<b>Support - Program Management Cost</b>																		
Government Management	-	-	-	-	-	-	-	-	-	-	-	0.651	-	-	-	-	-	0.651
<i>Subtotal: Support - Program Management Cost</i>	-	-	-	-	-	-	-	-	-	-	-	<i>0.651</i>	-	-	-	-	-	<i>0.651</i>
<b>Support - System Engineering Cost</b>																		
System Engineering	-	-	-	-	-	-	-	-	-	-	-	0.368	-	-	-	-	-	0.368
<i>Subtotal: Support - System Engineering Cost</i>	-	-	-	-	-	-	-	-	-	-	-	<i>0.368</i>	-	-	-	-	-	<i>0.368</i>
<b>Gross/Weapon System Cost</b>	-	-	<b>386.049</b>	-	-	-	-	-	-	<b>14.702</b>	-	<b>24.700</b>	-	-	-	<b>14.702</b>	-	<b>24.700</b>

**Remarks:**

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 92	<b>P-1 Line Item Number / Title:</b> 3051BD3501 / CSS Communications	<b>Item Number / Title [DODIC]:</b> BD3513 / CSS SATCOM
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>	
Ratio of equipment for modernization being procured will be dictated by finalization of revised requirements document.		
Currently, all funding for modernization of VSAT and CAISI is under BD3501/3513 (CSS SATCOM VSAT). These requirements need to be broken out into BD3513 (CSS SATCOM VSAT) and BD3512 (CAISI). The BD3512 (CAISI) needs to be re-activated in order to align requirements and funding properly. Also, quantities reflected on P40 are incorrect and should align with breakout in P5.		
(t) indicates the presence of a P-5a		

**UNCLASSIFIED**

**Exhibit P-5a, Procurement History and Planning:** PB 2020 Army **Date:** March 2019

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 92	<b>P-1 Line Item Number / Title:</b> 3051BD3501 / CSS Communications	<b>Item Number / Title [DODIC]:</b> BD3513 / CSS SATCOM
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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
Combat Service Support Automated Information Systems (CAISI) Modernization		2020	TBD / TBD	C / FFP	ACC-RI	Jan 2020	Jan 2021	157	50.541	N		
Very Small Aperture Terminal (VSAT) Modernization		2020	TBD / TBD	C / FFP	ACC-RI	Jan 2020	Jan 2021	93	169.312	N		

**UNCLASSIFIED**

**Exhibit P-40, Budget Line Item Justification:** PB 2020 Army **Date:** March 2019

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 92: Elect Equip - Automation	<b>P-1 Line Item Number / Title:</b> 9956BE4167 / Reserve Component Automation Sys (RCAS)
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	1,899.071	26.183	27.896	27.879	-	27.879	14.864	14.424	-	-	-	2,010.317
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	1,899.071	26.183	27.896	27.879	-	27.879	14.864	14.424	-	-	-	2,010.317
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>1,899.071</b>	<b>26.183</b>	<b>27.896</b>	<b>27.879</b>	<b>-</b>	<b>27.879</b>	<b>14.864</b>	<b>14.424</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>2,010.317</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-

**Description:**

The Reserve Component Automation System (RCAS) is the Army's system of choice and record for all Reserve Component commands mobilizing their citizen soldiers for disaster response, homeland security, and overseas deployment. Established in response to a Government Accountability Office report on the Army Reserve Component's inability to provide timely and accurate mobilization data, the system now dramatically improves the Army's and the States' ability to organize, train, equip and mobilize their Citizen Soldiers.

RCAS provides 15 web-based, virtualized software applications that support the Army Reserve Component's requirements for managing Force Structure, Mobilization, Personnel, and Safety and Occupational Health. RCAS was fully deployed in 2004 and is currently in sustainment, which includes modifications/updates to RCAS software, infrastructure refresh of end-user devices and network hardware, and end-user training. RCAS has been successfully utilized in response to 9/11, Homeland Security missions, National Training exercises, Disaster Relief, and Operations Iraqi Freedom, New Dawn, Enduring Freedom and Freedom's Sentinel.

