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

March 2019



**Army**

*Justification Book of*

***Other Procurement, Army***

**Other Support Equipment and Initial Spares, Budget Activity 3/4**

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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  
(Dollars in Thousands)

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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12 Feb 2019

<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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 Total Obligational Authority  
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12 Feb 2019

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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 Total Obligational Authority  
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12 Feb 2019

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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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	
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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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	
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		S e c
			(Base + OCO) 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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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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Line No	Item Nomenclature	Ident Code	FY 2020 Total (Base + OCO)		S e c
			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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			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 Systm (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, Countermine 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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Line No	Item Nomenclature	Ident Code	FY 2020 Total (Base + OCO)		S e c
			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, Countermine 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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Line No	Item Nomenclature	Ident Code	FY 2020 Total		S e c
			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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161	03	50	4428X01500	Hydraulic Excavator.....	349
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***Appropriation 2035A: Other Procurement, Army***

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Synthetic Training Environment (STE)	2079NA2000	176	03	70.....	492
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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 03: Other Support Equipment / BSA 10: Chemical Defensive Equipment	<b>P-1 Line Item Number / Title:</b> 2205W01103 / Protective 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> )	9,588	5,102	7,342	-	-	-	-	-	-	-	-	22,032
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	3.214	1.613	2.341	-	-	-	-	-	-	-	-	7.168
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	3.214	1.613	2.341	-	-	-	-	-	-	-	-	7.168
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>3.214</b>	<b>1.613</b>	<b>2.341</b>	-	-	-	-	-	-	-	-	<b>7.168</b>

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

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	0.335	0.316	0.319	-	-	-	-	-	-	-	-	0.325

**Description:**

Protective systems includes Kits for evidence Collection and Detainee Processing (KECDP). The KECDP consists of four (4) kits that support Military Police (MP) and Criminal Investigative Division (CID) elements, providing equipment to restrain detainees, compile accurate documentation at a crime scene, and collect evidence. This standardized collection of evidence and information will lead to successful prosecution of high value targets that are guilty or the release of those deemed innocent. The KECDP will aid in eliminating improperly attained or mishandled processing of evidence found at the point of capture and eliminate the release of persons who would continue to engage in insurgent activities leading to injury and death of U.S. and Coalition Forces. KECDP Estimated Army Acquisition Objective (AAO): Individual Point of Capture Kit (IPOCK) 15,170; Leader Point of Capture Kit (LPOCK) 4,995; Team Evidence Collection Kit (TECK) 1,665; Platoon Evidence Collection Kit (PECK) 1,815.

Individual Point of Capture Kit (IPOCK) 145 will be used towards PACOM OCO effort.

Law Enforcement Ensemble Kit (LEEK) - consists of the following: Duty Belt, Belt Keeper, Pouch Handcuff, Surgical Glove Pouch and Flashlight Holder to be used by Military Law Enforcement personnel. LEEK funding will be moved to APE 115020000.

FY13-17 BAIS funding has been moved to Base Defense Systems (M90202).

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	250	282	-	-	-	-	-	-
	Total Obligation Authority	0.097	0.096	-	-	-	-	-	-
ANG	Quantity	3,509	5,572	-	-	-	-	-	-
	Total Obligation Authority	1.097	1.759	-	-	-	-	-	-
AR	Quantity	1,343	1,488	-	-	-	-	-	-
	Total Obligation Authority	0.419	0.486	-	-	-	-	-	-
<b>Total:</b>	<b>Quantity</b>	<b>5,102</b>	<b>7,342</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 03: Other Support Equipment / BSA 10: Chemical Defensive Equipment	<b>P-1 Line Item Number / Title:</b> 2205W01103 / Protective 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

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	1.613	2.341	-	-	-	-	-	-	-

**Justification:**  
 There is no FY 20 PB Request.

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



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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 03: Other Support Equipment / BSA 10: Chemical Defensive Equipment	<b>P-1 Line Item Number / Title:</b> 2224M11205 / Family Of Non-Lethal Equipment (FNLE)
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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> 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> )	236	427	931	-	615	615	615	-	-	-	-	2,824
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	15.191	16.696	33.972	-	25.480	25.480	25.480	-	-	-	-	116.819
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	15.191	16.696	33.972	-	25.480	25.480	25.480	-	-	-	-	116.819
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>15.191</b>	<b>16.696</b>	<b>33.972</b>	<b>-</b>	<b>25.480</b>	<b>25.480</b>	<b>25.480</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>116.819</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> )	64.369	39.101	36.490	-	41.431	41.431	41.431	-	-	-	-	41.367

**Description:**

This line contains Non-Lethal Equipment, All Types.

M11309 The Acoustic Hailing Device (AHD) is a non-kinetic, long range hailing and warning device capable of producing highly directional sound beams to project warning tones and intelligible voice commands to distances of at least 300 meters with background noise present at the target's location. The AHD will increase platform survivability and soldier protection levels by allowing units to quickly warn and engage potentially hostile personnel to determine intent and control actions, as an escalation of force measure (i.e., before using lethal force). AHDs will support Military Police (MP), Transportation, and Psychological Operations (PSYOP) units and is used in both Homeland Defense and Combat operations. This item is Code A, approved for service use.

M11206 Single Net Solution with Remote Deployment Device (SNS-RDD) system is a wheeled vehicle stopping system. The SNS-RDD will increase soldier survivability by allowing units to quickly and remotely employ a Soldier-emplaced vehicle stopping capability to enable Force Protection (FP) and enhance the security of personnel and materiel by allowing alternatives to lethal force. The RDD is capable of deploying a SNS in five seconds. The SNS is a single use net with spikes designed to stop wheeled vehicles up to 22,000 pounds traveling up to 30 miles per hour within 200 feet. A complete SNS-RDD system includes (1) RDD and (2) SNS. This item will be Code A after Full Material Release in 2QFY21.

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	246	712	0	615	615	615	-	-
	Total Obligation Authority	10.284	25.311	0.000	25.480	25.480	25.480	-	-
ANG	Quantity	116	149	-	-	-	-	-	-
	Total Obligation Authority	4.108	5.793	-	-	-	-	-	-
AR	Quantity	65	70	-	-	-	-	-	-
	Total Obligation Authority	2.304	2.868	-	-	-	-	-	-
<b>Total:</b>	<b>Quantity</b>	<b>427</b>	<b>931</b>	<b>0</b>	<b>615</b>	<b>615</b>	<b>615</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 03: Other Support Equipment / BSA 10: Chemical Defensive Equipment	<b>P-1 Line Item Number / Title:</b> 2224M11205 / Family Of Non-Lethal Equipment (FNLE)
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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> 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	16.696	33.972	-	25.480	25.480	25.480	-	-	-

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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 03: Other Support Equipment / BSA 10: Chemical Defensive Equipment	<b>P-1 Line Item Number / Title:</b> 2224M11205 / Family Of Non-Lethal Equipment (FNLE)

<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
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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	M11206 / REMOTE DEPLOYED DEVICE (RDD)	P-5a, P-21	B		- / 1.750	22 / 1.295	320 / 8.651	- / -	198 / 9.280	198 / 9.280
P-5	M11309 / ACOUSTIC HAILING DEVICE (AHD)	P-5a, P-21	A		236 / 13.441	405 / 15.401	611 / 25.321	- / -	417 / 16.200	417 / 16.200
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>236 / 15.191</b>	<b>427 / 16.696</b>	<b>931 / 33.972</b>	<b>- / -</b>	<b>615 / 25.480</b>	<b>615 / 25.480</b>

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

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

**Justification:**  
 FY 2020 OCO supports the procurement of critical Army munitions consumed in support of Operation Inherent Resolve for ISIL.

FY 2020 OCO dollars in the amount of \$25.480 million supports the procurement of two variants of Non-Lethal Equipment in support of deployed units' ongoing military operations.

M11309 The Acoustic Hailing Device (AHD):  
 FY 2020 OCO procurement dollars in the amount of \$16.200 million supports the procurement of 417 AHDs. Funding also supports Fielding and New Equipment Training (NET).

M11206 Single Net Solution with Remote Deployment Device (SNS-RDD):  
 FY 2020 OCO procurement dollars in the amount of \$9.280 million supports the procurement of 198 SNS-RDD systems (198 RDD and 396 SNS) designed to work in concert to stop a vehicle via non-lethal means. These systems are employed at checkpoints and entry control points and can be used to stop a vehicle without resorting to lethal force. The system can be emplaced anywhere and do not require altering the road surface or installation of a permanent apparatus. Essential for megacity and other urban operations for increased physical protection measures.

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 / 03 / 10		<b>P-1 Line Item Number / Title:</b> 2224M11205 / Family Of Non-Lethal Equipment (FNLE)
		<b>Item Number / Title [DODIC]:</b> M11206 / REMOTE DEPLOYED DEVICE (RDD)

<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)	-	22	320	-	198	198
Gross/Weapon System Cost (\$ in Millions)	1.750	1.295	8.651	-	9.280	9.280
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	1.750	1.295	8.651	-	9.280	9.280
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>1.750</b>	<b>1.295</b>	<b>8.651</b>	<b>-</b>	<b>9.280</b>	<b>9.280</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)	-	58.864	27.034	-	46.869	46.869

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																		
Remote Deployed Device (RDD) <sup>(†)</sup>	-	-	-	34.864	22	0.767	33.684	209	7.040	-	-	-	35.909	198	7.110	35.909	198	7.110
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	0.767	-	-	7.040	-	-	0.000	-	-	7.110	-	-	7.110
<i>Subtotal: Hardware Cost</i>	-	-	-	-	-	0.767	-	-	7.040	-	-	0.000	-	-	7.110	-	-	7.110
<b>Logistics Cost</b>																		
Non Recurring Cost																		
Fielding & NET	-	-	-	-	-	0.528	-	-	0.611	-	-	-	-	-	0.770	-	-	0.770
<i>Subtotal: Non Recurring Cost</i>	-	-	-	-	-	0.528	-	-	0.611	-	-	0.000	-	-	0.770	-	-	0.770
<i>Subtotal: Logistics Cost</i>	-	-	-	-	-	0.528	-	-	0.611	-	-	0.000	-	-	0.770	-	-	0.770
<b>Support - Production Engineering Cost</b>																		
Production Engineering	-	-	1.750	-	-	-	-	-	1.000	-	-	-	-	-	1.400	-	-	1.400
<i>Subtotal: Support - Production Engineering Cost</i>	-	-	1.750	-	-	-	-	-	1.000	-	-	0.000	-	-	1.400	-	-	1.400
<b>Gross/Weapon System Cost</b>	-	-	1.750	58.864	22	1.295	27.034	320	8.651	-	-	-	46.869	198	9.280	46.869	198	9.280

**Remarks:**

FY 2019 quantity will be 320 units. A within BLIN transfer from M11309 to M11206 is not included in funding total. The additional funds of \$3.5M will be used to buy more hardware for an estimated 320 units and an unit cost estimated to be \$0.034 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 / 03 / 10	<b>P-1 Line Item Number / Title:</b> 2224M11205 / Family Of Non-Lethal Equipment (FNLE)	<b>Item Number / Title [DODIC]:</b> M11206 / REMOTE DEPLOYED DEVICE (RDD)
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : B		<b>MDAP/MAIS Code:</b>

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	13	258	0	198	198
	Total Obligation Authority	0.679	7.626	0.000	9.280	9.280
ANG	Quantity	6	62	-	-	-
	Total Obligation Authority	0.404	1.025	-	-	-
AR	Quantity	3	-	-	-	-
	Total Obligation Authority	0.212	-	-	-	-
<b>Total:</b>	<b>Quantity</b>	<b>22</b>	<b>320</b>	<b>-</b>	<b>198</b>	<b>198</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>1.295</b>	<b>8.651</b>	<b>-</b>	<b>9.280</b>	<b>9.280</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 / 03 / 10			<b>P-1 Line Item Number / Title:</b> 2224M11205 / Family Of Non-Lethal Equipment (FNLE)				<b>Item Number / Title [DODIC]:</b> M11206 / REMOTE DEPLOYED DEVICE (RDD)				

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
Remote Deployed Device (RDD) <sup>(†)</sup>		2018	TBS / TBS	MIPR	Picatinny Arsenal, NJ	Apr 2019	Aug 2019	22	34.864	Y		
Remote Deployed Device (RDD) <sup>(†)</sup>		2019	TBS / TBS	MIPR	Picatinny Arsenal, NJ	Apr 2019	Aug 2019	209	33.684	Y		
Remote Deployed Device (RDD) <sup>(†)</sup>	✓	2020	TBS / TBS	MIPR	Picatinny Arsenal, NJ	Mar 2020	Jul 2020	198	35.909	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 / 03 / 10										<b>P-1 Line Item Number / Title:</b> 2224M11205 / Family Of Non-Lethal Equipment (FNLE)										<b>Item Number / Title [DODIC]:</b> M11206 / REMOTE DEPLOYED DEVICE (RDD)									

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			
Remote Deployed Device (RDD)																																	
	1	2018	ARMY	22	0	22																								0			
	1	2019	ARMY	209	0	209																								0			
	✓ 1	2020	ARMY	198	0	198																								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 / 03 / 10		<b>P-1 Line Item Number / Title:</b> 2224M11205 / Family Of Non-Lethal Equipment (FNLE)
		<b>Item Number / Title [DODIC]:</b> M11206 / REMOTE DEPLOYED DEVICE (RDD)

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 - TBS	10	125	200	15	15	4	19	15	6	4	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).



**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 / 03 / 10		<b>P-1 Line Item Number / Title:</b> 2224M11205 / Family Of Non-Lethal Equipment (FNLE)
		<b>Item Number / Title [DODIC]:</b> M11309 / ACOUSTIC HAILING DEVICE (AHD)

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A				<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)				236	405	611	-	417	417
Gross/Weapon System Cost (\$ in Millions)				13.441	15.401	25.321	-	16.200	16.200
Less PY Advance Procurement (\$ in Millions)				-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)				13.441	15.401	25.321	-	16.200	16.200
Plus CY Advance Procurement (\$ in Millions)				-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>				<b>13.441</b>	<b>15.401</b>	<b>25.321</b>	<b>-</b>	<b>16.200</b>	<b>16.200</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)				56.953	38.027	41.442	-	38.849	38.849

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																		
Acoustic Hailing Device System <sup>(†)</sup>	24.602	236	5.806	30.635	405	12.407	30.859	722	22.280	-	-	-	30.000	417	12.510	30.000	417	12.510
<i>Subtotal: Recurring Cost</i>	-	-	5.806	-	-	12.407	-	-	22.280	-	-	0.000	-	-	12.510	-	-	12.510
<i>Subtotal: Hardware Cost</i>	-	-	5.806	-	-	12.407	-	-	22.280	-	-	0.000	-	-	12.510	-	-	12.510
Logistics Cost																		
Non Recurring Cost																		
Fielding and NET	-	-	0.138	-	-	1.267	-	-	0.624	-	-	-	-	-	0.803	-	-	0.803
<i>Subtotal: Non Recurring Cost</i>	-	-	0.138	-	-	1.267	-	-	0.624	-	-	0.000	-	-	0.803	-	-	0.803
<i>Subtotal: Logistics Cost</i>	-	-	0.138	-	-	1.267	-	-	0.624	-	-	0.000	-	-	0.803	-	-	0.803
Support - Production Engineering Cost																		
Production Engineering	-	-	7.497	-	-	1.727	-	-	2.417	-	-	-	-	-	2.887	-	-	2.887
<i>Subtotal: Support - Production Engineering Cost</i>	-	-	7.497	-	-	1.727	-	-	2.417	-	-	0.000	-	-	2.887	-	-	2.887
<b>Gross/Weapon System Cost</b>	<b>56.953</b>	<b>236</b>	<b>13.441</b>	<b>38.027</b>	<b>405</b>	<b>15.401</b>	<b>41.442</b>	<b>611</b>	<b>25.321</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>38.849</b>	<b>417</b>	<b>16.200</b>	<b>38.849</b>	<b>417</b>	<b>16.200</b>

**Remarks:**

FY 2019 actual quantity is estimated to be 611 units. A within BLIN transfer from M11309 to M11206 is not included in funding total. \$3.500 million will be transferred out and the unit cost is estimated to be \$0.031 million for the 611 units.

**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 / 03 / 10	<b>P-1 Line Item Number / Title:</b> 2224M11205 / Family Of Non-Lethal Equipment (FNLE)	<b>Item Number / Title [DODIC]:</b> M11309 / ACOUSTIC HAILING DEVICE (AHD)
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A		<b>MDAP/MAIS Code:</b>

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	233	454	0	417	417
	Total Obligation Authority	9.605	17.685	0.000	16.200	16.200
ANG	Quantity	110	87	-	-	-
	Total Obligation Authority	3.704	4.768	-	-	-
AR	Quantity	62	70	-	-	-
	Total Obligation Authority	2.092	2.868	-	-	-
<b>Total:</b>	<b>Quantity</b>	<b>405</b>	<b>611</b>	<b>-</b>	<b>417</b>	<b>417</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>15.401</b>	<b>25.321</b>	<b>-</b>	<b>16.200</b>	<b>16.200</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 / 03 / 10			<b>P-1 Line Item Number / Title:</b> 2224M11205 / Family Of Non-Lethal Equipment (FNLE)				<b>Item Number / Title [DODIC]:</b> M11309 / ACOUSTIC HAILING DEVICE (AHD)					

<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>
Acoustic Hailing Device System <sup>(†)</sup>		2017	LRAD Corporation / San Diego, CA	MIPR	Crane, IN	Sep 2017	Feb 2018	236	24.600	Y		
Acoustic Hailing Device System <sup>(†)</sup>		2018	LRAD Corporation / San Diego, CA	MIPR	Crane, IN	Aug 2018	Jan 2019	405	30.635	Y		
Acoustic Hailing Device System <sup>(†)</sup>		2019	TBS / TBS	MIPR	TBS	Mar 2019	Aug 2019	722	30.859	Y		
Acoustic Hailing Device System <sup>(†)</sup>	✓	2020	TBS / TBS	MIPR	TBS	Mar 2020	Aug 2020	417	30.000	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 / 03 / 10		<b>P-1 Line Item Number / Title:</b> 2224M11205 / Family Of Non-Lethal Equipment (FNLE)	
			<b>Item Number / Title [DODIC]:</b> M11309 / ACOUSTIC HAILING DEVICE (AHD)

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
Acoustic Hailing Device System																															
	2	2017	ARMY	236	236	0																							0		
	2	2018	ARMY	405	0	405	-	-	-	35	35	35	35	35	35	35	35	20	35	35									0		
	1	2019	ARMY	722	0	722																						0			
✓	1	2020	ARMY	417	0	417																						347			
							O C T	N O V	D E C	J A N	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 / 03 / 10				<b>P-1 Line Item Number / Title:</b> 2224M11205 / Family Of Non-Lethal Equipment (FNLE)				<b>Item Number / Title [DODIC]:</b> M11309 / ACOUSTIC HAILING DEVICE (AHD)			

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
Acoustic Hailing Device System																														
	2	2017	ARMY	236	236	0																							0	
	2	2018	ARMY	405	405	0																							0	
	1	2019	ARMY	722	722	0																							0	
✓	1	2020	ARMY	417	70	347	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	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 / 03 / 10		<b>P-1 Line Item Number / Title:</b> 2224M11205 / Family Of Non-Lethal Equipment (FNLE)
		<b>Item Number / Title [DODIC]:</b> M11309 / ACOUSTIC HAILING DEVICE (AHD)

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 - TBS	10	125	200	8	6	5	11	8	6	5	11
2	LRAD Corporation - San Diego, CA	10	125	200	8	6	5	11	8	6	5	11

"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 03: Other Support Equipment / BSA 10: Chemical Defensive Equipment	<b>P-1 Line Item Number / Title:</b> 2300M90101 / Base Defense Systems (BDS)
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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> )	-	25.926	39.200	-	47.110	47.110	47.581	24.028	24.028	24.509	-	232.382
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	-	25.926	39.200	-	47.110	47.110	47.581	24.028	24.028	24.509	-	232.382
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	-	<b>25.926</b>	<b>39.200</b>	-	<b>47.110</b>	<b>47.110</b>	<b>47.581</b>	<b>24.028</b>	<b>24.028</b>	<b>24.509</b>	-	<b>232.382</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:**

Base Defense Systems (BDS) includes Non-Intrusive Inspection Systems (NIIS) (M90108), Battlefield Anti-Intrusion System (BAIS) (M90202), Lighting Kit Motion Detection (LKMD) (M90204), Integrated Ground Security, Surveillance and Response Capability (IGSSR-C)(M90106) Ground-Based Operational Surveillance System (Expeditionary) (GBOSS-E) (M90212), Tactical Security System (TSS) (M90220) and Integrated Base Defense (IBD) Kitting (M90115)

NIIS is a family of systems that inspects for the presence of explosives, weapons and other contraband in vehicles, cargo containers and personnel from a distance providing stand-off ballistic and blast protection. All systems are either mobile or fully re-locatable. It is a force multiplier that maximizes protection of personnel, equipment and installations while minimizing manpower requirements. NIIS provides the capability to non-intrusively inspect vehicles, cargo containers and personnel for the presence of explosives, weapons or other contraband which can kill or injure Soldiers and destroy critical warfighting materiel. NIIS supports the urgent need for Counter-Improvised Explosive Device equipment to support military operations.