The OPA funding allows to securely link approximately 10,500 Army Reserve (USAR) and Army National Guard (ARNG) units at roughly 4,000 sites in 50 States, Washington, DC, Guam, Puerto Rico, and the Virgin Islands; this allows the Reserve Component units to connect to DODIN-A and access DA and DoD enterprise applications that support readiness, force management, mobilization and safety and occupational health. The RCAS network hardware infrastructure is refreshed on a five-year cycle, replacing approximately 20% of the fielded infrastructure per year.

**UNCLASSIFIED**

**Exhibit P-40, Budget Line Item Justification:** PB 2020 Army **Date:** March 2019

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 92: Elect Equip - Automation	<b>P-1 Line Item Number / Title:</b> 9956BE4167 / Reserve Component Automation Sys (RCAS)
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	BE4167 / Reserve Component Automation Sys (RCAS)	P-5a			- / 1,899.071	- / 26.183	- / 27.896	- / 27.879	- / -	- / 27.879
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 1,899.071</b>	<b>- / 26.183</b>	<b>- / 27.896</b>	<b>- / 27.879</b>	<b>- / -</b>	<b>- / 27.879</b>

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.

**Justification:**  
 FY 2020 Base procurement dollars in the amount of \$27.879 million will support 20% refresh of the RCAS network hardware infrastructure. Funding supports network modernization at 746 Army National Guard (ARNG) Readiness and U.S. Army Reserve (USAR) Centers, which represents 20% of the 3,731 fielded ARNG Readiness and USAR Centers. The refresh schedule is based on a 5-year cycle. RCAS executes a single network hardware procurement contract for refresh of 746 sites with FY20 funds. The level of effort for Technical Refresh of each site (ARNG/USAR readiness centers) is different depending on the construct of the operation. Tech Refresh at the scheduled sites is planned in advance on a 5-year cycle, but age and performance dictate the amount of Technical Refresh at the scheduled sites so it is not always a one for one replacement of hardware. The program will support network hardware and software refresh to ARNG and USAR commands and units based on priorities established by the respective Components. The program will satisfy agency information technology mandates with respect to information assurance, net worthiness, server consolidation, and a common operating environment.

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 92	<b>P-1 Line Item Number / Title:</b> 9956BE4167 / Reserve Component Automation Sys (RCAS)	<b>Item Number / Title [DODIC]:</b> BE4167 / Reserve Component Automation Sys (RCAS)

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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<b>Resource Summary</b>	<b>Prior Years</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Procurement Quantity (Units in Each)	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	1,899.071	26.183	27.896	27.879	-	27.879
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	1,899.071	26.183	27.896	27.879	-	27.879
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>1,899.071</b>	<b>26.183</b>	<b>27.896</b>	<b>27.879</b>	<b>-</b>	<b>27.879</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares (\$ in Millions)	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	-	-	-	-	-	-

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

<b>Cost Elements</b>	<b>Prior Years</b>			<b>FY 2018</b>			<b>FY 2019</b>			<b>FY 2020 Base</b>			<b>FY 2020 OCO</b>			<b>FY 2020 Total</b>		
	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ K)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>
<b>Hardware Cost</b>																		
<b>Recurring Cost</b>																		
Life Cycle Replacement Hardware <sup>(t)</sup>	949,535.500	2	1,899.071	26,183.000	1	26.183	27,896.000	1	27.896	27,879.000	1	27.879	-	-	-	27,879.000	1	27.879
<i>Subtotal: Recurring Cost</i>	-	-	1,899.071	-	-	26.183	-	-	27.896	-	-	27.879	-	-	-	-	-	27.879
<i>Subtotal: Hardware Cost</i>	-	-	1,899.071	-	-	26.183	-	-	27.896	-	-	27.879	-	-	-	-	-	27.879
<b>Gross/Weapon System Cost</b>	-	-	1,899.071	-	-	26.183	-	-	27.896	-	-	27.879	-	-	-	-	-	27.879

<sup>(t)</sup> indicates the presence of a P-5a

**UNCLASSIFIED**

<b>Exhibit P-5a, Procurement History and Planning:</b> PB 2020 Army							<b>Date:</b> March 2019					
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 92			<b>P-1 Line Item Number / Title:</b> 9956BE4167 / Reserve Component Automation Sys (RCAS)				<b>Item Number / Title [DODIC]:</b> BE4167 / Reserve Component Automation Sys (RCAS)					

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
Life Cycle Replacement Hardware		2018	CACI Enterprise Solutions, INC / Reston, VA	C / CR	Washington, DC	Mar 2018	Apr 2018	1	26,183.000	Y		Nov 2017
Life Cycle Replacement Hardware		2019	TBD / TBD	C / CR	TBD	Mar 2019	Apr 2019	1	27,896.000	Y		Nov 2018
Life Cycle Replacement Hardware		2020	TBD / TBD	C / CR	TBD	Mar 2020	Apr 2020	1	27,879.000	N		

**Remarks:**  
CACI Enterprise Solutions Inc. is the prime contractor for RCAS. All items are COTS/GOTS solutions.



**UNCLASSIFIED**

**Exhibit P-40, Budget Line Item Justification:** PB 2020 Army **Date:** March 2019

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 95: Elect Equip - Audio Visual Sys (A/V)	<b>P-1 Line Item Number / Title:</b> 9993B68501 / TACTICAL DIGITAL MEDIA
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	1.391	4.441	4.392	-	-	-	-	-	-	-	-	10.224
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	1.391	4.441	4.392	-	-	-	-	-	-	-	-	10.224
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>1.391</b>	<b>4.441</b>	<b>4.392</b>	-	-	-	-	-	-	-	-	<b>10.224</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	34.775	29.607	29.280	-	-	-	-	-	-	-	-	30.071

**Description:**

Tactical Digital Media (TDM) provides Army Combat Camera (COMCAM), Public Affairs (PA), and Military Information Support Operations (MISO) a modernized and robust, state-of-the-art, standardized, and resourced set of capabilities to acquire and process digital media/visual information (VI) products for delivery within a fully integrated Army tactical network operations environment and the Defense Video & Imagery Distribution System (DVIDS).

**Justification:**

This program has no FY 2020 funding.

In accordance with Section 1815 of the FY 2008 National Defense Authorization Act (P.L. 110-181), this item is necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities.

**UNCLASSIFIED**

**Exhibit P-40, Budget Line Item Justification:** PB 2020 Army **Date:** March 2019

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 95: Elect Equip - Audio Visual Sys (A/V)	<b>P-1 Line Item Number / Title:</b> 9998BL5300 / Items Less Than \$5M (Surveying Equipment)
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	13	27	13	30	-	30	30	-	-	-	-	113
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	66.658	3.414	1.970	5.000	-	5.000	5.000	-	-	-	-	82.042
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	66.658	3.414	1.970	5.000	-	5.000	5.000	-	-	-	-	82.042
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>66.658</b>	<b>3.414</b>	<b>1.970</b>	<b>5.000</b>	<b>-</b>	<b>5.000</b>	<b>5.000</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>82.042</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	5,127.538	126.444	151.538	166.667	-	166.667	166.667	-	-	-	-	726.035

**Description:**

This program supports the procurement and upgrade of the Automated Integrated Survey Instrument (AISI) and Global Positioning System - Survey (GPS-S). This equipment supports the survey mission of both the Topographic and Construction Engineer. Capabilities provided by this equipment enable engineers to establish the geodetic control necessary for construction and topographic surveys with centimeter level precision in electronic contested environments. GPS-S integrates Selective Availability, Anti-Spoofing Module (SAASM), and Precise Positioning System GPS software upgrades into a Commercial Off the Shelf (COTS) GPS for military survey applications. Additionally, this equipment supports Construction Engineering surveys (e.g., roads, buildings, logistics sites, staging areas, and airfield construction). Software functionality, included as part of this procurement, allows the user to accomplish the design work necessary for site design and construction (e.g., materiel calculations, labor, resources). GPS-S interfaces with current Army Survey equipment to perform integrated GPS/optical surveys. Additionally, this leverages the Instrument Set, Reconnaissance and Surveying (ENFIRE) tablet PC to post process survey data files and import survey design files. GPS-S meets FAA standards for airfield survey and allows for standardized commercial data exchanges such that it is interoperable with commercial software and hardware equivalents. GPS-S kits are comprised of Commercial Off the Shelf equipment. GPS-S Hardware and Software are Commercial Off the Shelf (COTS) and Government Off the Shelf (GOTS) procurements.