The IGSSR-C is a Joint Requirement that provides a layered approach to integrate sensors, sensor systems and unmanned systems with automated fusion capabilities to create an in-depth security, surveillance and response Force Protection (FP) COP capability for CONUS fixed, OCONUS semi-fixed or expeditionary elements in all Operating Environments (OE). This capability will enable rapid decision analysis, speed the response process as well as increase information dissemination horizontally and vertically along the chain of command and with outside supporting organizations. IGSSR-C is a software centric fusion engine that connects legacy and emerging FP systems, legacy Chemical, Biological, Radiological, Nuclear, and Explosive (CBRNE), unmanned systems, biometric identification and forensic data systems. The desired end state is to achieve interoperability with current and emerging FP systems used by Joint Forces, Department of Defense (DoD) agencies and multi-national forces.

Ground-Based Operational Surveillance System (Expeditionary) (GBOSS-E) will replace the interim Persistent Surveillance System-Ground (PSS-G) Increment 1 towers with improved persistent surveillance capabilities and will provide network integration and better mobility utilizing modular configurations. GBOSS-E will replace obsolete, quick reaction capability (QRC) surveillance and force protections systems utilizing modular configurations: Light (man transportable/detachable) for extra small base camps or small outpost/company, Medium variant (mid sensor height) for small to medium size base, and Heavy variant (high level sensor height) for large contingency base camps. GBOSS-E will operate in a stand-alone mode or as part of an integrated network utilizing government owned software, be easily operated and maintained, and be rugged enough to support employment in expeditionary operations worldwide.

The Tactical Security System (TSS) provides a modular, scalable, lightweight, rapidly deployable, ground based security and surveillance Family of Systems designed for hasty emplacement to support short and long term security, surveillance and detection missions. The system will be tailorable to support various missions including internment/resettlement operations; perimeter security; internal security within base camps or installations; external security outside the perimeter and route clearance. TSS will be employed at fixed, semi-fixed or expeditionary sites providing all weather imaging during daylight/twilight



**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 03: Other Support Equipment / BSA 10: Chemical Defensive Equipment		<b>P-1 Line Item Number / Title:</b> 2300M90101 / Base Defense Systems (BDS)
<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

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

and during periods of limited visibility regardless of environmental conditions to enhance the Commander's situational awareness and increase Soldier survivability. TSS is designed to be employed as a stand-alone, in a layered effort or integrated with additional force protection systems including motion, acoustic, seismic, surface and subterranean detection technologies. TSS will address four of the five base camp core protection/security capabilities identified in the IBD Concept of Operations including perimeter security, entry control, persistent surveillance and warning and alerting. TSS can be employed in support of contingency, short-notice, early-entry operations in a variety of weather and terrain from open desert to complex urban environments. TSS will assist in countering individuals and provide clandestine observation of detainees, individuals, either on foot or in vehicles from intruding into areas designated for security purposes. TSS will allow the Commander to detect and observe enemy or adversarial forces from a distance prior to entering the base area of operations. This advanced warning will allow the Commander to better deploy forces in a more effective manner to mitigate threat.

The purpose of IBD Kitting is to harvest and refurbish physical security and FP Non-Standard Equipment and package them into integrated and interoperable IBD capabilities. IBD packages support expeditionary ground operations and provide a bridge to the enduring IBD capability. IBD kits are integrated into a System of Systems (SoS) to provide an interim IBD capability to increase protective effectiveness, enhance situational awareness and reduce troop-to-task requirements.

Counter Vehicle Borne Improvised Explosive Device (CVBIED) is an integrated suite of systems developed in response to CENTCOM JUONS CC-0540. CVBIED provides an early VBIED detection capability prior to vehicles reaching entry into Forward Operating Bases. Counter Vehicle Borne Improvised Explosive Device equipment includes passive cargo inspection technologies, wide area motion imaging sensors, stand-off bulk and trace explosive detection sensors, enhanced optical vehicle inspections systems and other vehicle inspection equipment. Additional sensor systems will be procured and integrated into the current Force Protection infrastructure as part of CVBIED.

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	25.926	39.200	0.000	47.110	47.110	47.581	24.028	24.028	24.509
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	-	-	-	-	-	-	-	-	-
	<b>Total Obligation Authority</b>	<b>25.926</b>	<b>39.200</b>	-	<b>47.110</b>	<b>47.110</b>	<b>47.581</b>	<b>24.028</b>	<b>24.028</b>	<b>24.509</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 03: Other Support Equipment / BSA 10:  
 Chemical Defensive Equipment **P-1 Line Item Number / Title:**  
 2300M90101 / Base Defense Systems (BDS)

**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	M90115 / INTEG BASE DEF NONSTAND EQUIP (IBD NS-E) KITTING	P-5a			- / -	- / 25.926	- / 39.200	- / -	- / 47.110	- / 47.110
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / -</b>	<b>- / 25.926</b>	<b>- / 39.200</b>	<b>- / -</b>	<b>- / 47.110</b>	<b>- / 47.110</b>

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

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

**Justification:**  
 FY 2020 OCO procurement in the amount of \$47.110 million procures passive cargo inspection technologies, wide area motion imaging sensors, stand-off bulk and trace explosive detection sensors, enhanced optical vehicle inspections systems and other vehicle inspection equipment in support of JUONS CC-0540 capability gaps.

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. All quantities and funding are for Active Components.

**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 / 03 / 10		<b>P-1 Line Item Number / Title:</b> 2300M90101 / Base Defense Systems (BDS)
		<b>Item Number / Title [DODIC]:</b> M90115 / INTEG BASE DEF NONSTAND EQUIP (IBD NS-E) KITTING

<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)	-	25.926	39.200	-	47.110	47.110
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	-	25.926	39.200	-	47.110	47.110
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	-	<b>25.926</b>	<b>39.200</b>	-	<b>47.110</b>	<b>47.110</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																		
JUONS CC-0540 Equipment <sup>(†)</sup>	-	-	-	2,091.000	12	25.092	17,651.000	2	35.302	-	-	-	21,735.000	2	43.470	21,735.000	2	43.470
JUONS CC-0540 Program Mgt Support	-	-	-	-	-	-	-	-	1.220	-	-	-	-	-	0.456	-	-	0.456
JUONS CC-0540 Initial Fielding Support	-	-	-	-	-	-	-	-	2.678	-	-	-	-	-	3.184	-	-	3.184
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	25.092	-	-	39.200	-	-	0.000	-	-	47.110	-	-	47.110
<i>Subtotal: Flyaway Cost</i>	-	-	-	-	-	25.092	-	-	39.200	-	-	0.000	-	-	47.110	-	-	47.110
Support - Program Management Cost																		
Contractor Management	-	-	-	-	-	0.834	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - Program Management Cost</i>	-	-	-	-	-	0.834	-	-	-	-	-	-	-	-	-	-	-	-
<b>Gross/Weapon System Cost</b>	-	-	-	-	-	25.926	-	-	39.200	-	-	-	-	-	47.110	-	-	47.110

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	-	-	-	-	-
	Total Obligation Authority	25.926	39.200	0.000	47.110	47.110

**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 / 03 / 10	<b>P-1 Line Item Number / Title:</b> 2300M90101 / Base Defense Systems (BDS)	<b>Item Number / Title [DODIC]:</b> M90115 / INTEG BASE DEF NONSTAND EQUIP (IBD NS-E) KITTING

<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>	25.926	39.200	-	47.110	47.110

(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 / 03 / 10			<b>P-1 Line Item Number / Title:</b> 2300M90101 / Base Defense Systems (BDS)				<b>Item Number / Title [DODIC]:</b> M90115 / INTEG BASE DEF NONSTAND EQUIP (IBD NS-E) KITTING				

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
JUONS CC-0540 Equipment	✓	2020	TBD / TBD	Various	Various	Jan 2020	Jul 2020	2	21,735.000	N		

**Remarks:**  
 JUONS CC-0540 equipment is comprised of a combination of COTS and GOTS items purchased via MIPR or from the Defense Logistics Agency (DLA). JUONS CC-0540 equipment is comprised of passive cargo inspection technologies, wide area motion imaging sensors, stand-off bulk and trace explosive detection sensors, enhanced optical vehicle inspections systems and other vehicle inspection equipment in support of JUONS CC-0540 capability gaps.

**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 03: Other Support Equipment / BSA 10: Chemical Defensive Equipment **P-1 Line Item Number / Title:** 4516M01001 / CBRN Defense

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

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

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	17,796	9,270	8,443	4,079	-	4,079	3,971	4,791	9,496	9,693	-	67,539
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	266.804	66.188	189.271	25.828	18.711	44.539	57.134	71.182	76.807	79.230	-	851.155
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	266.804	66.188	189.271	25.828	18.711	44.539	57.134	71.182	76.807	79.230	-	851.155
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>266.804</b>	<b>66.188</b>	<b>189.271</b>	<b>25.828</b>	<b>18.711</b>	<b>44.539</b>	<b>57.134</b>	<b>71.182</b>	<b>76.807</b>	<b>79.230</b>	<b>-</b>	<b>851.155</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> )	14.992	7.140	22.418	6.332	-	10.919	14.388	14.857	8.088	8.174	-	12.602

**Description:**

Funds acquisition of critically required Chemical Biological equipment needed to support Army mission requirements in seven primary categories: Collective Protection (CP) (M01006), Decontamination (DECON) (M01007), Contamination Avoidance (CA) (M01008), Consequence Management (CM) (M01011), Radiological Detection System (RDS) (M01280), Individual Protection (M99001), and Explosive Ordnance Disposal (EOD) Dismounted Reconnaissance SKO (DR SKO) (M09988). Collective Protection platforms include hard and soft wall shelters, vehicles, and structures. The Contamination Avoidance program includes systems that provide detection, identification, collection and reporting of Chemical, Biological, Radiological and Nuclear (CBRN) hazards. The Individual Protection program provides Protective Masks and test equipment. Consequence Management (CM) (M01011) procurement efforts support missions to systematically detect, locate, characterize, identify, secure, disable, decontaminate and/or destroy WMD weapons, materials and related capabilities within CONUS, OCONUS and Theater to restore combat power. The Radiac Set supports the Radiological Detection System as the first joint solution to provide the Warfighter with the net-ready capability to measure alpha, beta, gamma, neutron, and low energy x-rays. Replaces DoD's legacy RADIAC survey meters (AN/PDR-77, VDR-2, MFR Suite, and ADM-300). The EOD DR SKO (M09988) will be used to procure select capabilities within the CBRN DR SKO capabilities for the EOD Warfighter. The CBRN DR SKO provides CBRN Warfighters with a comprehensive suite of protection, detection, identification, sample collection, hazard marking, decontamination, and other support capabilities for use during explosive ordnance render safe operations. The Warfighter will use the CBRN DRS respiratory and percutaneous protection to prevent potential contamination while conducting operations, sensor capabilities to find CBRN and toxic industrial hazards to determine the appropriate action during operations, and the decontamination kit to remove contamination from personnel and equipment.

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	6,167	8,428	2,003	-	2,003	1,848	2,260	4,283	4,542
Total Obligation Authority	59.520	170.135	13.847	18.711	32.558	37.026	42.305	43.138	47.307
ANG									
Quantity	3,101	12	1,308	-	1,308	1,382	1,656	3,647	3,562
Total Obligation Authority	3.668	15.136	9.623	-	9.623	16.796	21.389	23.891	18.527
AR									
Quantity	2	3	768	-	768	741	875	1,566	1,589
Total Obligation Authority	3.000	4.000	2.358	-	2.358	3.312	7.488	9.778	13.396
<b>Total:</b>									
Quantity	<b>9,270</b>	<b>8,443</b>	<b>4,079</b>	<b>-</b>	<b>4,079</b>	<b>3,971</b>	<b>4,791</b>	<b>9,496</b>	<b>9,693</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 03: Other Support Equipment / BSA 10: Chemical Defensive Equipment	<b>P-1 Line Item Number / Title:</b> 4516M01001 / CBRN Defense
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Secondary Distribution	Total Obligation Authority	66.188	189.271	25.828	18.711	44.539	57.134	71.182	76.807	79.230

**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 03: Other Support Equipment / BSA 10:  
Chemical Defensive Equipment **P-1 Line Item Number / Title:**  
4516M01001 / CBRN Defense

**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	M01006 / COLLECTIVE PROTECTION (CP)		B		16 / 65.906	7 / 11.387	16 / 21.453	2 / 3.600	- / -	2 / 3.600
P-5	M01007 / DECONTAMINATION (DECON)	P-5a			- / 4.267	- / 22.290	- / 49.000	- / -	- / -	- / -
P-5	M01008 / CONTAMINATION AVOIDANCE (CA)	P-5a, P-21			8,759 / 145.483	7,477 / 6.686	12 / 86.000	14 / 8.200	- / -	14 / 8.200
P-5	M01011 / CONSEQUENCE MGMT (CM)				9,021 / 49.619	1,786 / 25.825	- / -	- / -	- / -	- / -
P-5	M01280 / Radiological Detection System	P-5a			- / 1.529	- / -	8,415 / 32.818	4,060 / 8.793	- / 0.011	4,060 / 8.804
P-5	M09988 / EOD Dismounted Reconnaissance SKO (DR SKO)	P-5a			- / -	- / -	- / -	3 / 5.235	- / 18.700	3 / 23.935
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>17,796 / 266.804</b>	<b>9,270 / 66.188</b>	<b>8,443 / 189.271</b>	<b>4,079 / 25.828</b>	<b>- / 18.711</b>	<b>4,079 / 44.539</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:**

Collective Protection (M01006):

FY 20 Base dollars in the amount of \$3.600 million supports the procurement and fielding of two (2) Chemical Biological Protective Shelter (CBPS) Systems. The CBPS provides the Forward Surgical Team (FST) and the Area Support Medical Company (ASMC) with a CB protective shelter system that allows their mission to continue in a chemical/biological environment. The FST and ASMC, which by doctrine must function together, are critical assets to the Brigade Combat Team Commander. The CBPS also provides chemical protective shelter capabilities to the Role 1 Medical Treatment Facility (MTF)/Battalion Aide Station (BAS) mission.

Decontamination (M01007):

No FY 20 PB Request.

Contamination Avoidance (M01008):

FY20 Base dollars in the amount of \$8.2 million supports the Man-portable Radiological Detection System (MRDS). MRDS provides increased dismounted Radiological Nuclear (RN) detection, localization, and presumptive and field-confirmatory identification of Special Nuclear Material (SNM) capabilities. The MRDS will be networked to provide a near real-time situational awareness at the tactical level. This equipment will be used to increase unit and individual survivability.

Radiological Detection System (M01280)

FY20 Base dollars in the amount of \$6.804 million supports the procurement and fielding of the Radiological Detection System as the first joint solution to provide the Warfighter with the net-ready capability to measure alpha, beta, gamma, neutron, and low energy x-rays. Replaces DoD's legacy RADIAC survey meters (AN/PDR-77, VDR-2, MFR Suite, and ADM-300). This equipment will be used to increase capability and reduce life-cycle costs, address Operation Tomodachi Lessons Learned for common, interoperable equipment with adequate sensitivity and common units of measure.

FY20 Base dollars in the amount of \$2.0 million to support the procurement of 3,857 Joint Personnel Dosimeter-Individual sensors to record and retrieve a Service member's radiation exposure.



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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 03: Other Support Equipment / BSA 10: Chemical Defensive Equipment		<b>P-1 Line Item Number / Title:</b> 4516M01001 / CBRN Defense
<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>FY20 OCO dollars in the amount of \$0.011 million for the Joint Personal Dosimeter-Individual to support the European Deterrence Initiative. ----- EOD Dismounted Reconnaissance SKO (DR SKO) (M09988):</p> <p>FY20 OCO &amp; Base dollars in the amount of \$23.935M supports the procurement and fielding of 13 EOD Dismounted Reconnaissance SKO (DR SKO) systems. This equipment will be used to provide CBRN Warfighters with a comprehensive suite of protection, detection, identification, sample collection, hazard marking, decontamination, and other support capabilities for use during explosive ordnance render safe operations. The Warfighter will use the CBRN DRS respiratory and percutaneous protection to prevent potential contamination while conducting operations, sensor capabilities to find CBRN and toxic industrial hazards to determine the appropriate action during operations, and the decontamination kit to remove contamination from personnel and equipment.</p> <p>Note: FY 20 Base Request is \$25.828M and FY 20 OCO Request is \$18.711M. -----</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**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 03 / 10	<b>P-1 Line Item Number / Title:</b> 4516M01001 / CBRN Defense	<b>Item Number / Title [DODIC]:</b> M01006 / COLLECTIVE PROTECTION (CP)

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : B				<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)		16	7	16	2	-	2
Gross/Weapon System Cost (\$ in Millions)		65.906	11.387	21.453	3.600	-	3.600
Less PY Advance Procurement (\$ in Millions)		-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)		65.906	11.387	21.453	3.600	-	3.600
Plus CY Advance Procurement (\$ in Millions)		-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>		<b>65.906</b>	<b>11.387</b>	<b>21.453</b>	<b>3.600</b>	<b>-</b>	<b>3.600</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)		4,119.125	1,626.714	1,340.813	1,800.000	-	1,800.000

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																		
CB Protective Shelter (CBPS)	860.176	34	29.246	990.600	5	4.953	869.500	10	8.695	1,376.000	2	2.752	-	-	-	1,376.000	2	2.752
Bed Reinforcement Kit	-	-	-	90.000	5	0.450	46.000	8	0.368	131.500	2	0.263	-	-	-	131.500	2	0.263
Stowage Bay Kit	-	-	-	90.000	5	0.450	46.000	8	0.368	131.500	2	0.263	-	-	-	131.500	2	0.263
CBPS M98 Filter Set	1.500	68	0.102	2.400	10	0.024	1.000	31	0.031	16.500	2	0.033	-	-	-	16.500	2	0.033
CBPS Handheld Remote Control Radio Device	1.559	34	0.053	3.400	5	0.017	2.500	10	0.025	16.500	2	0.033	-	-	-	16.500	2	0.033
MTV Frame Fishplate	-	-	-	-	-	-	-	-	-	17.000	2	0.034	-	-	-	17.000	2	0.034
CBPS Total Package Fielding (Spares)	95.000	34	3.230	9.200	5	0.046	92.900	10	0.929	16.500	2	0.033	-	-	-	16.500	2	0.033
M20A1 SCPE	15.860	1,006	15.955	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Clamps and Screws for M8E1 GPFU	-	-	-	-	-	0.024	-	-	-	-	-	-	-	-	-	-	-	-
JECP Total Package Fielding	-	-	-	-	-	-	22.581	31	0.700	-	-	-	-	-	-	-	-	-
JECP Standalone Shelter Large	-	-	-	-	-	-	300.000	31	9.300	-	-	-	-	-	-	-	-	-
CPDEPMEDS	-	-	16.221	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CB Protective Shelter (CBPS) Fixed Site ATP	-	-	-	869.500	2	1.739	-	-	-	-	-	-	-	-	-	-	-	-

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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 / 03 / 10	<b>P-1 Line Item Number / Title:</b> 4516M01001 / CBRN Defense	<b>Item Number / Title [DODIC]:</b> M01006 / COLLECTIVE PROTECTION (CP)