The GPS-Survey Army Acquisition Objective (AAO) is 520.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	12	5	10	-	10	10	-	-
	Total Obligation Authority	1.414	0.636	1.667	-	1.667	1.667	-	-
ANG	Quantity	8	3	10	-	10	10	-	-
	Total Obligation Authority	1.000	0.667	1.667	-	1.667	1.667	-	-
AR	Quantity	7	5	10	-	10	10	-	-
	Total Obligation Authority	1.000	0.667	1.666	-	1.666	1.666	-	-
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	<b>27</b>	<b>13</b>	<b>30</b>	<b>-</b>	<b>30</b>	<b>30</b>	<b>-</b>	<b>-</b>
	<b>Total Obligation Authority</b>	<b>3.414</b>	<b>1.970</b>	<b>5.000</b>	<b>-</b>	<b>5.000</b>	<b>5.000</b>	<b>-</b>	<b>-</b>

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**Exhibit P-40, Budget Line Item Justification:** PB 2020 Army **Date:** March 2019

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 95: Elect Equip - Audio Visual Sys (A/V)	<b>P-1 Line Item Number / Title:</b> 9998BL5300 / Items Less Than \$5M (Surveying Equipment)
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	BL5300 / Items Less Than \$5M (Surveying Equipment)	P-5a	A		13 / 66.658	27 / 3.414	13 / 1.970	30 / 5.000	- / -	30 / 5.000
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>13 / 66.658</b>	<b>27 / 3.414</b>	<b>13 / 1.970</b>	<b>30 / 5.000</b>	<b>- / -</b>	<b>30 / 5.000</b>

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.

**Justification:**  
 FY 2020 Base procurement dollars in the amount of \$5.000 million support the procurement of up to 30 Global Positioning System - Survey (GPS-S) kits for Active Duty, National Guard, and Army Reserve units. GPS-S kits are comprised of Commercial Off the Shelf equipment.

In accordance with Section 1815 of the FY2008 National Defense Authorization Act (P.L. 110-181), this item is necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities.

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 95	<b>P-1 Line Item Number / Title:</b> 9998BL5300 / Items Less Than \$5M (Surveying Equipment)	<b>Item Number / Title [DODIC]:</b> BL5300 / Items Less Than \$5M (Surveying Equipment)

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A	<b>MDAP/MAIS Code:</b>
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Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity (Units in Each)	13	27	13	30	-	30
Gross/Weapon System Cost (\$ in Millions)	66.658	3.414	1.970	5.000	-	5.000
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	66.658	3.414	1.970	5.000	-	5.000
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>66.658</b>	<b>3.414</b>	<b>1.970</b>	<b>5.000</b>	<b>-</b>	<b>5.000</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares (\$ in Millions)	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	5,127.538	126.444	151.538	166.667	-	166.667

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Flyaway Cost																		
Recurring Cost																		
GPS-S Systems <sup>(†)</sup>	158.270	397	62.833	64.074	27	1.730	78.538	13	1.021	128.500	30	3.855	-	-	-	128.500	30	3.855
Design Engineering	-	-	1.451	-	-	0.548	-	-	0.192	-	-	-	-	-	-	-	-	-
Total Package Fielding	-	-	0.598	-	-	0.327	-	-	0.192	-	-	-	-	-	-	-	-	-
Project Management and Administration	-	-	1.320	-	-	0.646	-	-	0.420	-	-	1.000	-	-	-	-	-	1.000
Matrix Support	-	-	0.324	-	-	0.163	-	-	0.145	-	-	0.145	-	-	-	-	-	0.145
Other	-	-	0.132	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	66.658	-	-	3.414	-	-	1.970	-	-	5.000	-	-	-	-	-	5.000
<i>Subtotal: Flyaway Cost</i>	-	-	66.658	-	-	3.414	-	-	1.970	-	-	5.000	-	-	-	-	-	5.000
<b>Gross/Weapon System Cost</b>	<b>5,127.538</b>	<b>13</b>	<b>66.658</b>	<b>126.444</b>	<b>27</b>	<b>3.414</b>	<b>151.538</b>	<b>13</b>	<b>1.970</b>	<b>166.667</b>	<b>30</b>	<b>5.000</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>166.667</b>	<b>30</b>	<b>5.000</b>

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	12	5	10	-	10
	Total Obligation Authority	1.414	0.636	1.667	-	1.667
ANG	Quantity	8	3	10	-	10
	Total Obligation Authority	1.000	0.667	1.667	-	1.667
AR	Quantity	7	5	10	-	10

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 95	<b>P-1 Line Item Number / Title:</b> 9998BL5300 / Items Less Than \$5M (Surveying Equipment)	<b>Item Number / Title [DODIC]:</b> BL5300 / Items Less Than \$5M (Surveying Equipment)

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A	<b>MDAP/MAIS Code:</b>
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Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
	Total Obligation Authority	1.000	0.667	1.666	-	1.666
<b>Total:</b>	<b>Quantity</b>	<b>27</b>	<b>13</b>	<b>30</b>	-	<b>30</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>3.414</b>	<b>1.970</b>	<b>5.000</b>	-	<b>5.000</b>

(t) indicates the presence of a P-5a

**UNCLASSIFIED**

<b>Exhibit P-5a, Procurement History and Planning:</b> PB 2020 Army								<b>Date:</b> March 2019				
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 95			<b>P-1 Line Item Number / Title:</b> 9998BL5300 / Items Less Than \$5M (Surveying Equipment)					<b>Item Number / Title [DODIC]:</b> BL5300 / Items Less Than \$5M (Surveying Equipment)				

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
GPS-S Systems		2017	TAG Inc / Sterling, VA	C / FFP	AGC, Alexandria VA	Mar 2017	Aug 2017	13	117.230	Y		
GPS-S Systems		2018	TAG Inc / Sterling, VA	C / FFP	AGC, Alexandria VA	Mar 2018	Aug 2018	27	64.074	Y		
GPS-S Systems		2019	TAG Inc / Sterling, VA	C / FFP	AGC, Alexandria VA	Mar 2019	Aug 2019	13	78.538	Y		
GPS-S Systems		2020	TAG Inc / Sterling, VA	C / FFP	AGC, Alexandria VA	Mar 2020	Aug 2020	30	128.500	N		

**Remarks:**  
GPS-S kits are 100% COTS procurement.

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**Exhibit P-40, Budget Line Item Justification:** PB 2020 Army **Date:** March 2019

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 98: Elect Equip - Support	<b>P-1 Line Item Number / Title:</b> 2716BF5400 / Production Base Support (C-E)
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	115.585	0.499	15.506	-	-	-	-	-	-	-	-	131.590
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	115.585	0.499	15.506	-	-	-	-	-	-	-	-	131.590
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>115.585</b>	<b>0.499</b>	<b>15.506</b>	-	-	-	-	-	-	-	-	<b>131.590</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-

**Description:**

This program provides funding in the amount of \$0.506 million to the Army Test and Evaluation Command (ATEC) to establish, modernize, expand or replace test facilities used in production testing of Communications and Electronic equipment. It sustains Army production test capabilities through upgrade and replacement of instrumentation and equipment that is technologically and/or economically obsolete. Modernization of test instrumentation and equipment provides increased automation and efficiencies, improved data quality and quantity and cost avoidances to Army Program Managers. Programmed funding will be used to upgrade or replace production test instrumentation and equipment at the Electronic Proving Ground (EPG), Fort Huachuca, AZ.

This program provides funding for the Army Materiel Command (AMC) Metal/Polymer/Plastic/Sand Molding Three Dimensional (3D) Printing capability equipment to create an additive manufacturing capability at Joint Manufacturing Technology Center-Rock Island Arsenal to support Army Readiness requirements. This program allows the Army to utilize a cost effective process of manufacturing to generate parts by creating them using a layer on layer technique such as 3D printing. In May of 2018, Joint Manufacturing Technology Center-Rock Island Arsenal was designated by the AMC Commanding General as the Center of Excellence (COE) for Additive Manufacturing to optimize readiness by using this process on parts that are difficult to procure.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	0.499	15.506	-	-	-	-	-	-	-
<b>Total:</b>									
<b>Secondary Distribution</b>									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	<b>0.499</b>	<b>15.506</b>	-	-	-	-	-	-	-

**Justification:**

Program has no FY 2020 funding request.

In accordance with Section 1815 of the FY 2008 National Defense Authorization Act (P.L. 110-181), this item is necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities.