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : B	<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)
CBPS M98 Filter Set Fixed Site ATP	-	-	-	1.750	4	0.007	-	-	-	-	-	-	-	-	-	-	-	-
CBPS Handheld Remote Control Radio Device Fixed Site ATP	-	-	-	2.500	2	0.005	-	-	-	-	-	-	-	-	-	-	-	-
Clamps and Screws for M8E1 GPFU Fixed Site ATP	-	-	-	-	-	0.005	-	-	-	-	-	-	-	-	-	-	-	-
Stowage Bay Kit Fixed Site ATP	-	-	-	90.000	2	0.180	-	-	-	-	-	-	-	-	-	-	-	-
Bed Reinforcement Kit Fixed Site ATP	-	-	-	90.000	2	0.180	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	64.807	-	-	8.080	-	-	20.416	-	-	3.411	-	-	-	-	-	3.411
<i>Subtotal: Flyaway Cost</i>	-	-	64.807	-	-	8.080	-	-	20.416	-	-	3.411	-	-	-	-	-	3.411
<b>Support - Program Management Cost</b>																		
Government Management	-	-	-	-	-	1.100	-	-	0.530	-	-	0.189	-	-	-	-	-	0.189
Contractor Management	-	-	-	-	-	1.487	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - Program Management Cost</i>	-	-	-	-	-	2.587	-	-	0.530	-	-	0.189	-	-	-	-	-	0.189
<b>Support - Staging and Transportation Cost</b>																		
Staging and Transportation	-	-	1.099	-	-	0.720	-	-	0.507	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - Staging and Transportation Cost</i>	-	-	1.099	-	-	0.720	-	-	0.507	-	-	-	-	-	-	-	-	-
<b>Gross/Weapon System Cost</b>	<b>4,119.125</b>	<b>16</b>	<b>65.906</b>	<b>1,626.714</b>	<b>7</b>	<b>11.387</b>	<b>1,340.813</b>	<b>16</b>	<b>21.453</b>	<b>1,800.000</b>	<b>2</b>	<b>3.600</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>1,800.000</b>	<b>2</b>	<b>3.600</b>

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	3	1	-	-	-
	Total Obligation Authority	5.387	2.317	-	-	-
ANG	Quantity	2	12	1	-	1
	Total Obligation Authority	3.000	15.136	1.800	-	1.800
AR	Quantity	2	3	1	-	1
	Total Obligation Authority	3.000	4.000	1.800	-	1.800
<b>Total:</b>	<b>Quantity</b>	<b>7</b>	<b>16</b>	<b>2</b>	<b>-</b>	<b>2</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 / 03 / 10		<b>P-1 Line Item Number / Title:</b> 4516M01001 / CBRN Defense		<b>Item Number / Title [DODIC]:</b> M01006 / COLLECTIVE PROTECTION (CP)		
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : B			<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>	11.387	21.453	3.600	-	3.600

**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 / 03 / 10	<b>P-1 Line Item Number / Title:</b> 4516M01001 / CBRN Defense	<b>Item Number / Title [DODIC]:</b> M01007 / DECONTAMINATION (DECON)

<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)	4.267	22.290	49.000	-	-	-
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	4.267	22.290	49.000	-	-	-
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>4.267</b>	<b>22.290</b>	<b>49.000</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)	-	-	-	-	-	-

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>																		
Mass Personnel Decontamination (MPD) Systems <sup>(†)</sup>	-	-	-	365.000	12	4.380	472.000	20	9.440	-	-	-	-	-	-	-	-	-
High Mobility Decontamination System (HMDS) <sup>(†)</sup>	-	-	-	248.500	34	8.449	320.500	38	12.179	-	-	-	-	-	-	-	-	-
Decontaminant - High Mobility Decontamination System (HMDS)	-	-	-	30.000	228	6.840	30.000	228	6.840	-	-	-	-	-	-	-	-	-
<b>Subtotal: Recurring Cost</b>	-	-	-	-	-	19.669	-	-	28.459	-	-	-	-	-	-	-	-	-
<b>Non Recurring Cost</b>																		
Joint Personal Dosimeters - Congressional Add <sup>(†)</sup>	-	-	-	-	-	-	0.415	28,976	12.025	-	-	-	-	-	-	-	-	-
<b>Subtotal: Non Recurring Cost</b>	-	-	-	-	-	-	-	-	12.025	-	-	-	-	-	-	-	-	-
<b>Subtotal: Flyaway Cost</b>	-	-	-	-	-	19.669	-	-	40.484	-	-	-	-	-	-	-	-	-
<b>Package Fielding Cost</b>																		
<b>Recurring Cost</b>																		
MPD Total Package Fielding	-	-	-	-	-	-	-	-	2.785	-	-	-	-	-	-	-	-	-

**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 / 03 / 10	<b>P-1 Line Item Number / Title:</b> 4516M01001 / CBRN Defense	<b>Item Number / Title [DODIC]:</b> M01007 / DECONTAMINATION (DECON)
<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)
HMDS Total Package Fielding	-	-	-	-	-	0.040	-	-	1.326	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	0.040	-	-	4.111	-	-	-	-	-	-	-	-	-
Non Recurring Cost																		
Joint Personal Dosimeters Fielding - Congressional Add	-	-	-	-	-	-	-	-	0.975	-	-	-	-	-	-	-	-	-
<i>Subtotal: Non Recurring Cost</i>	-	-	-	-	-	-	-	-	0.975	-	-	-	-	-	-	-	-	-
<i>Subtotal: Package Fielding Cost</i>	-	-	-	-	-	0.040	-	-	5.086	-	-	-	-	-	-	-	-	-
Support - Contractor Logistics Support (CLS) Cost																		
Oversight	-	-	4.267	-	-	0.195	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - Contractor Logistics Support (CLS) Cost</i>	-	-	4.267	-	-	0.195	-	-	-	-	-	-	-	-	-	-	-	-
Support - Program Management Cost																		
Government Management	-	-	-	-	-	1.590	-	-	1.794	-	-	-	-	-	-	-	-	-
Contractor Management	-	-	-	-	-	0.173	-	-	1.104	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - Program Management Cost</i>	-	-	-	-	-	1.763	-	-	2.898	-	-	-	-	-	-	-	-	-
Support - System Engineering Cost																		
System Engineering	-	-	-	-	-	0.461	-	-	0.203	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - System Engineering Cost</i>	-	-	-	-	-	0.461	-	-	0.203	-	-	-	-	-	-	-	-	-
Support - System Test and Evaluation Cost																		
Test and Evaluation Support	-	-	-	-	-	0.162	-	-	0.329	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - System Test and Evaluation Cost</i>	-	-	-	-	-	0.162	-	-	0.329	-	-	-	-	-	-	-	-	-
<b>Gross/Weapon System Cost</b>	-	-	4.267	-	-	22.290	-	-	49.000	-	-	-	-	-	-	-	-	-

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	-	-	-	-	-
	Total Obligation Authority	22.290	49.000	-	-	-

**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 / 03 / 10	<b>P-1 Line Item Number / Title:</b> 4516M01001 / CBRN Defense	<b>Item Number / Title [DODIC]:</b> M01007 / DECONTAMINATION (DECON)

<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
<b>Total:</b>	<b>Quantity</b>	-	-	-	-	-
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	22.290	49.000	-	-	-

(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 / 03 / 10	<b>P-1 Line Item Number / Title:</b> 4516M01001 / CBRN Defense	<b>Item Number / Title [DODIC]:</b> M01007 / DECONTAMINATION (DECON)
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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
Mass Personnel Decontamination (MPD) Systems		2018	Airboss / Landover, Maryland	C / FFP	Landover, Maryland	May 2018	Aug 2018	12	365.000	Y		
Mass Personnel Decontamination (MPD) Systems		2019	Karcher / Blackwood, New Jersey	PO	Picatinny Arsenal	Dec 2018	Jan 2019	9	274.330	Y		
Mass Personnel Decontamination (MPD) Systems		2019	Airboss / Landover, Maryland	PO	Picatinny Arsenal	Dec 2018	Jan 2019	9	274.330	Y		
Mass Personnel Decontamination (MPD) Systems		2019	UTS / Ft. Walton Beach, Florida	PO	Picatinny Arsenal	Dec 2018	Jan 2019	2	274.330	Y		
High Mobility Decontamination System (HMDS)		2018	Intelagard / Lafayette, Colorado	C / FFP	Picatinny Arsenal	Jun 2018	Oct 2018	34	248.500	N		
High Mobility Decontamination System (HMDS)		2019	Intelagard / Lafayette, Colorado	C / FFP	Picatinny Arsenal	Jan 2019	May 2019	38	320.500	N		
Joint Personal Dosimeters - Congressional Add		2019	TBD / TBD	C / FFP	ACC, APG, MD	Jun 2019	Oct 2019	28,976	0.415	Y		



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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 / 03 / 10	<b>P-1 Line Item Number / Title:</b> 4516M01001 / CBRN Defense	<b>Item Number / Title [DODIC]:</b> M01008 / CONTAMINATION AVOIDANCE (CA)

<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)	8,759	7,477	12	14	-	14
Gross/Weapon System Cost (\$ in Millions)	145.483	6.686	86.000	8.200	-	8.200
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	145.483	6.686	86.000	8.200	-	8.200
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>145.483</b>	<b>6.686</b>	<b>86.000</b>	<b>8.200</b>	<b>-</b>	<b>8.200</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)	16.610	0.894	7,166.667	585.714	-	585.714

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																		
CRESS Kits <sup>(†)</sup>	0.334	5,151	1.720	0.334	4,820	1.610	-	-	-	-	-	-	-	-	-	-	-	-
Com Adapter	5.885	10,192	59.978	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
JCAD	7.407	11,311	83.782	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FY 17 OCO	-	-	0.003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	<i>145.484</i>	-	-	<i>1.610</i>	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Flyaway Cost</i>	-	-	<i>145.484</i>	-	-	<i>1.610</i>	-	-	-	-	-	-	-	-	-	-	-	-
<b>Hardware Cost</b>																		
Recurring Cost																		
CBRN Robotic <sup>(†)</sup>	-	-	-	1,159.000	4	4.636	702.357	28	19.666	-	-	-	-	-	-	-	-	-
MRDS Hardware Costs <sup>(†)</sup>	-	-	-	-	-	-	776.769	13	10.098	528.929	14	7.405	-	-	-	528.929	14	7.405
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	<i>4.636</i>	-	-	<i>29.764</i>	-	-	<i>7.405</i>	-	-	-	-	-	<i>7.405</i>
Non Recurring Cost																		
Integrated Early Warning	-	-	-	-	-	-	-	-	40.000	-	-	-	-	-	-	-	-	-
PINS	-	-	-	-	-	-	354.167	12	4.250	-	-	-	-	-	-	-	-	-
RAZORS	-	-	-	-	-	-	40.625	80	3.250	-	-	-	-	-	-	-	-	-
HAPSITE	-	-	-	-	-	-	203.125	16	3.250	-	-	-	-	-	-	-	-	-

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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 / 03 / 10	<b>P-1 Line Item Number / Title:</b> 4516M01001 / CBRN Defense	<b>Item Number / Title [DODIC]:</b> M01008 / CONTAMINATION AVOIDANCE (CA)

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
<i>Subtotal: Non Recurring Cost</i>	-	-	-	-	-	-	-	-	50.750	-	-	-	-	-	-	-	-	-
<i>Subtotal: Hardware Cost</i>	-	-	-	-	-	4.636	-	-	80.514	-	-	7.405	-	-	-	-	-	7.405
<b>Package Fielding Cost</b>																		
<b>Recurring Cost</b>																		
MRDS Fielding Costs	-	-	-	-	-	-	23.231	13	0.302	21.571	14	0.302	-	-	-	21.571	14	0.302
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	0.302	-	-	0.302	-	-	-	-	-	0.302
<b>Non Recurring Cost</b>																		
Fielding Labor for CBRN Robotics	-	-	-	-	-	-	-	-	2.934	-	-	-	-	-	-	-	-	-
Fielding for PINS Integration	-	-	-	-	-	-	-	-	0.750	-	-	-	-	-	-	-	-	-
Fielding for RAZOR Integration	-	-	-	-	-	-	-	-	0.750	-	-	-	-	-	-	-	-	-
Fielding for HAPSITE Integration	-	-	-	-	-	-	-	-	0.750	-	-	-	-	-	-	-	-	-
JUONS CC-0557 FOB Integration to IBD-K	-	-	-	-	-	0.440	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Non Recurring Cost</i>	-	-	-	-	-	0.440	-	-	5.184	-	-	-	-	-	-	-	-	-
<i>Subtotal: Package Fielding Cost</i>	-	-	-	-	-	0.440	-	-	5.486	-	-	0.302	-	-	-	-	-	0.302
<b>Support - Program Management Cost</b>																		
Government Management	-	-	-	-	-	-	-	-	-	85.000	2	0.170	-	-	-	85.000	2	0.170
Contractor Management	-	-	-	-	-	-	-	-	-	161.500	2	0.323	-	-	-	161.500	2	0.323
<i>Subtotal: Support - Program Management Cost</i>	-	-	-	-	-	-	-	-	-	-	-	0.493	-	-	-	-	-	0.493
<b>Gross/Weapon System Cost</b>	<b>16.610</b>	<b>8,759</b>	<b>145.483</b>	<b>0.894</b>	<b>7,477</b>	<b>6.686</b>	<b>7,166.667</b>	<b>12</b>	<b>86.000</b>	<b>585.714</b>	<b>14</b>	<b>8.200</b>	-	-	-	<b>585.714</b>	<b>14</b>	<b>8.200</b>

**Remarks:**  
Unit cost for the procurement of the Man-portable Radiological Detection System varies due to the type and quantity of the configurations that are needed in that fiscal year.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	4,378	12	14	-	14

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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 / 03 / 10	<b>P-1 Line Item Number / Title:</b> 4516M01001 / CBRN Defense	<b>Item Number / Title [DODIC]:</b> M01008 / CONTAMINATION AVOIDANCE (CA)

**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>
	Total Obligation Authority	6.018	86.000	8.200	-	8.200
ANG	Quantity	3,099	-	-	-	-
	Total Obligation Authority	0.668	-	-	-	-
<b>Total:</b>	<b>Quantity</b>	<b>7,477</b>	<b>12</b>	<b>14</b>	-	<b>14</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>6.686</b>	<b>86.000</b>	<b>8.200</b>	-	<b>8.200</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 / 03 / 10			<b>P-1 Line Item Number / Title:</b> 4516M01001 / CBRN Defense				<b>Item Number / Title [DODIC]:</b> M01008 / CONTAMINATION AVOIDANCE (CA)				

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
CRESS Kits		2018	Pine Bluff Arsenal / Pine Bluff, AK	MIPR	Pine Bluff Arsenal	Feb 2018	Mar 2018	4,820	0.334	N		
CBRN Robotic		2019	Qinetiq / Waltham, MA	MIPR	Waltham, MA	Jan 2019	Jun 2019	28	702.357	N		
MRDS Hardware Costs <sup>(†)</sup>		2019	TBD / TBD	C / FFP	TBD, TBD	Jun 2019	Sep 2019	13	776.769	N		
MRDS Hardware Costs <sup>(†)</sup>		2020	TBD / TBD	C / FFP	TBD, TBD	Jun 2020	Sep 2020	14	528.929	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															
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 03 / 10										<b>P-1 Line Item Number / Title:</b> 4516M01001 / CBRN Defense										<b>Item Number / Title [DODIC]:</b> M01008 / CONTAMINATION AVOIDANCE (CA)									

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					
MRDS Hardware Costs																																			
	1	2019	ARMY	13	0	13																							A	-	-	-	1	12	
	1	2020	ARMY	14	0	14																												14	
							O C T	N O V	D E C	J A N	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 / 03 / 10										<b>P-1 Line Item Number / Title:</b> 4516M01001 / CBRN Defense										<b>Item Number / Title [DODIC]:</b> M01008 / CONTAMINATION AVOIDANCE (CA)									

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	
MRDS Hardware Costs																																
1		2019	ARMY	13	1	12	1	1	1	1	1	2	1	1	1	1													0			
1		2020	ARMY	14	0	14										A	-	-	-	1	1	1	1	2	1	1	2	1	1	1	1	0
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P		

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<b>Exhibit P-21, Production Schedule:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 03 / 10		<b>P-1 Line Item Number / Title:</b> 4516M01001 / CBRN Defense
<b>Item Number / Title [DODIC]:</b> M01008 / CONTAMINATION AVOIDANCE (CA)		

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	1	15	30	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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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 03 / 10	<b>P-1 Line Item Number / Title:</b> 4516M01001 / CBRN Defense	<b>Item Number / Title [DODIC]:</b> M01011 / CONSEQUENCE MGMT (CM)

<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)	9,021	1,786	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	49.619	25.825	-	-	-	-
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	49.619	25.825	-	-	-	-
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>49.619</b>	<b>25.825</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)	5.500	14.460	-	-	-	-

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																		
PPE Suit NFPA Class 2	22.195	1,075	23.860	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PPE Suit NFPA Class 3	4.845	5,200	25.194	0.577	1,955	1.128	-	-	-	-	-	-	-	-	-	-	-	-
HAZMAT Boots	0.065	2,888	0.188	0.070	1,002	0.070	-	-	-	-	-	-	-	-	-	-	-	-
Filter Canisters	0.045	5,500	0.248	0.047	1,468	0.069	-	-	-	-	-	-	-	-	-	-	-	-
JUONS CC-0557 FOB Integration to IBD-K	-	-	-	-	-	2.060	-	-	-	-	-	-	-	-	-	-	-	-
PDR-75A Dosimeter - Congressional Add	-	-	-	1.333	9,000	12.000	-	-	-	-	-	-	-	-	-	-	-	-
Mass Personnel Decontamination (MPD) Systems/Push Package	-	-	-	-	-	6.463	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Non Recurring Cost</i>	-	-	49.489	-	-	21.787	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Flyaway Cost</i>	-	-	49.489	-	-	21.787	-	-	-	-	-	-	-	-	-	-	-	-
<b>Package Fielding Cost</b>																		
Non Recurring Cost																		
PDR-75A Fielding	-	-	-	-	-	1.000	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Non Recurring Cost</i>	-	-	-	-	-	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 / 03 / 10		<b>P-1 Line Item Number / Title:</b> 4516M01001 / CBRN Defense
<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: Package Fielding Cost</i>	-	-	-	-	-	1.000	-	-	-	-	-	-	-	-	-	-	-	-
<b>Support - Contractor Logistics Support (CLS) Cost</b>																		
Oversight	-	-	-	-	-	1.802	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - Contractor Logistics Support (CLS) Cost</i>	-	-	-	-	-	1.802	-	-	-	-	-	-	-	-	-	-	-	-
<b>Support - Program Management Cost</b>																		
Government Management	-	-	0.132	-	-	0.168	-	-	-	-	-	-	-	-	-	-	-	-
Contractor Management	-	-	-	-	-	0.212	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - Program Management Cost</i>	-	-	0.132	-	-	0.380	-	-	-	-	-	-	-	-	-	-	-	-
<b>Support - Staging and Transportation Cost</b>																		
Staging and Transportation	-	-	-	-	-	0.853	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - Staging and Transportation Cost</i>	-	-	-	-	-	0.853	-	-	-	-	-	-	-	-	-	-	-	-
<b>Gross/Weapon System Cost</b>	5.500	9,021	49.619	14.460	1,786	25.825	-	-	-	-	-	-	-	-	-	-	-	-

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	1,786	-	-	-	-
	Total Obligation Authority	25.825	-	-	-	-
<b>Total:</b>	<b>Quantity</b>	<b>1,786</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>25.825</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</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 / 03 / 10	<b>P-1 Line Item Number / Title:</b> 4516M01001 / CBRN Defense	<b>Item Number / Title [DODIC]:</b> M01280 / Radiological Detection 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)	-	-	8,415	4,060	-	4,060
Gross/Weapon System Cost (\$ in Millions)	1.529	-	32.818	8.793	0.011	8.804
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	1.529	-	32.818	8.793	0.011	8.804
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>1.529</b>	<b>-</b>	<b>32.818</b>	<b>8.793</b>	<b>0.011</b>	<b>8.804</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)	-	-	3.900	2.166	-	2.168

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																		
AN/PDR-77 Hardware	3.443	440	1.515	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Engineering Support	-	-	0.014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
JPD- 1 <sup>(t)</sup>	-	-	-	-	-	-	-	-	-	0.415	3,857	1.599	-	-	0.415	3,857	1.599	
Radiological Detection System Hardware Config 1 <sup>(t)</sup>	-	-	-	-	-	-	1.630	1,546	2.520	-	-	-	-	-	-	-	-	-
Radiological Detection System Hardware Config 2 <sup>(t)</sup>	-	-	-	-	-	-	16.460	274	4.510	17.441	143	2.494	-	-	-	17.441	143	2.494
Radiological Detection System Hardware Config 3 <sup>(t)</sup>	-	-	-	-	-	-	19.274	795	15.323	20.600	60	1.236	-	-	-	20.600	60	1.236
Radiological Detection System Warranty	-	-	-	-	-	-	-	-	3.647	-	-	0.360	-	-	-	-	-	0.360
<i>Subtotal: Recurring Cost</i>	-	-	<i>1.529</i>	-	-	-	-	-	<i>26.000</i>	-	-	<i>5.691</i>	-	-	-	-	-	<i>5.691</i>
<i>Subtotal: Flyaway Cost</i>	-	-	<i>1.529</i>	-	-	-	-	-	<i>26.000</i>	-	-	<i>5.691</i>	-	-	-	-	-	<i>5.691</i>

Package Fielding Cost

Recurring Cost																		
New Equipment Training	-	-	-	-	-	-	-	-	-	1.033	-	-	0.036	-	-	-	-	0.036
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	<i>1.033</i>	-	-	<i>0.036</i>	-	-	-	-	-	<i>0.036</i>

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 / 03 / 10		<b>P-1 Line Item Number / Title:</b> 4516M01001 / CBRN Defense
<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 Cost RDS	-	-	-	-	-	-	-	-	1.189	-	-	0.230	-	-	-	-	-	0.230
Fielding Cost JPD-I	-	-	-	-	-	-	-	-	-	-	-	0.150	-	-	0.011	-	-	0.161
<i>Subtotal: Non Recurring Cost</i>	-	-	-	-	-	-	-	-	1.189	-	-	0.380	-	-	0.011	-	-	0.391
<i>Subtotal: Package Fielding Cost</i>	-	-	-	-	-	-	-	-	2.222	-	-	0.416	-	-	0.011	-	-	0.427
<b>Support - Production Engineering Cost</b>																		
Production Engineering	-	-	-	-	-	-	-	-	0.934	-	-	1.641	-	-	-	-	-	1.641
<i>Subtotal: Support - Production Engineering Cost</i>	-	-	-	-	-	-	-	-	0.934	-	-	1.641	-	-	-	-	-	1.641
<b>Support - Program Management Cost</b>																		
Government Management	-	-	-	-	-	-	-	-	2.390	-	-	1.047	-	-	-	-	-	1.047
<i>Subtotal: Support - Program Management Cost</i>	-	-	-	-	-	-	-	-	2.390	-	-	1.047	-	-	-	-	-	1.047
<b>Support - Quality Assurance Cost</b>																		
Quality Assurance	-	-	-	-	-	-	-	-	1.272	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - Quality Assurance Cost</i>	-	-	-	-	-	-	-	-	1.272	-	-	-	-	-	-	-	-	-
<b>Gross/Weapon System Cost</b>	-	-	1.529	-	-	-	3.900	8,415	32.818	2.166	4,060	8.793	-	-	0.011	2.168	4,060	8.804

**Remarks:**

The Chemical and Biological Defense Program (CBDP) also plans to fund \$4.065 million in FY20 Base toward the RDS effort on CBDP PE 0208384BP/item SA0011 and \$4.957 million in FY 2020 Base for the JPD-I effort on OSD PE 0208384BP/item SA0012.