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<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 98: Elect Equip - Support		<b>P-1 Line Item Number / Title:</b> 2716BF5400 / Production Base Support (C-E)
<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
<b>Line Item MDAP/MAIS Code:</b> N/A		



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**Exhibit P-40, Budget Line Item Justification:** PB 2020 Army **Date:** March 2019

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 98: Elect Equip - Support	<b>P-1 Line Item Number / Title:</b> 2723B88801 / BCT Emerging Technologies
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	9.188	25.050	144.500	22.302	-	22.302	65.739	58.628	22.038	-	-	347.445
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	9.188	25.050	144.500	22.302	-	22.302	65.739	58.628	22.038	-	-	347.445
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>9.188</b>	<b>25.050</b>	<b>144.500</b>	<b>22.302</b>	<b>-</b>	<b>22.302</b>	<b>65.739</b>	<b>58.628</b>	<b>22.038</b>	<b>-</b>	<b>-</b>	<b>347.445</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-

**Description:**

This funding supports the Army Rapid Capabilities Office (RCO) efforts to provide needed capabilities, to inform future Army capability requirements, and to potentially transition the capability to an Army acquisition program. The Army RCO expedites the provisioning and fielding of critical combat materiel capabilities to the Warfighter to meet Combatant Commanders' needs. The RCO assesses Commercial-Off-The Shelf (COTS), Government Off-The- Shelf (GOTS), and Non-Developmental Item (NDI) (non-standard equipment) solutions for modification and/or integration to address changes in contested environments with enduring materiel solutions for forces deployed globally. Procure prototypes and evaluate solutions to be fielded and transition to an acquisition program for production and sustainment. This funding will also buy limited production units of demonstrated technologies to rapidly deliver critical combat materiel capabilities to the Warfighter to meet Combatant Commanders' needs.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	25.050	144.500	22.302	-	22.302	65.739	58.628	22.038	-
<b>Total:</b>									
<b>Secondary Distribution</b>									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	<b>25.050</b>	<b>144.500</b>	<b>22.302</b>	<b>-</b>	<b>22.302</b>	<b>65.739</b>	<b>58.628</b>	<b>22.038</b>	<b>-</b>

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**Exhibit P-40, Budget Line Item Justification:** PB 2020 Army **Date:** March 2019

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 02: Communications and Electronics Equipment / BSA 98: Elect Equip - Support	<b>P-1 Line Item Number / Title:</b> 2723B88801 / BCT Emerging Technologies
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	B88801 / BCT Emerging Technologies	P-5a			- / 9.188	- / 25.050	- / 144.500	- / 22.302	- / -	- / 22.302
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 9.188</b>	<b>- / 25.050</b>	<b>- / 144.500</b>	<b>- / 22.302</b>	<b>- / -</b>	<b>- / 22.302</b>

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.

**Justification:**  
 FY2020 Base funding in the amount of \$22.302 million supports the Army Rapid Capabilities Office expedited provisioning and fielding of critical combat materiel capabilities to meet Warfighter and Combatant Commanders' needs. Funding supports procurement of demonstrated emerging technologies in support of cyber electromagnetic activities (CEMA), long range cannon (LRC), and other capabilities.

In accordance with Section 1815 of the FY 2008 NDAA this item is necessary for use by the active components and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities.

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 98	<b>P-1 Line Item Number / Title:</b> 2723B88801 / BCT Emerging Technologies	<b>Item Number / Title [DODIC]:</b> B88801 / BCT Emerging Technologies

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	9.188	25.050	144.500	22.302	-	22.302
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	9.188	25.050	144.500	22.302	-	22.302
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>9.188</b>	<b>25.050</b>	<b>144.500</b>	<b>22.302</b>	<b>-</b>	<b>22.302</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares (\$ in Millions)	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	-	-	-	-	-	-

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
<b>Hardware Cost</b>																		
Recurring Cost																		
EWTV <sup>(†)</sup>	-	-	-	1,500.000	3	4.500	-	-	-	-	-	-	-	-	-	-	-	-
VROD/VMAX <sup>(†)</sup>	-	-	-	387.310	29	11.232	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	15.732	-	-	-	-	-	-	-	-	-	-	-	-
Non Recurring Cost																		
CA-CEMA ONS	-	-	-	-	-	-	144,500.000	1	144.500	-	-	-	-	-	-	-	-	-
Demonstrated Emerging Technology	-	-	-	-	-	-	-	-	-	22,302.000	1	22.302	-	-	-	22,302.000	1	22.302
<i>Subtotal: Non Recurring Cost</i>	-	-	-	-	-	-	-	-	144.500	-	-	22.302	-	-	-	-	-	22.302
<i>Subtotal: Hardware Cost</i>	-	-	-	-	-	15.732	-	-	144.500	-	-	22.302	-	-	-	-	-	22.302
<b>Package Fielding Cost</b>																		
Recurring Cost																		
EWTV Fielding	-	-	-	283.000	1	0.283	-	-	-	-	-	-	-	-	-	-	-	-
VROD/VMAX Fielding <sup>(†)</sup>	-	-	-	2,035.000	1	2.035	-	-	-	-	-	-	-	-	-	-	-	-
EWPM Thick Client Fielding <sup>(†)</sup>	-	-	-	1,445.000	1	1.445	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	3.763	-	-	-	-	-	-	-	-	-	-	-	-
Non Recurring Cost																		
EWTV Services	-	-	-	3,870.000	1	3.870	-	-	-	-	-	-	-	-	-	-	-	-

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 98	<b>P-1 Line Item Number / Title:</b> 2723B88801 / BCT Emerging Technologies	<b>Item Number / Title [DODIC]:</b> B88801 / BCT Emerging Technologies
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :		<b>MDAP/MAIS Code:</b>

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
VROD/MAX Services <sup>(t)</sup>	-	-	-	747.000	1	0.747	-	-	-	-	-	-	-	-	-	-	-	-
EWPMT Services <sup>(t)</sup>	-	-	-	438.000	1	0.438	-	-	-	-	-	-	-	-	-	-	-	-
Prophet Services <sup>(t)</sup>	583.333	3	1.750	500.000	1	0.500	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Non Recurring Cost</i>	-	-	1.750	-	-	5.555	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Package Fielding Cost</i>	-	-	1.750	-	-	9.318	-	-	-	-	-	-	-	-	-	-	-	-
<b>Support - Fielding Cost</b>																		
Fielding <sup>(t)</sup>	7,438.000	1	7.438	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - Fielding Cost</i>	-	-	7.438	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Gross/Weapon System Cost</b>	-	-	9.188	-	-	25.050	-	-	144.500	-	-	22.302	-	-	-	-	-	22.302

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	-	-	-	-	-
	Total Obligation Authority	25.050	144.500	22.302	-	22.302
<b>Total:</b>	Quantity	-	-	-	-	-
<b>Secondary Distribution</b>	Total Obligation Authority	25.050	144.500	22.302	-	22.302

(t) indicates the presence of a P-5a

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**Exhibit P-5a, Procurement History and Planning:** PB 2020 Army **Date:** March 2019

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 02 / 98	<b>P-1 Line Item Number / Title:</b> 2723B88801 / BCT Emerging Technologies	<b>Item Number / Title [DODIC]:</b> B88801 / BCT Emerging Technologies
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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
EWTV		2018	TBD / TBD	TBD	TBD	Mar 2018	May 2018	3	1,500.000	N		
VROD/VMAX		2018	Other Government Agency / TBD	TBD	TBD	Dec 2017	May 2018	29	387.310	N		
VROD/VMAX Fielding		2018	Other Government Agency / TBD	TBD	TBD	May 2018	May 2018	1	2,035.000	N		
EWPM T Thick Client Fielding		2018	Raytheon / TBD	TBD	TBD	Jan 2018	May 2018	1	1,445.000	N		
VROD/VMAX Services		2018	Other Government Agency / TBD	TBD	TBD	May 2018	May 2018	1	747.000	N		
EWPM T Services		2018	MTEQ / TBD	TBD	TBD	Jan 2018	May 2018	1	438.000	N		
Prophet Services		2018	General Dynamics / TBD	TBD	TBD	Jan 2018	May 2018	1	500.000	N		
Fielding		2016	Various / TBD	MIPR	TBD	Mar 2016	May 2016	1	7,438.000	N		

**Remarks:**  
These hardware/software products will be acquired either through existing Army contracts and/or production options.

Note for other system:

Quantities to be determined based on operational needs of the recipient units in the Pacific and European theaters.