Unit cost change from FY19 to FY20 is due to a decrease in total funding (Army/CBDP). This decrease pushed the quantities below the Economic Order Quantity savings.

FY20 Base dollars in the amount of \$2.0 million supports the procurement of 3,857 Joint Personal Dosimeter-Individual sensors and \$6.804 million supports the procurement of 203 Radiological Detection Systems.

FY20 OCO dollars in the amount of \$.011 million for the Joint Personal Dosimeter-Individual to support the fielding of European Deterrence Initiative.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	-	8,415	1,989	-	1,989
	Total Obligation Authority	-	32,818	5,647	0.011	5,658
ANG	Quantity	-	-	1,304	-	1,304

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 03 / 10	<b>P-1 Line Item Number / Title:</b> 4516M01001 / CBRN Defense	<b>Item Number / Title [DODIC]:</b> M01280 / Radiological Detection System
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<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>
	-	-	2.588	-	2.588
AR	-	-	767	-	767
	-	-	0.558	-	0.558
<b>Total:</b>	-	8,415	4,060	-	4,060
<b>Secondary Distribution</b>	-	32.818	8.793	0.011	8.804

(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 / 03 / 10	<b>P-1 Line Item Number / Title:</b> 4516M01001 / CBRN Defense	<b>Item Number / Title [DODIC]:</b> M01280 / Radiological Detection 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
JPD- I		2020	TBD / TBD	C / FFP	ACC, APG, MD	Jun 2020	Oct 2020	3,857	0.415	Y		
Radiological Detection System Hardware Config 1		2019	TBD / TBD	SS / FPIF	ACC APG, MD	Jun 2019	Feb 2020	1,546	1.630	N		
Radiological Detection System Hardware Config 2		2019	TBD / TBD	SS / FPIF	ACC APG, MD	Jun 2019	Feb 2020	274	16.460	N		
Radiological Detection System Hardware Config 2		2020	TBD / TBD	SS / FPIF	ACC APG, MD	Jun 2020	Dec 2020	143	17.441	N		
Radiological Detection System Hardware Config 3		2019	TBD / TBD	SS / FPIF	ACC APG, MD	Jun 2019	Feb 2020	795	19.274	N		
Radiological Detection System Hardware Config 3		2020	TBD / TBD	SS / FPIF	ACC APG, MD	Jun 2020	Dec 2020	60	20.600	N		

**Remarks:**  
Funds in this program (\$2M) have been realigned to program RADIOLOGICAL DETECTION SYSTEM, SSN M01280 from program RADIATION MONITORING SYSTEMS, SSN WC5200.

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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 / 03 / 10	<b>P-1 Line Item Number / Title:</b> 4516M01001 / CBRN Defense	<b>Item Number / Title [DODIC]:</b> M09988 / EOD Dismounted Reconnaissance SKO (DR SKO)

<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)	-	-	-	3	-	3
Gross/Weapon System Cost (\$ in Millions)	-	-	-	5.235	18.700	23.935
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	-	-	-	5.235	18.700	23.935
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	-	-	-	<b>5.235</b>	<b>18.700</b>	<b>23.935</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)	-	-	-	1,745.000	-	7,978.333

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>																		
CBRND DRS EOD Configuration <sup>(†)</sup>	-	-	-	-	-	-	-	-	-	1,745.000	3	5.235	1,870.000	10	18.700	1,841.154	13	23.935
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	5.235	-	-	18.700	-	-	23.935
<i>Subtotal: Hardware Cost</i>	-	-	-	-	-	-	-	-	-	-	-	5.235	-	-	18.700	-	-	23.935
<b>Gross/Weapon System Cost</b>	-	-	-	-	-	-	-	-	-	1,745.000	3	5.235	-	-	18.700	7,978.333	3	23.935

**Remarks:**

The Explosive Ordnance Disposal (EOD) Dismounted Reconnaissance Sets, Kits and Outfits (DR SKO) will be used to procure the CBRN DR SKO capabilities for the EOD Warfighter. The CBRN DR SKO provides CBRN Warfighters with a comprehensive suite of protection, detection, identification, sample collection, hazard marking, decontamination, and other support capabilities for use during explosive ordnance render safe operations. The Warfighter will use the CBRN DRS respiratory and percutaneous protection to prevent potential contamination while conducting operations, sensor capabilities to find CBRN and toxic industrial hazards to determine the appropriate action during operations, and the decontamination kit to remove contamination from personnel and equipment.

<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	-	-	0.000	18.700	18.700
ANG	Quantity	-	-	3	-	3
	Total Obligation Authority	-	-	5.235	-	5.235
<b>Total:</b>	<b>Quantity</b>	-	-	3	-	3

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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 / 03 / 10		<b>P-1 Line Item Number / Title:</b> 4516M01001 / CBRN Defense		<b>Item Number / Title [DODIC]:</b> M09988 / EOD Dismounted Reconnaissance SKO (DR SKO)		
<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>	-	-	5.235	18.700	23.935

(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 / 03 / 10			<b>P-1 Line Item Number / Title:</b> 4516M01001 / CBRN Defense				<b>Item Number / Title [DODIC]:</b> M09988 / EOD Dismounted Reconnaissance SKO (DR SKO)					
<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>
CBRND DRS EOD Configuration		2020	Pine Bluff Arsenal / Pine Bluff, Arkansas	MIPR	Pine Bluff Arsenal, Pine Bluff, AR	Jan 2020	Jun 2020	13	1,841.154	Y		

**Remarks:**  
EOD DRSKO systems will be manufactured at Pine Bluff Arsenal alongside CBRN DRSKO systems to maximize efficiencies and minimize costs of for components.



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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 03: Other Support Equipment / BSA 10: Chemical Defensive Equipment	<b>P-1 Line Item Number / Title:</b> 6230MX0600 / Smoke & Obscurant Family: SOF (Non AAO Item)
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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	-	36	64	36	-	-	-	136
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	11.297	-	-	5.050	-	5.050	8.960	5.050	-	-	-	30.357
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	11.297	-	-	5.050	-	5.050	8.960	5.050	-	-	-	30.357
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>11.297</b>	-	-	<b>5.050</b>	-	<b>5.050</b>	<b>8.960</b>	<b>5.050</b>	-	-	-	<b>30.357</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> )	-	-	-	140.278	-	140.278	140.000	140.278	-	-	-	223.213

**Description:**

The Screening Obscuration Module (SOM) will increase platform survivability and soldier protection levels of maneuver forces by degrading enemy forces ability to detect US targets. The use of battlefield obscuration is a time-tested military tactic to protect personnel, vehicles, equipment, and structures from detection; and to screen the locations, activities, and actions of friendly forces. Commanders who employ obscuration enjoy greater tactical success, freedom of maneuver, and force protection. The SOM assists the Brigade Combat Team (BCT) in retaining freedom of maneuver, conducting breaching operations, breaking contact with the enemy during security operations, and deceiving the enemy of the BCT's intentions. The SOM accomplishes this by degrading enemy forces ability to detect US targets in the visual and near infrared region of the electromagnetic spectrum. The SOM will provide a man portable mountable and dismountable medium area visual screening obscuration capability that can be applied to manned combat platforms and unmanned robotic systems. The individual Soldier or team will employ the SOM devices on open and complex terrain as part of cross-domain obscuration effects synchronized with land and air maneuver during cross-domain windows of advantage.

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	-	-	36	-	36	64	36	-	-
	Total Obligation Authority	-	-	5.050	-	5.050	8.960	5.050	-	-
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	<b>-</b>	<b>-</b>	<b>36</b>	<b>-</b>	<b>36</b>	<b>64</b>	<b>36</b>	<b>-</b>	<b>-</b>
	<b>Total Obligation Authority</b>	<b>-</b>	<b>-</b>	<b>5.050</b>	<b>-</b>	<b>5.050</b>	<b>8.960</b>	<b>5.050</b>	<b>-</b>	<b>-</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 03: Other Support Equipment / BSA 10:  
 Chemical Defensive Equipment

**P-1 Line Item Number / Title:**  
 6230MX0600 / Smoke & Obscurant Family: SOF (Non AAO Item)

**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	MX1000 / FAMILY OF TACTICAL OBSCURATION DEVICES	P-5a			- / 11.297	- / -	- / -	36 / 5.050	- / -	36 / 5.050
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 11.297</b>	<b>- / -</b>	<b>- / -</b>	<b>36 / 5.050</b>	<b>- / -</b>	<b>36 / 5.050</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 Base dollars funds the procurement and fielding of 36 SOM systems. The SOM will increase survivability and soldier protection levels of maneuver forces by replacing 1930s technology that are still deployed but are no longer in production due to inadequate obscuration capability and significant health/safety risks to the warfighter. The SOM's technology can support future bi-spectral and multispectral screening requirements suitable to defeat hi-tech weapons while the existing technology is limited to visual to near IR screening.

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 03 / 10	<b>P-1 Line Item Number / Title:</b> 6230MX0600 / Smoke & Obscurant Family: SOF (Non AAO Item)	<b>Item Number / Title [DODIC]:</b> MX1000 / FAMILY OF TACTICAL OBSCURATION DEVICES
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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)	-	-	-	36	-	36
Gross/Weapon System Cost (\$ in Millions)	11.297	-	-	5.050	-	5.050
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	11.297	-	-	5.050	-	5.050
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>11.297</b>	<b>-</b>	<b>-</b>	<b>5.050</b>	<b>-</b>	<b>5.050</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)	-	-	-	140.278	-	140.278

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																		
SOM DEVICES <sup>(t)</sup>	-	-	-	-	-	-	-	-	-	105.000	36	3.780	-	-	-	105.000	36	3.780
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	3.780	-	-	-	-	-	3.780
<i>Subtotal: Hardware Cost</i>	-	-	-	-	-	-	-	-	-	-	-	3.780	-	-	-	-	-	3.780
Support - Program Management Cost																		
Government Management	-	-	11.297	-	-	-	-	-	-	-	-	1.270	-	-	-	-	-	1.270
<i>Subtotal: Support - Program Management Cost</i>	-	-	11.297	-	-	-	-	-	-	-	-	1.270	-	-	-	-	-	1.270
<b>Gross/Weapon System Cost</b>	-	-	11.297	-	-	-	-	-	-	140.278	36	5.050	-	-	-	140.278	36	5.050

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	-	-	36	-	36
Total Obligation Authority	-	-	5.050	-	5.050
<b>Total: Secondary Distribution</b>	<b>-</b>	<b>-</b>	<b>36</b>	<b>-</b>	<b>36</b>
<b>Total Obligation Authority</b>	<b>-</b>	<b>-</b>	<b>5.050</b>	<b>-</b>	<b>5.050</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 / 03 / 10			<b>P-1 Line Item Number / Title:</b> 6230MX0600 / Smoke & Obscurant Family: SOF (Non AAO Item)				<b>Item Number / Title [DODIC]:</b> MX1000 / FAMILY OF TACTICAL OBSCURATION DEVICES					
<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>
SOM DEVICES		2020	L3 Technologies / Melbourne, FL	Option / FPIS	APG, Maryland	May 2020	Dec 2020	36	105.000	N		Dec 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 03: Other Support Equipment / BSA 15: Bridging Equipment	<b>P-1 Line Item Number / Title:</b> 2831MX0100 / Tactical Bridging
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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> 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> )	-	22	63	47	-	47	5	5	3	41	-	186
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	65.734	16.610	81.219	59.821	4.884	64.705	10.556	10.544	28.102	91.213	-	368.683
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	65.734	16.610	81.219	59.821	4.884	64.705	10.556	10.544	28.102	91.213	-	368.683
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>65.734</b>	<b>16.610</b>	<b>81.219</b>	<b>59.821</b>	<b>4.884</b>	<b>64.705</b>	<b>10.556</b>	<b>10.544</b>	<b>28.102</b>	<b>91.213</b>	<b>-</b>	<b>368.683</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> )	-	755.000	1,289.190	1,272.787	-	1,376.702	2,111.200	2,108.800	9,367.333	2,224.707	-	1,982.167

**Description:**

The Line of Communication Bridge (LOCB) facilitates sustainment of widely dispersed forces over a large area of operation. The LOCB restores and maintains line of communication routes in theater, supporting both civilian and military traffic. As such, the LOCB facilitates the uninterrupted flow of forces, equipment, personnel and supplies for sustained ground operations for the warfighter, Allied, Coalition and host nation forces, and displaced civilians. Current LOCB is fielded in 80 Tracked (T) /110 Wheeled (W) Military Load Classification (MLC). Emerging and POR requirements will be procured in 120T/150W MLC. The LOCB system provides a 50 meter dry gap crossing capability and a 280 meter wet gap crossing capability to the Multi-Role Bridge Company (MRBC). The LOCB 50 meter dry gap system will include bridge components, ramps, pier sets and associated equipment. The 280 meter float LOCB system will consist of the same bridge components as the 50 meter LOCB and will include additional items to support wet-gap crossing, including pontoons and associated equipment. FY18, 19 and 20 procurement funding will be used in support of ONS 18-22760 requirement. The Program of Record requirement is 70 sets of 50 meter fixed LOCBs, 2 sets of 110 meter floating LOCB and 5 sets of 280 meter Floating LOCB.

LOCB Army Acquisition Objective (AAO): 77

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	22	63	47	-	47	4	5	3	41
	Total Obligation Authority	16.610	81.219	59.821	4.884	64.705	6.556	10.544	28.102	91.213
ANG	Quantity	-	-	-	-	-	1	-	-	-
	Total Obligation Authority	-	-	-	-	-	4.000	-	-	-
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	<b>22</b>	<b>63</b>	<b>47</b>	<b>-</b>	<b>47</b>	<b>5</b>	<b>5</b>	<b>3</b>	<b>41</b>
	<b>Total Obligation Authority</b>	<b>16.610</b>	<b>81.219</b>	<b>59.821</b>	<b>4.884</b>	<b>64.705</b>	<b>10.556</b>	<b>10.544</b>	<b>28.102</b>	<b>91.213</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 03: Other Support Equipment / BSA 15: Bridging Equipment **P-1 Line Item Number / Title:** 2831MX0100 / Tactical Bridging

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

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

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	G82404 / LINE OF COMMUNICATION BRIDGE LOCB	P-5a, P-21			- / 65.734	22 / 16.610	63 / 81.219	47 / 59.821	- / 4.884	47 / 64.705
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 65.734</b>	<b>22 / 16.610</b>	<b>63 / 81.219</b>	<b>47 / 59.821</b>	<b>- / 4.884</b>	<b>47 / 64.705</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 20 Base procurement dollars in the amount of \$59.821 million support the procurement of 47 Commercial 120 Tracked/150 Wheeled MLC LOCB sets in support of ONS Bridging Requirement.  
 FY 20 OCO procurement dollars in the amount of \$4.884 million support the procurement of 4 Commercial 120 Tracked/150 Wheeled MLC LOCB sets in support of ONS Bridging Requirement. System issues prevented the correct population of OCO quantities in the P40.  
 After obtaining full concurrence of the Commandant of the US Army Engineer School and the Executive Deputy to the AMC Commanding General, the Milestone Decision Authority (MDA) made the decision to buy commercial bridging in support of LOCB requirements in 2QFY18. The LOCB system provides the United States Army with an enhanced support bridging capability to replace the obsolete, 1940s era Bailey Bridge (BB).  
 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 / 03 / 15	<b>P-1 Line Item Number / Title:</b> 2831MX0100 / Tactical Bridging	<b>Item Number / Title [DODIC]:</b> G82404 / LINE OF COMMUNICATION BRIDGE LOCB

<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)	-	22	63	47	-	47
Gross/Weapon System Cost (\$ in Millions)	65.734	16.610	81.219	59.821	4.884	64.705
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	65.734	16.610	81.219	59.821	4.884	64.705
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>65.734</b>	<b>16.610</b>	<b>81.219</b>	<b>59.821</b>	<b>4.884</b>	<b>64.705</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)	-	755.000	1,289.190	1,272.787	-	1,376.702

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																		
ONS Commercial Dry Gap <sup>(t)</sup>	445.000	3	1.335	445.000	3	1.335	1,115.000	34	37.910	1,136.870	23	26.148	1,136.750	4	4.547	1,136.852	27	30.695
ONS Commercial Wet Gap <sup>(t)</sup>	680.000	9	6.120	680.000	19	12.920	1,300.000	29	37.700	1,325.500	24	31.812	-	-	-	1,325.500	24	31.812
System Engineering/Program Management	-	-	4.114	-	-	0.836	-	-	0.950	-	-	0.956	-	-	-	-	-	0.956
Engineering Changes	-	-	6.500	-	-	-	-	-	0.714	-	-	-	-	-	-	-	-	-
FDT	-	-	-	-	-	0.967	-	-	2.740	-	-	0.699	-	-	0.187	-	-	0.886
Fielding	-	-	-	-	-	0.552	-	-	1.205	-	-	0.206	-	-	0.150	-	-	0.356
<i>Subtotal: Recurring Cost</i>	-	-	<i>18.069</i>	-	-	<i>16.610</i>	-	-	<i>81.219</i>	-	-	<i>59.821</i>	-	-	<i>4.884</i>	-	-	<i>64.705</i>
<i>Subtotal: Flyaway Cost</i>	-	-	<i>18.069</i>	-	-	<i>16.610</i>	-	-	<i>81.219</i>	-	-	<i>59.821</i>	-	-	<i>4.884</i>	-	-	<i>64.705</i>
<b>Hardware Cost</b>																		
Non Recurring Cost																		
Prior Acquisition Strategy - LOCB Fixed Bridge	-	-	47.665	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Non Recurring Cost</i>	-	-	<i>47.665</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Hardware Cost</i>	-	-	<i>47.665</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Gross/Weapon System Cost</b>	-	-	<b>65.734</b>	<b>755.000</b>	<b>22</b>	<b>16.610</b>	<b>1,289.190</b>	<b>63</b>	<b>81.219</b>	<b>1,272.787</b>	<b>47</b>	<b>59.821</b>	-	-	<b>4.884</b>	<b>1,376.702</b>	<b>47</b>	<b>64.705</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 / 03 / 15	<b>P-1 Line Item Number / Title:</b> 2831MX0100 / Tactical Bridging	<b>Item Number / Title [DODIC]:</b> G82404 / LINE OF COMMUNICATION BRIDGE LOCB

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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**Remarks:**  
M3 Container Roll-In/Out Platforms are no longer purchased independently of LOCB hardware.

LOCB FY20 costs projected to increase as production changes from a Military Load Capacity (MLC) Bridge of 80 tracked / 110 wheeled to a MLC Bridge of 120 tracked / 150 wheeled. The higher load capacity bridge required additional material increasing the cost of both dry and wet gap bridges.

System issues prevented the correct population of quantities in the P5 Resource Summary header and Gross/Weapon System Cost totals for FY 2020 OCO. The Cost Element detail of the P5 (Hardware) provides planned procurement quantities associated with FY 2020 OCO requested funding.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	22	63	47	-	47
	Total Obligation Authority	16.610	81.219	59.821	4.884	64.705
<b>Total:</b> Secondary Distribution	Quantity	<b>22</b>	<b>63</b>	<b>47</b>	-	<b>47</b>
	Total Obligation Authority	<b>16.610</b>	<b>81.219</b>	<b>59.821</b>	<b>4.884</b>	<b>64.705</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 / 03 / 15			<b>P-1 Line Item Number / Title:</b> 2831MX0100 / Tactical Bridging				<b>Item Number / Title [DODIC]:</b> G82404 / LINE OF COMMUNICATION BRIDGE LOCB				

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
ONS Commercial Dry Gap <sup>(†)</sup>		2018	Mabey Bridge & Shore, Inc / Lydney, England	C / FFP	TACOM, Warren, MI	Jul 2018	Dec 2018	3	445.000	N		
ONS Commercial Dry Gap <sup>(†)</sup>		2019	TBD / TBD	C / FFP	TACOM, Warren, MI	Feb 2019	Apr 2019	34	1,115.000	N		
ONS Commercial Dry Gap <sup>(†)</sup>		2020	TBD / TBD	C / FFP	TACOM, Warren, MI	Feb 2020	Apr 2020	27	1,136.852	N		
ONS Commercial Wet Gap <sup>(†)</sup>		2018	Mabey Bridge & Shore, Inc / Lydney, England	C / FFP	TACOM, Warren, MI	Jul 2018	Dec 2018	19	680.000	N		
ONS Commercial Wet Gap <sup>(†)</sup>		2019	TBD / TBD	C / FFP	TACOM, Warren, MI	Feb 2019	Apr 2019	29	1,300.000	N		
ONS Commercial Wet Gap <sup>(†)</sup>		2020	TBD / TBD	C / FFP	TACOM, Warren, MI	Feb 2020	Apr 2020	24	1,325.500	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														
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 03 / 15										<b>P-1 Line Item Number / Title:</b> 2831MX0100 / Tactical Bridging										<b>Item Number / Title [DODIC]:</b> G82404 / LINE OF COMMUNICATION BRIDGE LOCB									

Cost Elements <i>(Units in Each)</i>						Fiscal Year 2020													Fiscal Year 2021													BALANCE	
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2019	BAL DUE AS OF 1 OCT	Calendar Year 2020													Calendar Year 2021													
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P			
ONS Commercial Dry Gap																																	
Prior Years Deliveries: 3																																	
	2	2018	ARMY	3	3	0																											0
	1	2019	ARMY	34	30	4																											0
	1	2020	ARMY	27	0	27																											0
ONS Commercial Wet Gap																																	
Prior Years Deliveries: 9																																	
	4	2018	ARMY	19	19	0																											0
	3	2019	ARMY	29	18	11																											0
	3	2020	ARMY	24	0	24																											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 / 03 / 15		<b>P-1 Line Item Number / Title:</b> 2831MX0100 / Tactical Bridging
		<b>Item Number / Title [DODIC]:</b> G82404 / LINE OF COMMUNICATION BRIDGE LOCB

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	1	2	5	0	0	0	0	0	0	0	0	0
2	Mabey Bridge & Shore, Inc - Lydney, England	1	8	20	10	0	5	5	1	0	5	5	5
3	TBD - TBD	1	2	5	0	0	0	0	0	0	0	0	0
4	Mabey Bridge & Shore, Inc - Lydney, England	1	8	20	10	0	5	5	1	0	5	5	5

"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 03: Other Support Equipment / BSA 15: Bridging Equipment	<b>P-1 Line Item Number / Title:</b> 3542MA8890 / Tactical Bridge, Float-Ribbon
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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> )	33	22	67	70	-	70	87	78	-	-	-	357
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	201.650	21.761	55.145	57.661	-	57.661	72.150	66.972	-	-	-	475.339
Less PY Advance Procurement ( <i>\$ in Millions</i> )	22.181	-	-	-	-	-	-	-	-	-	-	22.181
Net Procurement (P-1) ( <i>\$ in Millions</i> )	179.469	21.761	55.145	57.661	-	57.661	72.150	66.972	-	-	-	453.158
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	22.181	-	-	-	-	-	-	-	-	-	-	22.181
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>201.650</b>	<b>21.761</b>	<b>55.145</b>	<b>57.661</b>	<b>-</b>	<b>57.661</b>	<b>72.150</b>	<b>66.972</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>475.339</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> )	6,110.606	989.136	823.060	823.729	-	823.729	829.310	858.615	-	-	-	1,331.482

**Description:**

The Tactical Float Ribbon Bridge line supports the Multi-Role Bridge Company (MRBC). One Tactical Float Ribbon Bridge System consists of the Improved Ribbon Bridge (IRB) bays (30 Interior and 12 Ramp), 14 Propulsion Bridge Erection Boats (BEB) and 56 Common Bridge Transporters (CBT). These components are required to transport, launch, erect and retrieve up to 210 meters of floating bridge. The IRB has a Military Load Class (MLC) 96 wheeled (normal) and 110 (caution)/MLC 70 tracked (normal) and 85 (caution) and is used to transport weapon systems, Troops, and supplies over water when permanent bridges are not available. This capability will support the Joint Force Commander's ability to employ and sustain forces throughout the global battlespace. The Army plans to have 25 MRBCs.

AAO BEB: 393

The Propulsion Bridge Erection Boat (BEB) AAO is expected to increase by 28 boats to support an additional 2 Multi-Role Bridge Companies for the Grow the Army Initiative.

AAO IRB Interior Bays: 1128

AAO IRB Ramp Bays: 454

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	-	2	-	2	49	-	-
	Total Obligation Authority	7.913	-	1.647	-	1.647	42.072	-	-
ANG	Quantity	-	45	18	-	18	7	-	-
	Total Obligation Authority	-	37.038	14.828	-	14.828	6.010	-	-
AR	Quantity	14	22	50	-	50	22	-	-
	Total Obligation Authority	13.848	18.107	41.186	-	41.186	18.890	-	-
<b>Total:</b>	<b>Quantity</b>	<b>22</b>	<b>67</b>	<b>70</b>	<b>-</b>	<b>70</b>	<b>78</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 03: Other Support Equipment / BSA 15: Bridging Equipment	<b>P-1 Line Item Number / Title:</b> 3542MA8890 / Tactical Bridge, Float-Ribbon
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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	21.761	55.145	57.661	-	57.661	72.150	66.972	-	-

**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 03: Other Support Equipment / BSA 15: Bridging Equipment	<b>P-1 Line Item Number / Title:</b> 3542MA8890 / Tactical Bridge, Float-Ribbon
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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	M27200 / BRIDGE, FLOAT-RIBBON, PROPULSION	P-5a, P-21	A		33 / 201.650	22 / 21.761	67 / 55.145	70 / 57.661	- / -	70 / 57.661
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>33 / 201.650</b>	<b>22 / 21.761</b>	<b>67 / 55.145</b>	<b>70 / 57.661</b>	<b>- / -</b>	<b>70 / 57.661</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 \$57.661 million supports the procurement of 70 Propulsion Bridge Erection Boats (BEB) for Army National Guard and Army Reserve requirements.

Note: The newly designed BEB will improve fleet readiness by improving the basic design to meet current survivability, transportability, and interoperability requirements. Funding supports a balanced investment strategy for the Army's approved force structure and Army Force Generation (ARFORGEN) 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 / 03 / 15	<b>P-1 Line Item Number / Title:</b> 3542MA8890 / Tactical Bridge, Float-Ribbon	<b>Item Number / Title [DODIC]:</b> M27200 / BRIDGE, FLOAT-RIBBON, PROPULSION

<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)	33	22	67	70	-	70
Gross/Weapon System Cost (\$ in Millions)	201.650	21.761	55.145	57.661	-	57.661
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	201.650	21.761	55.145	57.661	-	57.661
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>201.650</b>	<b>21.761</b>	<b>55.145</b>	<b>57.661</b>	<b>-</b>	<b>57.661</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)	6,110.606	989.136	823.060	823.729	-	823.729

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>																		
BEB + CPK Hardware <sup>(†)</sup>	1,619.848	99	160.365	658.636	22	14.490	703.657	67	47.145	717.600	70	50.232	-	-	-	717.600	70	50.232
Bridge Adapter Pallet <sup>(†)</sup>	48.859	99	4.837	50.591	22	1.113	54.045	67	3.621	55.114	70	3.858	-	-	-	55.114	70	3.858
Fielding	-	-	0.782	-	-	1.100	-	-	2.022	-	-	1.281	-	-	-	-	-	1.281
System Test & Evaluation, Production	-	-	16.126	-	-	0.650	-	-	-	-	-	-	-	-	-	-	-	-
System Engineering/ Program Management	-	-	12.400	-	-	2.149	-	-	1.340	-	-	1.487	-	-	-	-	-	1.487
Engineering Changes	-	-	6.100	-	-	0.843	-	-	-	-	-	-	-	-	-	-	-	-
First Destination Transportation - FDT	-	-	1.040	-	-	1.416	-	-	1.017	-	-	0.803	-	-	-	-	-	0.803
<b>Subtotal: Recurring Cost</b>	<b>-</b>	<b>-</b>	<b>201.650</b>	<b>-</b>	<b>-</b>	<b>21.761</b>	<b>-</b>	<b>-</b>	<b>55.145</b>	<b>-</b>	<b>-</b>	<b>57.661</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>57.661</b>
<b>Subtotal: Flyaway Cost</b>	<b>-</b>	<b>-</b>	<b>201.650</b>	<b>-</b>	<b>-</b>	<b>21.761</b>	<b>-</b>	<b>-</b>	<b>55.145</b>	<b>-</b>	<b>-</b>	<b>57.661</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>57.661</b>
<b>Gross/Weapon System Cost</b>	<b>6,110.606</b>	<b>33</b>	<b>201.650</b>	<b>989.136</b>	<b>22</b>	<b>21.761</b>	<b>823.060</b>	<b>67</b>	<b>55.145</b>	<b>823.729</b>	<b>70</b>	<b>57.661</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>823.729</b>	<b>70</b>	<b>57.661</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	8	-	2	-	2



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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 / 03 / 15	<b>P-1 Line Item Number / Title:</b> 3542MA8890 / Tactical Bridge, Float-Ribbon	<b>Item Number / Title [DODIC]:</b> M27200 / BRIDGE, FLOAT-RIBBON, PROPULSION

**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
	Total Obligation Authority	7.913	-	1.647	-	1.647
ANG	Quantity	-	45	18	-	18
	Total Obligation Authority	-	37.038	14.828	-	14.828
AR	Quantity	14	22	50	-	50
	Total Obligation Authority	13.848	18.107	41.186	-	41.186
<b>Total:</b>	<b>Quantity</b>	<b>22</b>	<b>67</b>	<b>70</b>	<b>-</b>	<b>70</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>21.761</b>	<b>55.145</b>	<b>57.661</b>	<b>-</b>	<b>57.661</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 / 03 / 15			<b>P-1 Line Item Number / Title:</b> 3542MA8890 / Tactical Bridge, Float-Ribbon				<b>Item Number / Title [DODIC]:</b> M27200 / BRIDGE, FLOAT-RIBBON, PROPULSION					

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
BEB + CPK Hardware <sup>(†)</sup>		2018	Birdon America Inc / Denver, CO	C / FFP	TACOM, Warren, MI	Mar 2018	Sep 2018	22	658.636	Y		
BEB + CPK Hardware <sup>(†)</sup>		2019	Birdon America Inc / Denver, CO	C / FFP	TACOM, Warren, MI	Dec 2018	Jun 2019	67	703.657	Y		
BEB + CPK Hardware <sup>(†)</sup>		2020	Birdon America Inc / Denver, CO	C / FFP	TACOM, Warren, MI	Dec 2019	Jun 2020	70	717.600	Y		
Bridge Adapter Pallet		2018	CANADIAN COMMERCIAL CORPORATIO / Ottawa, Canada	C / FFP	TACOM, Warren, MI	Dec 2017	Apr 2018	22	50.591	Y		
Bridge Adapter Pallet		2019	CANADIAN COMMERCIAL CORPORATIO / Ottawa, Canada	C / FFP	TACOM, Warren, MI	Dec 2018	Apr 2019	67	54.045	Y		
Bridge Adapter Pallet		2020	CANADIAN COMMERCIAL CORPORATIO / Ottawa, Canada	C / FFP	TACOM, Warren, MI	Dec 2019	Apr 2020	70	55.114	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 / 03 / 15										<b>P-1 Line Item Number / Title:</b> 3542MA8890 / Tactical Bridge, Float-Ribbon										<b>Item Number / Title [DODIC]:</b> M27200 / BRIDGE, FLOAT-RIBBON, PROPULSION									

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			

BEB + CPK Hardware																													
Prior Years Deliveries: 99																													
1	2018	ARMY	22	22	0																								0
1	2019	ARMY	67	20	47	5	6	6	6	6	6	6	6																0
1	2020	ARMY	70	0	70			A	-	-	-	-	-	-	6	6	6	6	6	6	6	6	6	5	5				0
						O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P

**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 / 03 / 15		<b>P-1 Line Item Number / Title:</b> 3542MA8890 / Tactical Bridge, Float-Ribbon
		<b>Item Number / Title [DODIC]:</b> M27200 / BRIDGE, FLOAT-RIBBON, PROPULSION

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	Birdon America Inc - Denver, CO	2	6	8	0	9	12	21	0	5	6	11

"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 03: Other Support Equipment / BSA 15: Bridging Equipment	<b>P-1 Line Item Number / Title:</b> 3758G06520 / BRIDGE SUPPLEMENTAL SET
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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> )	-	-	-	11	-	11	19	31	-	-	-	61
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	3.967	-	-	17.966	-	17.966	32.527	44.028	-	-	-	98.488
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	3.967	-	-	17.966	-	17.966	32.527	44.028	-	-	-	98.488
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>3.967</b>	-	-	<b>17.966</b>	-	<b>17.966</b>	<b>32.527</b>	<b>44.028</b>	-	-	-	<b>98.488</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> )	-	-	-	1,633.273	-	1,633.273	1,711.947	1,420.258	-	-	-	1,614.557

**Description:**

The Bridge Supplemental Set (BSS) is transported and composed of four subsystems (Anchorage, Bridge Protection Device, Site Stability, and Power Generator & Tools) that support the Multi-Role Bridge Company (MRBC). Anchorage is utilized to anchor float bridges within the MRBC, such as the Improved Ribbon Bridge (IRB) for an extended period beyond 72 hours. The Bridge Protection Device provides protection from debris upstream from any bridge site. Site Stability enhances access/egress to and from the bridge site in less than desirable geography. Power Generator & Tools support all subsystems during employment plus support repairs on or to existing MRBC bridges. All subsystems except the Bridge Protection Device will be transported on the equivalent of four or fewer M1077 flat racks by the Common Bridge Transporter under 22,000 Lbs. per load. The BSS unit of issue will be two per MRBC plus training assets (58 total). The Bridge Protection Device will be issued only to Army Prepositioned Stock units and to the training base (11 total).

The Army Acquisition Objective (AAO) is 58.

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	4	9	-
	Total Obligation Authority	-	-	13.066	-	13.066	6.848	12.783	-
ANG	Quantity	-	-	-	-	-	9	13	-
	Total Obligation Authority	-	-	-	-	15.408	18.463	-	-
AR	Quantity	-	-	3	-	3	6	9	-
	Total Obligation Authority	-	-	4.900	-	4.900	10.271	12.782	-
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	-	-	<b>11</b>	-	<b>11</b>	<b>19</b>	<b>31</b>	-
	<b>Total Obligation Authority</b>	-	-	<b>17.966</b>	-	<b>17.966</b>	<b>32.527</b>	<b>44.028</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 03: Other Support Equipment / BSA 15: Bridging Equipment	<b>P-1 Line Item Number / Title:</b> 3758G06520 / BRIDGE SUPPLEMENTAL SET
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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	G06520 / BRIDGE SUPPLEMENTAL SET	P-5a, P-21			- / 3.967	- / -	- / -	11 / 17.966	- / -	11 / 17.966
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 3.967</b>	<b>- / -</b>	<b>- / -</b>	<b>11 / 17.966</b>	<b>- / -</b>	<b>11 / 17.966</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 \$17.966 million will be used to manufacture, integrate and kit 11 Bridge Supplemental Sets. Each set consist of 1 set of site stability mat, 1 anchorage system, and 1 power generation and tool kit. The Bridge Protection Device will be issued only to Army Prepositioned Stock units and to the training base (11 total).  
 \*\*Funds in this budget line are a new start 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**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 03 / 15		<b>P-1 Line Item Number / Title:</b> 3758G06520 / BRIDGE SUPPLEMENTAL SET
		<b>Item Number / Title [DODIC]:</b> G06520 / BRIDGE SUPPLEMENTAL SET

<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)	-	-	-	11	-	11
Gross/Weapon System Cost (\$ in Millions)	3.967	-	-	17.966	-	17.966
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	3.967	-	-	17.966	-	17.966
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>3.967</b>	<b>-</b>	<b>-</b>	<b>17.966</b>	<b>-</b>	<b>17.966</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)	-	-	-	1,633.273	-	1,633.273

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 <sup>(†)</sup>	-	-	-	-	-	-	-	-	-	1,225.000	11	13.475	-	-	-	1,225.000	11	13.475		
System Engineering/ Program Management	-	-	-	-	-	-	-	-	-	-	-	0.679	-	-	-	-	-	0.679		
Fielding	-	-	-	-	-	-	-	-	-	-	-	0.825	-	-	-	-	-	0.825		
First Destination Transportation - FDT	-	-	-	-	-	-	-	-	-	-	-	0.537	-	-	-	-	-	0.537		
Tech Manual	-	-	-	-	-	-	-	-	-	-	-	2.450	-	-	-	-	-	2.450		
<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>17.966</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>17.966</b>		
Non Recurring Cost																				
Reprogrammed Funding - Change in Acquisition Strategy	-	-	3.967	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
<b>Subtotal: Non Recurring Cost</b>	<b>-</b>	<b>-</b>	<b>3.967</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>-</b>	<b>-</b>	<b>-</b>		
<b>Subtotal: Flyaway Cost</b>	<b>-</b>	<b>-</b>	<b>3.967</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>17.966</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>17.966</b>		
<b>Gross/Weapon System Cost</b>	<b>-</b>	<b>-</b>	<b>3.967</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>1,633.273</b>	<b>11</b>	<b>17.966</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>1,633.273</b>	<b>11</b>	<b>17.966</b>

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	-	-	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 / 03 / 15	<b>P-1 Line Item Number / Title:</b> 3758G06520 / BRIDGE SUPPLEMENTAL SET	<b>Item Number / Title [DODIC]:</b> G06520 / BRIDGE SUPPLEMENTAL SET

**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	-	-	13.066	-	13.066
AR	Quantity	-	-	3	-	3
	Total Obligation Authority	-	-	4.900	-	4.900
<b>Total:</b>	<b>Quantity</b>	-	-	11	-	11
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	-	-	17.966	-	17.966

(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 / 03 / 15			<b>P-1 Line Item Number / Title:</b> 3758G06520 / BRIDGE SUPPLEMENTAL SET				<b>Item Number / Title [DODIC]:</b> G06520 / BRIDGE SUPPLEMENTAL 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>
Hardware <sup>(†)</sup>		2020	TBD / TBS	C / TBD	TACOM, Warren, MI	Jan 2020	Jan 2021	11	1,225.000	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
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 03 / 15		<b>P-1 Line Item Number / Title:</b> 3758G06520 / BRIDGE SUPPLEMENTAL SET
		<b>Item Number / Title [DODIC]:</b> G06520 / BRIDGE SUPPLEMENTAL SET

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 - TBS	1	2	5	0	6	6	12	0	4	4	8

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

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

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**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 03: Other Support Equipment / BSA 15: Bridging Equipment	<b>P-1 Line Item Number / Title:</b> 3974G07000 / Common Bridge Transporter (CBT) Recap
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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> )	80	52	118	88	-	88	127	187	-	-	-	652
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	94.483	20.046	55.392	43.155	-	43.155	63.045	93.509	-	-	-	369.630
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	94.483	20.046	55.392	43.155	-	43.155	63.045	93.509	-	-	-	369.630
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>94.483</b>	<b>20.046</b>	<b>55.392</b>	<b>43.155</b>	<b>-</b>	<b>43.155</b>	<b>63.045</b>	<b>93.509</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>369.630</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> )	1,181.038	385.500	469.424	490.398	-	490.398	496.417	500.048	-	-	-	566.917

**Description:**

The M1977A4 Common Bridge Transporter (CBT) and M1064 Palletized Load System Trailer (PLST) are part of the Ribbon Bridge System. The CBT transports and launches the Bridge Erection Boat (BEB) and Improved Ribbon Bridge (IRB) Bays in the Multi-Role Bridge Company (MRBC) allowing Bridging formation assets to maintain pace with supported combat units. The CBT is also the transporter and launch vehicle for the Rapidly Emplaced Bridge System (REBS) supporting the 9 Stryker Brigade Combat Teams (SBCT) and 5 Airborne Companies. The Army plans to recapitalize 100% of the CBT fleet; 24 MRBCs (56 each), 9 SBCTs (4 each), 5 Airborne Companies (2 each), 1 European Activity Set (EAS) (58 each), and 24 CBTs in the training base.

The Army Acquisition Objective is 1536.

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	52	-	44	-	44	29	-	-
	Total Obligation Authority	20.046	-	21.578	-	21.578	14.396	28.000	-
ANG	Quantity	-	56	44	-	44	98	150	-
	Total Obligation Authority	-	26.288	21.577	-	21.577	48.649	47.007	-
AR	Quantity	-	62	-	-	-	-	37	-
	Total Obligation Authority	-	29.104	-	-	-	-	18.502	-
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	<b>52</b>	<b>118</b>	<b>88</b>	<b>-</b>	<b>88</b>	<b>127</b>	<b>187</b>	<b>-</b>
	<b>Total Obligation Authority</b>	<b>20.046</b>	<b>55.392</b>	<b>43.155</b>	<b>-</b>	<b>43.155</b>	<b>63.045</b>	<b>93.509</b>	<b>-</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 03: Other Support Equipment / BSA 15: Bridging Equipment **P-1 Line Item Number / Title:** 3974G07000 / Common Bridge Transporter (CBT) Recap

**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	G07000 / Common Bridge Transporter (CBT) Recap	P-5a, P-21			80 / 94.483	52 / 20.046	118 / 55.392	88 / 43.155	- / -	88 / 43.155
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>80 / 94.483</b>	<b>52 / 20.046</b>	<b>118 / 55.392</b>	<b>88 / 43.155</b>	<b>- / -</b>	<b>88 / 43.155</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 \$43.155 million supports the recapitalization of 88 Common Bridge Transporters. The currently fielded M1977A0 and M1977A2 CBTs have significant obsolescence issues due to armor, electrical, and powertrain improvements. The M1977A4 provides the Soldier with key survivability requirements to include a Long Term Armor Strategy (LTAS) compliant cab, new engine and transmission, air ride suspension, anti-lock brakes and traction control, and an updated electrical system to support current and future communications equipment and diagnostic/prognostics 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.

**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 / 03 / 15	<b>P-1 Line Item Number / Title:</b> 3974G07000 / Common Bridge Transporter (CBT) Recap	<b>Item Number / Title [DODIC]:</b> G07000 / Common Bridge Transporter (CBT) Recap

<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)	80	52	118	88	-	88
Gross/Weapon System Cost (\$ in Millions)	94.483	20.046	55.392	43.155	-	43.155
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	94.483	20.046	55.392	43.155	-	43.155
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>94.483</b>	<b>20.046</b>	<b>55.392</b>	<b>43.155</b>	<b>-</b>	<b>43.155</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)	1,181.038	385.500	469.424	490.398	-	490.398

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																		
M1977A4 CBT RECAP <sup>(†)</sup>	313.812	261	81.905	310.481	52	16.145	396.508	118	46.788	417.170	88	36.711	-	-	-	417.170	88	36.711
FRET	29.048	126	3.660	47.789	19	0.908	49.102	98	4.812	50.057	88	4.405	-	-	-	50.057	88	4.405
Engineering Changes	-	-	0.100	-	-	0.100	-	-	0.400	-	-	0.050	-	-	-	-	-	0.050
System Engineering/ Program Management	-	-	3.891	-	-	1.314	-	-	0.992	-	-	0.920	-	-	-	-	-	0.920
Fielding	-	-	0.550	-	-	0.500	-	-	0.800	-	-	0.450	-	-	-	-	-	0.450
Transportation	-	-	3.116	-	-	1.079	-	-	1.500	-	-	0.619	-	-	-	-	-	0.619
Data	-	-	0.761	-	-	-	-	-	0.100	-	-	-	-	-	-	-	-	-
System Test & Evaluation, Production	-	-	0.500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	<b>94.483</b>	-	-	<b>20.046</b>	-	-	<b>55.392</b>	-	-	<b>43.155</b>	-	-	-	-	-	<b>43.155</b>
<i>Subtotal: Flyaway Cost</i>	-	-	<b>94.483</b>	-	-	<b>20.046</b>	-	-	<b>55.392</b>	-	-	<b>43.155</b>	-	-	-	-	-	<b>43.155</b>
<b>Gross/Weapon System Cost</b>	<b>1,181.038</b>	<b>80</b>	<b>94.483</b>	<b>385.500</b>	<b>52</b>	<b>20.046</b>	<b>469.424</b>	<b>118</b>	<b>55.392</b>	<b>490.398</b>	<b>88</b>	<b>43.155</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>490.398</b>	<b>88</b>	<b>43.155</b>

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	52	-	44	-	44
	Total Obligation Authority	20.046	-	21.578	-	21.578



**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 / 03 / 15	<b>P-1 Line Item Number / Title:</b> 3974G07000 / Common Bridge Transporter (CBT) Recap	<b>Item Number / Title [DODIC]:</b> G07000 / Common Bridge Transporter (CBT) Recap

**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
ANG	Quantity	-	56	44	-	44
	Total Obligation Authority	-	26.288	21.577	-	21.577
AR	Quantity	-	62	-	-	-
	Total Obligation Authority	-	29.104	-	-	-
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	<b>52</b>	<b>118</b>	<b>88</b>	<b>-</b>	<b>88</b>
	<b>Total Obligation Authority</b>	<b>20.046</b>	<b>55.392</b>	<b>43.155</b>	<b>-</b>	<b>43.155</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 / 03 / 15	<b>P-1 Line Item Number / Title:</b> 3974G07000 / Common Bridge Transporter (CBT) Recap	<b>Item Number / Title [DODIC]:</b> G07000 / Common Bridge Transporter (CBT) Recap
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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
M1977A4 CBT RECAP <sup>(†)</sup>		2018	Oshkosh Corp / Oshkosh	SS / FFP	TACOM, Warren, MI	Apr 2018	Sep 2018	19	398.163	Y		
M1977A4 CBT RECAP <sup>(†)</sup>		2018	Red River Army Depot / Texarkana, Texas	WR	TACOM, Warren, MI	Feb 2018	Jun 2018	33	270.000	Y		
M1977A4 CBT RECAP <sup>(†)</sup>		2019	Oshkosh Corp / Oshkosh	SS / FPIF	TACOM, Warren, MI	Apr 2019	Sep 2019	98	409.156	Y		
M1977A4 CBT RECAP <sup>(†)</sup>		2019	Red River Army Depot / Texarkana, Texas	WR	TACOM, Warren, MI	Dec 2018	Jun 2019	20	275.000	Y		
M1977A4 CBT RECAP <sup>(†)</sup>		2020	Oshkosh Corp / Oshkosh	SS / FPIF	TACOM, Warren, MI	Apr 2020	Sep 2020	88	417.170	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 / 03 / 15										<b>P-1 Line Item Number / Title:</b> 3974G07000 / Common Bridge Transporter (CBT) Recap										<b>Item Number / Title [DODIC]:</b> G07000 / Common Bridge Transporter (CBT) Recap									

Cost Elements <i>(Units in Each)</i>						Fiscal Year 2018												Fiscal Year 2019												BALANCE	
O C O #	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2017	BAL DUE AS OF 1 OCT	Calendar Year 2018												Calendar Year 2019												
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G		S E P
M1977A4 CBT RECAP																															
Prior Years Deliveries: 261																															
	1	2018	ARMY	19	0	19																							0		
	2	2018	ARMY	33	0	33																							0		
	1	2019	ARMY	98	0	98																							90		
	2	2019	ARMY	20	0	20																							8		
	1	2020	ARMY	88	0	88																							88		

**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 / 03 / 15										<b>P-1 Line Item Number / Title:</b> 3974G07000 / Common Bridge Transporter (CBT) Recap										<b>Item Number / Title [DODIC]:</b> G07000 / Common Bridge Transporter (CBT) Recap									

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			
M1977A4 CBT RECAP																																	
Prior Years Deliveries: 261																																	
	1	2018	ARMY	19	19	0																							0				
	2	2018	ARMY	33	33	0																							0				
	1	2019	ARMY	98	8	90	8	8	8	8	8	8	8	8	8	9	9													0			
	2	2019	ARMY	20	12	8	3	3	2																				0				
	1	2020	ARMY	88	0	88																							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 / 03 / 15		<b>P-1 Line Item Number / Title:</b> 3974G07000 / Common Bridge Transporter (CBT) Recap
		<b>Item Number / Title [DODIC]:</b> G07000 / Common Bridge Transporter (CBT) Recap

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	Oshkosh Corp - Oshkosh	6	924	2,520	0	9	11	20	0	7	5	12
2	Red River Army Depot - Texarkana, Texas	6	8	12	0	5	4	9	0	5	4	9

**Remarks:**  
 Government EOQ 1-8-5 production rate (924/month) accommodates mix of government and commercial production on contractor's integrated production line. Max rate (2520/month) reflects contractor capacity using second and third shifts dedicated to government production. Minimum production is one heavy truck per day.

"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 03: Other Support Equipment / BSA 20: Engineer (Non-Construction) Equipment	<b>P-1 Line Item Number / Title:</b> 2876R68200 / Handheld Standoff Minefield Detection Sys-HSTAMIDS
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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> )	-	238	306	274	-	274	185	71	-	-	-	1,074
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	352.151	6.000	8.471	7.570	-	7.570	5.608	3.257	-	-	-	383.057
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	352.151	6.000	8.471	7.570	-	7.570	5.608	3.257	-	-	-	383.057
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>352.151</b>	<b>6.000</b>	<b>8.471</b>	<b>7.570</b>	<b>-</b>	<b>7.570</b>	<b>5.608</b>	<b>3.257</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>383.057</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> )	-	25.210	27.683	27.628	-	27.628	30.314	45.873	-	-	-	356.664

**Description:**

The AN/PSS-14C Mine Detecting Set is a lightweight self-contained handheld mine detector system that is operated by a single Soldier. The AN/PSS-14C supports assured mobility by enhancing the probability and speed of detection of buried threats allowing for increased speed of dismounted operations making the unit more efficient and lethal. The AN/PSS-14C consists of a Decoupled Ground Penetrating Radar (GPR) and Metal Detector (MD), which provides enhanced detection of hard to find, low/no metal IED components, along with traditional conventional mines. This item is Code A, approved for service use.

Army Acquisition Objective (AAO) is 18,461 sets.

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	238	125	137	-	137	92	71	-	-
	Total Obligation Authority	6.000	3.460	3.785	-	3.785	2.804	3.257	-	-
ANG	Quantity	-	91	69	-	69	47	-	-	-
	Total Obligation Authority	-	2.520	1.893	-	1.893	1.402	-	-	-
AR	Quantity	-	90	68	-	68	46	-	-	-
	Total Obligation Authority	-	2.491	1.892	-	1.892	1.402	-	-	-
<b>Total:</b>	<b>Quantity</b>	<b>238</b>	<b>306</b>	<b>274</b>	<b>-</b>	<b>274</b>	<b>185</b>	<b>71</b>	<b>-</b>	<b>-</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>6.000</b>	<b>8.471</b>	<b>7.570</b>	<b>-</b>	<b>7.570</b>	<b>5.608</b>	<b>3.257</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 03: Other Support Equipment / BSA 20: Engineer (Non-Construction) Equipment **P-1 Line Item Number / Title:** 2876R68200 / Handheld Standoff Minefield Detection Sys-HSTAMIDS

**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	R68200 / Handheld Standoff Minefield Detection Sys-HSTAMIDS	P-5a, P-21	A		- / 352.151	238 / 6.000	306 / 8.471	274 / 7.570	- / -	274 / 7.570
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 352.151</b>	<b>238 / 6.000</b>	<b>306 / 8.471</b>	<b>274 / 7.570</b>	<b>- / -</b>	<b>274 / 7.570</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 \$7.570 million procures 274 AN/PSS-14C systems and the support (Program Management, Production Engineering, New Equipment Training (NET) and Training Lane Installation (a subset of NET)) required to field it.  
 TYPE CLASSIFICATION DATE: November 2003

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 / 03 / 20		<b>P-1 Line Item Number / Title:</b> 2876R68200 / Handheld Standoff Minefield Detection Sys-HSTAMIDS
		<b>Item Number / Title [DODIC]:</b> R68200 / Handheld Standoff Minefield Detection Sys-HSTAMIDS

<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)	-	238	306	274	-	274
Gross/Weapon System Cost (\$ in Millions)	352.151	6.000	8.471	7.570	-	7.570
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	352.151	6.000	8.471	7.570	-	7.570
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>352.151</b>	<b>6.000</b>	<b>8.471</b>	<b>7.570</b>	<b>-</b>	<b>7.570</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)	-	25.210	27.683	27.628	-	27.628

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																		
Detector Set AN/PSS-14 <sup>(†)</sup>	12.996	15,545	202.020	21.987	236	5.189	23.794	311	7.400	23.518	274	6.444	-	-	-	23.518	274	6.444
Entry Control Point - Towers	603.348	46	27.754	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sweep Monitoring System	36.358	260	9.453	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Training Target Set	9.729	203	1.975	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Production Engineering	-	-	35.345	-	-	0.157	-	-	0.221	-	-	0.230	-	-	-	-	-	0.230
Program Management	-	-	15.649	-	-	0.450	-	-	0.352	-	-	0.341	-	-	-	-	-	0.341
Training & Maintenance	-	-	35.391	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acceptance Testing	-	-	1.377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Integrated Logistic Support	-	-	17.904	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NET (New Equipment Training)/DTT (Doctrine and Tactics Training)	-	-	5.280	-	-	0.204	-	-	0.498	-	-	0.555	-	-	-	-	-	0.555
<i>Subtotal: Recurring Cost</i>	<i>-</i>	<i>-</i>	<i>352.151</i>	<i>-</i>	<i>-</i>	<i>6.000</i>	<i>-</i>	<i>-</i>	<i>8.471</i>	<i>-</i>	<i>-</i>	<i>7.570</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>7.570</i>
<i>Subtotal: Flyaway Cost</i>	<i>-</i>	<i>-</i>	<i>352.151</i>	<i>-</i>	<i>-</i>	<i>6.000</i>	<i>-</i>	<i>-</i>	<i>8.471</i>	<i>-</i>	<i>-</i>	<i>7.570</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>7.570</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 / 03 / 20	<b>P-1 Line Item Number / Title:</b> 2876R68200 / Handheld Standoff Minefield Detection Sys-HSTAMIDS	<b>Item Number / Title [DODIC]:</b> R68200 / Handheld Standoff Minefield Detection Sys-HSTAMIDS
<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	-	-	352.151	25.210	238	6.000	27.683	306	8.471	27.628	274	7.570	-	-	-	27.628	274	7.570

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	238	125	137	-	137
	Total Obligation Authority	6.000	3.460	3.785	-	3.785
ANG	Quantity	-	91	69	-	69
	Total Obligation Authority	-	2.520	1.893	-	1.893
AR	Quantity	-	90	68	-	68
	Total Obligation Authority	-	2.491	1.892	-	1.892
<b>Total:</b>	<b>Quantity</b>	<b>238</b>	<b>306</b>	<b>274</b>	<b>-</b>	<b>274</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>6.000</b>	<b>8.471</b>	<b>7.570</b>	<b>-</b>	<b>7.570</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 / 03 / 20			<b>P-1 Line Item Number / Title:</b> 2876R68200 / Handheld Standoff Minefield Detection Sys-HSTAMIDS				<b>Item Number / Title [DODIC]:</b> R68200 / Handheld Standoff Minefield Detection Sys-HSTAMIDS				

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
Detector Set AN/PSS-14 <sup>(†)</sup>		2018	L3 CyTerra / Orlando, Florisa	SS / FFP	CECOM, Ft Belvoir, VA	Dec 2018	Apr 2019	236	21.987	Y		
Detector Set AN/PSS-14 <sup>(†)</sup>		2019	L3 CyTerra / Orlando, Florisa	SS / FFP	CECOM, Ft Belvoir, VA	Mar 2019	Nov 2019	311	23.794	Y		
Detector Set AN/PSS-14 <sup>(†)</sup>		2020	L3 CyTerra / Orlando, Florisa	SS / FFP	CECOM Ft. Belvoir, VA	Mar 2020	Aug 2020	274	23.518	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 / 03 / 20										<b>P-1 Line Item Number / Title:</b> 2876R68200 / Handheld Standoff Minefield Detection Sys-HSTAMIDS										<b>Item Number / Title [DODIC]:</b> R68200 / Handheld Standoff Minefield Detection Sys-HSTAMIDS									

Cost Elements <i>(Units in Each)</i>					Fiscal Year 2019															Fiscal Year 2020												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 8	BAL D U E A S O F 1 O C T	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				
Detector Set AN/PSS-14																																		
Prior Years Deliveries: 15545																																		
1		2018	ARMY	236	0	236		A	-	-	-	-	30	30	30	30	30	30	26											0				
1		2019	ARMY	311	0	311													4	30	30	30	30	30	30	31	32	32	32	0				
1		2020	ARMY	274	0	274															A	-	-	-	-	-	30	30	214					
							O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	J	J	A	S					
							C	O	E	A	E	A	A	A	U	U	U	E	C	O	V	E	E	A	A	U	U	U	E					
							T	V	C	N	B	R	R	Y	N	L	G	P	T	V	C	N	B	R	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 / 03 / 20										<b>P-1 Line Item Number / Title:</b> 2876R68200 / Handheld Standoff Minefield Detection Sys-HSTAMIDS										<b>Item Number / Title [DODIC]:</b> R68200 / Handheld Standoff Minefield Detection Sys-HSTAMIDS									

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
Detector Set AN/PSS-14																															
Prior Years Deliveries: 15545																															
1		2018	ARMY	236	236	0																							0		
1		2019	ARMY	311	311	0																							0		
1		2020	ARMY	274	60	214	30	30	30	30	35	35	24																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 / 03 / 20		<b>P-1 Line Item Number / Title:</b> 2876R68200 / Handheld Standoff Minefield Detection Sys-HSTAMIDS
		<b>Item Number / Title [DODIC]:</b> R68200 / Handheld Standoff Minefield Detection Sys-HSTAMIDS

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 CyTerra - Orlando, Florisa	4	28	200	2	2	5	7	2	2	5	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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**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 03: Other Support Equipment / BSA 20: Engineer (Non-Construction) Equipment	<b>P-1 Line Item Number / Title:</b> 2881R68400 / Grnd Standoff Mine Detectn Systm (GSTAMIDS)
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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>	146	139	159	139	10	149	92	31	-	-	-	716
Gross/Weapon System Cost <i>(\$ in Millions)</i>	2,002.100	27.442	42.001	37.025	4.500	41.525	28.617	13.568	-	-	-	2,155.253
Less PY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) <i>(\$ in Millions)</i>	2,002.100	27.442	42.001	37.025	4.500	41.525	28.617	13.568	-	-	-	2,155.253
Plus CY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority <i>(\$ in Millions)</i></b>	<b>2,002.100</b>	<b>27.442</b>	<b>42.001</b>	<b>37.025</b>	<b>4.500</b>	<b>41.525</b>	<b>28.617</b>	<b>13.568</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>2,155.253</b>

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

Initial Spares <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost <i>(\$ in Thousands)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost <i>(\$ in Thousands)</i>	13,713.014	197.424	264.157	266.367	450.000	278.691	311.054	437.677	-	-	-	3,010.130

**Description:**

This is an All Types line covering ground vehicle mounted or towed landmine detection, marking and neutralization systems. This Program Element contributes to Area Access (A2) to support unified land operations and improve soldier survivability. This line is used to procure Improvised Explosive Devices (IED) and landmine detection, interrogation, neutralization, protection, Area Access, route clearance and area clearance capabilities. Procurement of improved detection, interrogation, neutralization and protection capabilities for mine, IED and Explosive Hazard threats are needed as technology becomes available.

This exhibit contains the following programs:

**Explosive Hazard Pre-Detonation (EHP)**

EHP provides the capability of a Roller System (on the Medium Mine Protected Vehicles (MMPV) Type II), Debris Blower (on the Buffalo Mine Protected Clearance Vehicle), and Wire Neutralization (on the Husky based Vehicle Mounted Mine Detection system). EHP enhances route clearance capabilities while on the move to detect (by encounter), neutralize and survive against a full spectrum of explosive hazard landmines, IEDs, Explosively Formed Penetrator, unexploded ordnance, battlefield munitions and trigger their mechanisms while conducting route clearance operations. The Army Acquisition Objective (AAO) for the Roller System is 336, the Debris Blower is 176, and the Wire Neutralization System (WNS) is 128.

**Mine Clearing Vehicle (MCV)**

The M1271 Mine Clearing Vehicle is a medium, commercially available, blast protected, mechanical flail. The MCV is a manually controlled, self powered vehicle with an adjustable depth flail head designed to clear large areas of anti-tank and anti-personnel land mines. The AAO for MCV is 41.

**Route Clearance Virtual Clearance Training Suite (VCTS)**

The VCTS provides soldiers at 14 sites the capability for virtual training on Route Clearance vehicles, EHP, and MCV systems.

**Vehicle Optics Sensor System (VOSS)**

VOSS provides a telescoping, gyro-stabilized, high resolution, triple sensor (day camera, Image Intensify Night Vision Sensor and an Infrared Sensor) surveillance system to optically detect from standoff distances, explosive hazards (Improvised Explosive Device (IEDs) and landmines), and their trigger sources. VOSS is mounted on MMPV located within Route Clearance Platoons and Explosive Ordnance Disposal (EOD) Companies. PM Ground Sensors is pursuing an acquisition approach which harvests Quick Reaction Capability (QRC) procured systems for refresh into the Program of Record (POR). The refresh effort will be conducted at Tobyhanna Army Depot.

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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 03: Other Support Equipment / BSA 20: Engineer (Non-Construction) Equipment		<b>P-1 Line Item Number / Title:</b> 2881R68400 / Grnd Standoff Mine Detectn Systm (GSTAMIDS)
<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	84	114	69	10	79	26	14	-	-
	Total Obligation Authority	13.721	30.934	14.391	4.500	18.891	9.369	7.380	-	-
ANG	Quantity	28	32	37	-	37	35	8	-	-
	Total Obligation Authority	8.233	6.640	10.072	-	10.072	10.708	3.688	-	-
AR	Quantity	27	13	33	-	33	31	9	-	-
	Total Obligation Authority	5.488	4.427	12.562	-	12.562	8.540	2.500	-	-
<b>Total:</b>	<b>Quantity</b>	<b>139</b>	<b>159</b>	<b>139</b>	<b>10</b>	<b>149</b>	<b>92</b>	<b>31</b>	<b>-</b>	<b>-</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>27.442</b>	<b>42.001</b>	<b>37.025</b>	<b>4.500</b>	<b>41.525</b>	<b>28.617</b>	<b>13.568</b>	<b>-</b>	<b>-</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 03: Other Support Equipment / BSA 20:  
Engineer (Non-Construction) Equipment

**P-1 Line Item Number / Title:**  
2881R68400 / Grnd Standoff Mine Detectn Systm (GSTAMIDS)

**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	R68102 / GRND STANDOFF MINE DETECTN SYSTM (GSTAMIDS)BLK 1	P-5a, P-21			146 / 2,002.100	139 / 27.442	159 / 42.001	139 / 37.025	10 / 4.500	149 / 41.525
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>146 / 2,002.100</b>	<b>139 / 27.442</b>	<b>159 / 42.001</b>	<b>139 / 37.025</b>	<b>10 / 4.500</b>	<b>149 / 41.525</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:**  
Total FY2020 Base procurement dollars in the amount of \$37.025 million procures the following:

FY2020 Base procurement dollars in the amount of \$25.870 million supports the procurement and fielding of Explosive Hazard Pre-Detonation (EHP) systems, spares, and Program Management. EHP Roller funding supports production, spares, and fielding of 115 systems.

FY2020 Base procurement dollars in the amount of \$11.155 million supports the VOSS refresh and upgrade effort at Tobyhanna Army Depot and continued Total Package Fielding to Explosive Ordnance Disposal (EOD) and Engineers and procurement and fielding of geo-location capability.

Total FY2020 OCO procurement dollars in the amount of \$4.500 million procures the following:

FY2020 OCO procurement dollars in the amount of \$4.500 million supports VOSS replacement of 10 battle damage system losses in accordance with VOSS historical annual loss rate. Additionally, OCO procurement dollars provide components to replace and repair equipment returning from theater to original capability and the purchase of specialized theater-specific 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 / 03 / 20	<b>P-1 Line Item Number / Title:</b> 2881R68400 / Grnd Standoff Mine Detectn Systm (GSTAMIDS)	<b>Item Number / Title [DODIC]:</b> R68102 / GRND STANDOFF MINE DETECTN SYSM (GSTAMIDS)BLK 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)	146	139	159	139	10	149
Gross/Weapon System Cost (\$ in Millions)	2,002.100	27.442	42.001	37.025	4.500	41.525
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	2,002.100	27.442	42.001	37.025	4.500	41.525
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>2,002.100</b>	<b>27.442</b>	<b>42.001</b>	<b>37.025</b>	<b>4.500</b>	<b>41.525</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)	13,713.014	197.424	264.157	266.367	450.000	278.691

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>																		
EHP Program Mgt	-	-	2.500	-	-	2.000	-	-	2.000	-	-	1.294	-	-	-	-	-	1.294
VCTS (Engineering Change Proposal (ECP)) to include EHP and MCV	-	-	2.025	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EHP Log Development, Printing, and Shipping	-	-	2.336	-	-	4.075	-	-	-	-	-	-	-	-	-	-	-	-
Roller System Production <sup>(t)</sup>	-	-	-	170.000	20	3.400	170.000	130	22.100	170.000	115	19.550	-	-	-	170.000	115	19.550
Roller System STTE and Spares	-	-	-	-	-	-	-	-	0.401	-	-	0.452	-	-	-	-	-	0.452
Roller - Development of Sustainment Training (Phase II - Maint) IDesktop Trainer - IMI)	-	-	-	-	-	-	-	-	0.536	-	-	-	-	-	-	-	-	-
Debris Blower Production B-Kit	-	-	-	19.700	20	0.394	-	-	-	-	-	-	-	-	-	-	-	-
Debris Blower Buffalo A-Kit	-	-	2.700	19.772	92	1.819	-	-	-	-	-	-	-	-	-	-	-	-
Debris Blower STTE	-	-	-	-	-	0.033	-	-	-	-	-	-	-	-	-	-	-	-
Debris Blower Spares	-	-	-	-	-	0.351	-	-	-	-	-	-	-	-	-	-	-	-

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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 / 03 / 20	<b>P-1 Line Item Number / Title:</b> 2881R68400 / Grnd Standoff Mine Detectn Systm (GSTAMIDS)	<b>Item Number / Title [DODIC]:</b> R68102 / GRND STANDOFF MINE DETECTN SYSM (GSTAMIDS)BLK 1

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Blower - MWO Application	-	-	-	-	-	1.239	-	-	0.927	-	-	-	-	-	-	-	-	-
Wire Neutralization System Production <sup>(†)</sup>	115.111	117	13.468	49.000	50	2.450	-	-	-	-	-	-	-	-	-	-	-	-
Wire Neutralization System STTE	-	-	-	-	-	0.070	-	-	0.401	-	-	-	-	-	-	-	-	-
Wire Neutralization System Spares	-	-	-	-	-	0.330	-	-	-	-	-	-	-	-	-	-	-	-
WiNS - Development of Sustainment Training (Phase II - Maint) IDesktop Trainer - IMI)	-	-	-	-	-	-	-	-	0.432	-	-	-	-	-	-	-	-	-
EHP System Fielding	-	-	2.775	-	-	1.362	-	-	1.910	-	-	4.574	-	-	-	-	-	4.574
Roller First Article Test (FAT) and Limited User Rest (LUT)	-	-	-	-	-	-	-	-	0.206	-	-	-	-	-	-	-	-	-
VOSS HW Refresh Effort <sup>(†)</sup>	202.351	37	7.487	85.500	36	3.078	102.679	28	2.875	96.792	24	2.323	181.300	10	1.813	121.647	34	4.136
Engineering Support	-	-	0.836	-	-	1.074	-	-	1.138	-	-	1.327	-	-	0.115	-	-	1.442
Project Management Office	-	-	0.671	-	-	1.129	-	-	1.278	-	-	1.074	-	-	0.449	-	-	1.523
Logistics Support	-	-	0.296	-	-	0.238	-	-	0.172	-	-	0.444	-	-	0.230	-	-	0.674
Tobyhanna Refresh Labor	-	-	1.068	-	-	1.088	-	-	1.500	-	-	0.620	-	-	0.360	-	-	0.980
Fielding	-	-	1.806	-	-	1.833	-	-	1.460	-	-	1.433	-	-	0.173	-	-	1.606
Initial Spares	-	-	0.589	-	-	0.600	-	-	0.992	-	-	0.361	-	-	0.381	-	-	0.742
TYAD Fabrication of Cables & Brushguard	-	-	0.793	-	-	0.129	-	-	0.873	-	-	0.215	-	-	0.199	-	-	0.414
Prior Year Funding	3,965.152	495	1,962.750	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Geo-location Integration	-	-	-	-	-	0.750	-	-	2.800	-	-	2.486	-	-	-	-	-	2.486
Component Repairs	-	-	-	-	-	-	-	-	-	-	-	0.872	-	-	0.780	-	-	1.652
<i>Subtotal: Recurring Cost</i>	-	-	<i>2,002.100</i>	-	-	<i>27.442</i>	-	-	<i>42.001</i>	-	-	<i>37.025</i>	-	-	<i>4.500</i>	-	-	<i>41.525</i>
<i>Subtotal: Hardware Cost</i>	-	-	<i>2,002.100</i>	-	-	<i>27.442</i>	-	-	<i>42.001</i>	-	-	<i>37.025</i>	-	-	<i>4.500</i>	-	-	<i>41.525</i>
<b>Gross/Weapon System Cost</b>	<b>13,713.014</b>	<b>146</b>	<b>2,002.100</b>	<b>197.424</b>	<b>139</b>	<b>27.442</b>	<b>264.157</b>	<b>159</b>	<b>42.001</b>	<b>266.367</b>	<b>139</b>	<b>37.025</b>	<b>450.000</b>	<b>10</b>	<b>4.500</b>	<b>278.691</b>	<b>149</b>	<b>41.525</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 / 03 / 20	<b>P-1 Line Item Number / Title:</b> 2881R68400 / Grnd Standoff Mine Detectn Systm (GSTAMIDS)	<b>Item Number / Title [DODIC]:</b> R68102 / GRND STANDOFF MINE DETECTN SYSM (GSTAMIDS)BLK 1

**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	84	114	69	10	79
	Total Obligation Authority	13.721	30.934	14.391	4.500	18.891
ANG	Quantity	28	32	37	-	37
	Total Obligation Authority	8.233	6.640	10.072	-	10.072
AR	Quantity	27	13	33	-	33
	Total Obligation Authority	5.488	4.427	12.562	-	12.562
<b>Total:</b>	<b>Quantity</b>	<b>139</b>	<b>159</b>	<b>139</b>	<b>10</b>	<b>149</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>27.442</b>	<b>42.001</b>	<b>37.025</b>	<b>4.500</b>	<b>41.525</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 / 03 / 20	<b>P-1 Line Item Number / Title:</b> 2881R68400 / Grnd Standoff Mine Detectn Systm (GSTAMIDS)	<b>Item Number / Title [DODIC]:</b> R68102 / GRND STANDOFF MINE DETECTN SYSM (GSTAMIDS)BLK 1
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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
Roller System Production <sup>(†)</sup>		2018	TBS - Roller / TACOM, Warren, MI	C / FFP	TACOM, Warren, MI	Jun 2019	Sep 2019	20	170.000	Y		
Roller System Production <sup>(†)</sup>		2019	TBS - Roller / TACOM, Warren, MI	C / FFP	TACOM, Warren, MI	Jun 2019	Sep 2019	130	170.000	Y		
Roller System Production <sup>(†)</sup>		2020	TBS - Roller / TACOM, Warren, MI	C / FFP	TACOM, Warren, MI	Jun 2020	Jul 2020	115	170.000	Y		
Wire Neutralization System Production		2018	GS Enginerring - WNS / TACOM, Warren, MI	C / FFP	TACOM, Warren, MI	Nov 2018	Jan 2019	50	49.000	Y		
VOSS HW Refresh Effort		2020	Tobyhanna Army Depot / Tobyhanna, PA	MIPR	PM Ground Sensors, Ft Belvoir, VA	Oct 2019	Sep 2020	34	121.647	Y		

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

**Remarks:**  
VOSS is conducting refresh and repair of QRC materiel and components at the Tobyhanna Army Depot; there is no contract award or delivery schedule.

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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 / 03 / 20										<b>P-1 Line Item Number / Title:</b> 2881R68400 / Grnd Standoff Mine Detectn Systm (GSTAMIDS)										<b>Item Number / Title [DODIC]:</b> R68102 / GRND STANDOFF MINE DETECTN SYSM (GSTAMIDS)BLK 1									

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					
Roller System Production																																			
1		2018	ARMY	20	0	20																							0						
1		2019	ARMY	130	0	130																							0						
1		2020	ARMY	115	0	115																							90						
							O C T	N O V	D E C	J A N	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 / 03 / 20														<b>P-1 Line Item Number / Title:</b> 2881R68400 / Grnd Standoff Mine Detectn Systm (GSTAMIDS)														<b>Item Number / Title [DODIC]:</b> R68102 / GRND STANDOFF MINE DETECTN SYSM (GSTAMIDS)BLK 1													

Cost Elements <i>(Units in Each)</i>							Fiscal Year 2021														Fiscal Year 2022														B A L A N C E
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEP T P R I O R T O 1 O C T 2 0 2 0	BAL D U E A S O F 1 O C T	Calendar Year 2021														Calendar Year 2022														
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					
Roller System Production																																			
	1	2018	ARMY	20	20	0																								0					
	1	2019	ARMY	130	130	0																								0					
	1	2020	ARMY	115	25	90	11	11	11	11	11	11	11	13																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 / 03 / 20				<b>P-1 Line Item Number / Title:</b> 2881R68400 / Grnd Standoff Mine Detectn Systm (GSTAMIDS)				<b>Item Number / Title [DODIC]:</b> R68102 / GRND STANDOFF MINE DETECTN SYSM (GSTAMIDS)BLK 1				
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 - Roller - TACOM, Warren, MI	3	6	13	12	12	3	15	0	0	3	3

"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 03: Other Support Equipment / BSA 20: Engineer (Non-Construction) Equipment	<b>P-1 Line Item Number / Title:</b> 2888R68260 / AREA MINE DETECTION SYSTEM (AMDS)
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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> 0654808A
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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	-	-	-	-	-	-	-	-	-	Continuing	Continuing
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	10.500	10.571	5.797	-	-	-	-	-	-	-	Continuing	Continuing
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	10.500	10.571	5.797	-	-	-	-	-	-	-	Continuing	Continuing
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>10.500</b>	<b>10.571</b>	<b>5.797</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> )	656.250	-	-	-	-	-	-	-	-	-	Continuing	Continuing

**Description:**

The Standoff Robotic Explosive Hazard Detection System (SREHD), formerly known as the Autonomous Mine Detection System (AMDS), provides increased survivability through mine and explosive hazards stand-off detection, marking and neutralization capability for the dismounted soldier. It provides area access and freedom of movement for the Commander. SREHD consists of payload modules to be mounted on man-portable unmanned ground vehicles. The payloads, consisting of detection, marking, and neutralization payloads, are for surface laid and buried threats to include mines and explosive hazards. This capability allows a soldier to remain in a protective posture while detecting and neutralizing a wide variety of hybrid and conventional explosive threats. This item is code B, approved for restricted use.

The Army Acquisition Objective (AAO) for SREHD is 173.

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	10.571	5.797	-	-	-	-	-	-
<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>10.571</b>	<b>5.797</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>

**Justification:**

There is 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 03: Other Support Equipment / BSA 20: Engineer (Non-Construction) Equipment	<b>P-1 Line Item Number / Title:</b> 2889R64001 / HUSKY MOUNTED DETECTION SYSTEM (HMDS)
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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> )	-	19	58	159	44	203	290	124	-	-	-	694
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	18.819	16.695	35.834	83.082	34.253	117.335	152.437	67.879	-	-	-	408.999
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	18.819	16.695	35.834	83.082	34.253	117.335	152.437	67.879	-	-	-	408.999
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>18.819</b>	<b>16.695</b>	<b>35.834</b>	<b>83.082</b>	<b>34.253</b>	<b>117.335</b>	<b>152.437</b>	<b>67.879</b>	-	-	-	<b>408.999</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> )	-	878.684	617.828	522.528	778.477	578.005	525.645	547.411	-	-	-	589.336

**Description:**

This line is used to procure Improvised Explosive Devices (IED) and landmine detection, interrogation, neutralization, protection, route clearance and area clearance capabilities required for future battlefields. Procurements of improved detection, neutralization, and protection capabilities for mine and IED threats are expected as technology becomes available.

The Husky Mounted Detection System (HMDS) is a counter-explosive device capability that provides standoff detection and marking of metallic encased caches and metallic and low-metallic antitank landmines, unexploded ordnance, trigger mechanisms, and improvised explosive devices (IEDs) in support of route and area-clearance operations. HMDS is a mission equipment package, mounted on the Husky route clearance vehicle and includes associated installation and auto-height hardware. The program was restructured in Sep 2016 to align with emerging shallow buried Wire Detection (WD) capabilities integrated onto the HMDS Increment A1 configuration (includes Ground Penetrating Radar (GPR)). These changes are necessary to adapt to changing IED threats. WD technology will be fully integrated through Engineering Change Proposals (ECPs) completing in FY20 with production and fielding FY20-22. Future capabilities may include detection of deep buried IEDs and caches, and semi-autonomous control of the Husky vehicle and HMDS from inside a follow-on vehicle.

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	26	71	44	115	147	56	-
	Total Obligation Authority	16.695	15.720	35.240	34.253	69.493	82.211	29.733	-
ANG	Quantity	-	32	45	-	45	75	34	-
	Total Obligation Authority	-	20.114	24.409	-	24.409	36.829	19.127	-
AR	Quantity	-	-	43	-	43	68	34	-
	Total Obligation Authority	-	-	23.433	-	23.433	33.397	19.019	-
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	<b>19</b>	<b>58</b>	<b>159</b>	<b>44</b>	<b>203</b>	<b>290</b>	<b>124</b>	<b>-</b>
	<b>Total Obligation Authority</b>	<b>16.695</b>	<b>35.834</b>	<b>83.082</b>	<b>34.253</b>	<b>117.335</b>	<b>152.437</b>	<b>67.879</b>	<b>-</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 03: Other Support Equipment / BSA 20: Engineer (Non-Construction) Equipment **P-1 Line Item Number / Title:** 2889R64001 / HUSKY MOUNTED DETECTION SYSTEM (HMDS)

**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	R64002 / HMDS - GROUND PENETRATING RADAR	P-5a, P-21			- / 18.819	19 / 16.695	58 / 35.834	99 / 53.700	44 / 34.253	143 / 87.953
P-5	R64003 / HMDS - DEEP BURIED DETECTION	P-5a, P-21			- / -	- / -	- / -	60 / 29.382	- / -	60 / 29.382
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 18.819</b>	<b>19 / 16.695</b>	<b>58 / 35.834</b>	<b>159 / 83.082</b>	<b>44 / 34.253</b>	<b>203 / 117.335</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 \$83.082 million procures 99 Husky Mounted Detection System (HMDS) Ground Penetrating Radars (GPRs) (Configuration -0), 60 HMDS Wire Detection (WD) Sensors, 44 HMDS OCO (Configuration -0 with WD), Contractor Logistic Support (CLS), and Program Support. In addition procures spares for the fielding of RESET systems.

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 / 03 / 20	<b>P-1 Line Item Number / Title:</b> 2889R64001 / HUSKY MOUNTED DETECTION SYSTEM (HMDS)	<b>Item Number / Title [DODIC]:</b> R64002 / HMDS - GROUND PENETRATING 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)	-	19	58	99	44	143
Gross/Weapon System Cost (\$ in Millions)	18.819	16.695	35.834	53.700	34.253	87.953
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	18.819	16.695	35.834	53.700	34.253	87.953
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>18.819</b>	<b>16.695</b>	<b>35.834</b>	<b>53.700</b>	<b>34.253</b>	<b>87.953</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)	-	878.684	617.828	542.424	778.477	615.056

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																		
HMDS GPR <sup>(1)</sup>	-	-	12.834	430.368	19	8.177	321.534	58	18.649	310.848	99	30.774	451.364	44	19.860	354.084	143	50.634
<i>Subtotal: Recurring Cost</i>	-	-	12.834	-	-	8.177	-	-	18.649	-	-	30.774	-	-	19.860	-	-	50.634
<b>Subtotal: Hardware Cost</b>	-	-	<b>12.834</b>	-	-	<b>8.177</b>	-	-	<b>18.649</b>	-	-	<b>30.774</b>	-	-	<b>19.860</b>	-	-	<b>50.634</b>
<b>Package Fielding Cost</b>																		
Recurring Cost																		
Initial Spares/Repair Parts	-	-	2.810	-	-	3.778	-	-	0.831	-	-	3.032	-	-	1.902	-	-	4.934
New Equipment Training	-	-	0.320	-	-	1.101	-	-	2.774	-	-	6.183	-	-	3.880	-	-	10.063
Con/Integrated Logistics Support	-	-	0.726	-	-	0.713	-	-	8.092	-	-	5.291	-	-	3.320	-	-	8.611
Fielding initial support	-	-	-	-	-	0.612	-	-	2.568	-	-	6.355	-	-	3.995	-	-	10.350
<i>Subtotal: Recurring Cost</i>	-	-	3.856	-	-	6.204	-	-	14.265	-	-	20.861	-	-	13.097	-	-	33.958
<b>Subtotal: Package Fielding Cost</b>	-	-	<b>3.856</b>	-	-	<b>6.204</b>	-	-	<b>14.265</b>	-	-	<b>20.861</b>	-	-	<b>13.097</b>	-	-	<b>33.958</b>
<b>Support - Program Management Cost</b>																		
Government Management	-	-	2.129	-	-	2.314	-	-	2.920	-	-	2.065	-	-	1.296	-	-	3.361
<i>Subtotal: Support - Program Management Cost</i>	-	-	2.129	-	-	2.314	-	-	2.920	-	-	2.065	-	-	1.296	-	-	3.361

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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 / 03 / 20	<b>P-1 Line Item Number / Title:</b> 2889R64001 / HUSKY MOUNTED DETECTION SYSTEM (HMDS)	<b>Item Number / Title [DODIC]:</b> R64002 / HMDS - GROUND PENETRATING RADAR
<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	-	-	18.819	878.684	19	16.695	617.828	58	35.834	542.424	99	53.700	778.477	44	34.253	615.056	143	87.953

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	19	26	11	44	55
	Total Obligation Authority	16.695	15.720	5.858	34.253	40.111
ANG	Quantity	-	32	45	-	45
	Total Obligation Authority	-	20.114	24.409	-	24.409
AR	Quantity	-	-	43	-	43
	Total Obligation Authority	-	-	23.433	-	23.433
<b>Total:</b>	<b>Quantity</b>	<b>19</b>	<b>58</b>	<b>99</b>	<b>44</b>	<b>143</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>16.695</b>	<b>35.834</b>	<b>53.700</b>	<b>34.253</b>	<b>87.953</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 / 03 / 20			<b>P-1 Line Item Number / Title:</b> 2889R64001 / HUSKY MOUNTED DETECTION SYSTEM (HMDS)				<b>Item Number / Title [DODIC]:</b> R64002 / HMDS - GROUND PENETRATING 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>
HMDS GPR <sup>(†)</sup>		2020	Chemring Sensors & Eletronic / Charlotte, NC	SS / IDIQ	Charlotte, NC	Nov 2019	Apr 2020	143	354.084	N		

<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 / 03 / 20		<b>P-1 Line Item Number / Title:</b> 2889R64001 / HUSKY MOUNTED DETECTION SYSTEM (HMDS)
		<b>Item Number / Title [DODIC]:</b> R64002 / HMDS - GROUND PENETRATING RADAR

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	Chemring Sensors & Eletronic - Charlotte, NC	7	15	20	2	1	5	6	2	1	5	6

**Remarks:**  
Production rates are monthly.

"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 / 03 / 20	<b>P-1 Line Item Number / Title:</b> 2889R64001 / HUSKY MOUNTED DETECTION SYSTEM (HMDS)	<b>Item Number / Title [DODIC]:</b> R64003 / HMDS - DEEP BURIED DETECTION

<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)	-	-	-	60	-	60
Gross/Weapon System Cost (\$ in Millions)	-	-	-	29.382	-	29.382
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	-	-	-	29.382	-	29.382
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	-	-	-	<b>29.382</b>	-	<b>29.382</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)	-	-	-	489.700	-	489.700

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>																		
HMDS Wire Detection (WD) <sup>(†)</sup>	-	-	-	-	-	-	-	-	-	287.583	60	17.255	-	-	-	287.583	60	17.255
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	17.255	-	-	-	-	-	17.255
<i>Subtotal: Hardware Cost</i>	-	-	-	-	-	-	-	-	-	-	-	17.255	-	-	-	-	-	17.255
<b>Package Fielding Cost</b>																		
<b>Recurring Cost</b>																		
Initial Spares/Repair Parts	-	-	-	-	-	-	-	-	-	-	-	1.602	-	-	-	-	-	1.602
New Equipment Training	-	-	-	-	-	-	-	-	-	-	-	3.267	-	-	-	-	-	3.267
Con/Integrated Logistics Support	-	-	-	-	-	-	-	-	-	-	-	2.796	-	-	-	-	-	2.796
Fielding Initial Support	-	-	-	-	-	-	-	-	-	-	-	3.371	-	-	-	-	-	3.371
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	11.036	-	-	-	-	-	11.036
<i>Subtotal: Package Fielding Cost</i>	-	-	-	-	-	-	-	-	-	-	-	11.036	-	-	-	-	-	11.036
<b>Support - Program Management Cost</b>																		
Government Management	-	-	-	-	-	-	-	-	-	-	-	1.091	-	-	-	-	-	1.091
<i>Subtotal: Support - Program Management Cost</i>	-	-	-	-	-	-	-	-	-	-	-	1.091	-	-	-	-	-	1.091



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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 03 / 20	<b>P-1 Line Item Number / Title:</b> 2889R64001 / HUSKY MOUNTED DETECTION SYSTEM (HMDS)	<b>Item Number / Title [DODIC]:</b> R64003 / HMDS - DEEP BURIED DETECTION
<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	-	-	-	-	-	-	-	-	-	489.700	60	29.382	-	-	-	489.700	60	29.382

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	-	-	60	-	60
	Total Obligation Authority	-	-	29.382	-	29.382
<b>Total:</b> Secondary Distribution	Quantity	-	-	60	-	60
	Total Obligation Authority	-	-	29.382	-	29.382

(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 / 03 / 20			<b>P-1 Line Item Number / Title:</b> 2889R64001 / HUSKY MOUNTED DETECTION SYSTEM (HMDS)				<b>Item Number / Title [DODIC]:</b> R64003 / HMDS - DEEP BURIED DETECTION					
<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>
HMDS Wire Detection (WD) <sup>(†)</sup>		2020	Chemring Sensors & Electronic / Charlotte, NC	SS / IDIQ	Charlotte, NC	Mar 2020	Aug 2020	60	287.583	N		

<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 / 03 / 20										<b>P-1 Line Item Number / Title:</b> 2889R64001 / HUSKY MOUNTED DETECTION SYSTEM (HMDS)										<b>Item Number / Title [DODIC]:</b> R64003 / HMDS - DEEP BURIED DETECTION									

Cost Elements <i>(Units in Each)</i>						Fiscal Year 2020												Fiscal Year 2021												BALANCE	
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2019	BAL DUE AS OF 1 OCT	Calendar Year 2020												Calendar Year 2021												
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G		S E P

HMDS Wire Detection (WD)																													
1	2020	ARMY		60	0	60																							0

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**UNCLASSIFIED**

<b>Exhibit P-21, Production Schedule:</b> PB 2020 Army							<b>Date:</b> March 2019					
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 03 / 20			<b>P-1 Line Item Number / Title:</b> 2889R64001 / HUSKY MOUNTED DETECTION SYSTEM (HMDS)				<b>Item Number / Title [DODIC]:</b> R64003 / HMDS - DEEP BURIED DETECTION					
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	Chemring Sensors & Electronic - Charlotte, NC	7	15	20	2	1	5	6	2	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 03: Other Support Equipment / BSA 20: Engineer (Non-Construction) Equipment	<b>P-1 Line Item Number / Title:</b> 4865M80400 / Robotic Combat Support System (RCSS)
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ID Code (A=Service Ready, B=Not Service Ready): B	Program Elements for Code B Items: 0606808A	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> )	15	30	27	3	5	8	7	10	-	-	-	97
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	84.141	4.516	8.879	2.000	3.300	5.300	6.850	16.476	-	-	-	126.162
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	84.141	4.516	8.879	2.000	3.300	5.300	6.850	16.476	-	-	-	126.162
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>84.141</b>	<b>4.516</b>	<b>8.879</b>	<b>2.000</b>	<b>3.300</b>	<b>5.300</b>	<b>6.850</b>	<b>16.476</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>126.162</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> )	5,609.400	150.533	328.852	666.667	660.000	662.500	978.571	1,647.600	-	-	-	1,300.639

**Description:**

This Robotic Combat Support System (RCSS) Budget line procures the M160 Mine Flail and the Route Clearance and Interrogation System (RCIS) Type I.

The M160 is a 6.1-ton tracked, combat engineer vehicle designed for teleoperation by soldiers from either mounted or dismounted positions to perform area clearance of antipersonnel mine-sown areas. The revised Army Acquisition Objective (AAO) is 72. The M160 detonates or destroys anti-personnel mines in a 68-inch wide path through the action of a rotating chain and hammer flail system, a mine roller, or earth moving blade. The M160 provides standoff and increased protection for engineer units conducting route and area clearance missions. It fills the Light Flail mission in the Area Clearance Family of Systems. The M160 is a program of record, developed from a modified Commercial Off The Shelf (COTS) system.

The Route Clearance and Interrogation System (RCIS) Type I will enable an operator to semi-autonomously control (tele-operate) a High Mobility Engineering Excavator (HMEE). The RCIS Type I enables the Soldier to semi-autonomously control a HMEE, enabling operators to interrogate, classify and excavate deep buried explosive hazards, Improvised Explosive Devices (IEDs), and caches in a wide range of road surfaces and soil conditions from a standoff distance for Soldier protection. The RCIS Type I AAO is 245.

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	5	0	5	5	7	10	-
	Total Obligation Authority	1.355	4.850	0.000	3.300	3.300	6.850	16.476	-
ANG	Quantity	11	12	1	-	1	-	-	-
	Total Obligation Authority	1.671	2.277	0.660	-	0.660	-	-	-
AR	Quantity	10	10	2	-	2	-	-	-
	Total Obligation Authority	1.490	1.752	1.340	-	1.340	-	-	-
<b>Total:</b>	<b>Quantity</b>	<b>30</b>	<b>27</b>	<b>3</b>	<b>5</b>	<b>8</b>	<b>7</b>	<b>10</b>	<b>-</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>4.516</b>	<b>8.879</b>	<b>2.000</b>	<b>3.300</b>	<b>5.300</b>	<b>6.850</b>	<b>16.476</b>	<b>-</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 03: Other Support Equipment / BSA 20: Engineer (Non-Construction) Equipment **P-1 Line Item Number / Title:** 4865M80400 / Robotic Combat Support System (RCSS)

**ID Code** (A=Service Ready, B=Not Service Ready): B **Program Elements for Code B Items:** 0606808A **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	M80400 / Robotic Combat Support System (RCSS)	P-5a	B		15 / 84.141	30 / 4.516	27 / 8.879	3 / 2.000	5 / 3.300	8 / 5.300
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>15 / 84.141</b>	<b>30 / 4.516</b>	<b>27 / 8.879</b>	<b>3 / 2.000</b>	<b>5 / 3.300</b>	<b>8 / 5.300</b>

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

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

**Justification:**  
 FY 2020 Base procurement dollars in the amount of \$2.000 million supports Total Package Fielding of 3 systems which includes New Equipment Training (NET), spare parts, and Contractor Logistics Support (CLS) maintenance through transition to organic sustainment, travel and transportation.  
  
 FY 2020 OCO procurement dollars in the amount of \$3.300 million will procure 5 M160s to replace systems deployed in support of an approved Operation Needs Statement (ONS). Funding supports system procurement, transportation, training, and Total Package Fielding required to restore the program Army Acquisition Objective (AAO).  
  
 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 / 03 / 20	<b>P-1 Line Item Number / Title:</b> 4865M80400 / Robotic Combat Support System (RCSS)	<b>Item Number / Title [DODIC]:</b> M80400 / Robotic Combat Support System (RCSS)

<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)	15	30	27	3	5	8
Gross/Weapon System Cost (\$ in Millions)	84.141	4.516	8.879	2.000	3.300	5.300
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	84.141	4.516	8.879	2.000	3.300	5.300
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>84.141</b>	<b>4.516</b>	<b>8.879</b>	<b>2.000</b>	<b>3.300</b>	<b>5.300</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)	5,609.400	150.533	328.852	666.667	660.000	662.500

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)
Flyaway Cost																		
Recurring Cost																		
M160 Mech Anti-Personnel Mine Clear System <sup>(†)</sup>	676.417	72	48.702	-	-	-	606.250	8	4.850	-	-	-	600.000	5	3.000	600.000	5	3.000
M160 Total Package Fielding	-	-	1.570	187.500	14	2.625	125.000	16	2.000	200.000	3	0.600	-	-	0.200	266.667	3	0.800
M160 ECPs	-	-	-	-	-	-	-	-	1.029	-	-	0.100	-	-	-	-	-	0.100
M160 Initial Spares & Repair Parts	-	-	4.208	-	-	-	-	-	-	-	-	0.200	-	-	-	-	-	0.200
M160 Crew Radio Kits	-	-	12.809	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M160 Transportation	-	-	3.428	-	-	-	-	-	-	-	-	0.150	-	-	0.100	-	-	0.250
M160 Contractor Logistics Support	2,236.500	2	4.473	-	-	0.650	-	-	-	-	-	0.500	-	-	-	-	-	0.500
M160 PM Support	-	-	8.951	-	-	1.241	-	-	1.000	-	-	0.450	-	-	-	-	-	0.450
<i>Subtotal: Recurring Cost</i>	-	-	84.141	-	-	4.516	-	-	8.879	-	-	2.000	-	-	3.300	-	-	5.300
<i>Subtotal: Flyaway Cost</i>	-	-	84.141	-	-	4.516	-	-	8.879	-	-	2.000	-	-	3.300	-	-	5.300
<b>Gross/Weapon System Cost</b>	<b>5,609.400</b>	<b>15</b>	<b>84.141</b>	<b>150.533</b>	<b>30</b>	<b>4.516</b>	<b>328.852</b>	<b>27</b>	<b>8.879</b>	<b>666.667</b>	<b>3</b>	<b>2.000</b>	<b>660.000</b>	<b>5</b>	<b>3.300</b>	<b>662.500</b>	<b>8</b>	<b>5.300</b>

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	9	5	0	5	5

**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 / 03 / 20	<b>P-1 Line Item Number / Title:</b> 4865M80400 / Robotic Combat Support System (RCSS)	<b>Item Number / Title [DODIC]:</b> M80400 / Robotic Combat Support System (RCSS)

**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
	Total Obligation Authority	1.355	4.850	0.000	3.300	3.300
ANG	Quantity	11	12	1	-	1
	Total Obligation Authority	1.671	2.277	0.660	-	0.660
AR	Quantity	10	10	2	-	2
	Total Obligation Authority	1.490	1.752	1.340	-	1.340
<b>Total:</b>	<b>Quantity</b>	<b>30</b>	<b>27</b>	<b>3</b>	<b>5</b>	<b>8</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>4.516</b>	<b>8.879</b>	<b>2.000</b>	<b>3.300</b>	<b>5.300</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 / 03 / 20			<b>P-1 Line Item Number / Title:</b> 4865M80400 / Robotic Combat Support System (RCSS)					<b>Item Number / Title [DODIC]:</b> M80400 / Robotic Combat Support System (RCSS)				
<b>Cost Elements</b>	<b>OCO</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>
M160 Mech Anti-Personnel Mine Clear System		2019	Dok-ing / Croatia	SS / FP	Warren, MI	Feb 2019	Apr 2019	8	606.250	N		
M160 Mech Anti-Personnel Mine Clear System	✓	2020	Dok-ing / Croatia	SS / FP	Warren, MI	Feb 2020	Apr 2020	5	600.000	N		

**Remarks:**  
 FY 2020 OCO procurement dollars in the amount of \$3.300 million will procure 5 M160s to replace systems deployed in support of an approved Operation Needs Statement (ONS). Funding supports system procurement, transportation, training, and Total Package Fielding required to restore the program Army Acquisition Objective (AAO).

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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 03: Other Support Equipment / BSA 20: Engineer (Non-Construction) Equipment	<b>P-1 Line Item Number / Title:</b> 4867W12001 / EOD Robotics Systems Recapitalization
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ID Code (A=Service Ready, B=Not Service Ready): B	Program Elements for Code B Items: 0605053A	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> )	11	55	83	76	-	76	46	-	-	-	-	271
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	16.818	10.073	17.736	23.115	-	23.115	26.559	-	-	-	-	94.301
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	16.818	10.073	17.736	23.115	-	23.115	26.559	-	-	-	-	94.301
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>16.818</b>	<b>10.073</b>	<b>17.736</b>	<b>23.115</b>	<b>-</b>	<b>23.115</b>	<b>26.559</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>94.301</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> )	1,528.909	183.145	213.687	304.145	-	304.145	577.370	-	-	-	-	347.974

**Description:**

The Common Robotic System, Heavy (CRS(H)) is a modular large-sized system that provides enhanced protection to the EOD Soldier in order to support the Joint Force Commander with the ability to identify, render safe and dispose of explosive ordnance (EO) and improvised explosive devices (IEDs) in support of the Range of Military Operations (ROMO) and Home Land Defense (HLD) operations. CRS(H) will also enable EOD Soldiers to execute Defense Support of the Civil Authorities (DSCA) operations in response to requests from federal, state, local, and tribal authorities for domestic incidents, emergencies, disasters, designated law enforcement support and other activities. CRS(H) will support current and future missions for Explosive Ordnance Disposal (EOD) units. Funds in this budget line are a new start for CRS(H) OPA funding. The Army Acquisition Objective (AAO) for CRS(H) robots is 248.

The Man Transportable Robotic System, Talon 5a robot is a key enabler to Explosive Ordnance Disposal (EOD) soldiers. The medium-sized robot provides unmanned investigation of suspicious objects and potential Improvised Explosive Device (IED) threats, with increased manipulation capability to interrogate threats from a safe standoff distance. The robot also provides real time intelligence, surveillance and reconnaissance while accessing sites, performing route clearance missions, conducting render safe operations, and disposing of hazardous material in a high risk contaminated environment. The recapitalization effort will maximize the use of the legacy MTRS fleet by restoring currently fielded systems to a like-new condition in appearance, performance, and life expectancy, while inserting new technology where practical, to improve reliability and maintainability. The fleet will bridge the capability gap until the Army fields the program of record Man Transportable Robotic System Increment II to EOD units. The Army Acquisition Objective (AAO) for Talon 5a robots is 593.

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	55	83	76	-	76	46	-	-
	Total Obligation Authority	10.073	17.736	23.115	-	23.115	20.214	-	-
ANG	Quantity	-	-	-	-	-	-	-	-
	Total Obligation Authority	-	-	-	-	-	6.345	-	-
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	<b>55</b>	<b>83</b>	<b>76</b>	<b>-</b>	<b>76</b>	<b>46</b>	<b>-</b>	<b>-</b>
	<b>Total Obligation Authority</b>	<b>10.073</b>	<b>17.736</b>	<b>23.115</b>	<b>-</b>	<b>23.115</b>	<b>26.559</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 03: Other Support Equipment / BSA 20:  
 Engineer (Non-Construction) Equipment **P-1 Line Item Number / Title:**  
 4867W12001 / EOD Robotics Systems Recapitalization

**ID Code** (A=Service Ready, B=Not Service Ready): B **Program Elements for Code B Items:** 0605053A **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	W12001 / EOD Robotics Systems Recapitalization	P-5a, P-21	B		11 / 16.818	55 / 10.073	83 / 17.736	76 / 23.115	- / -	76 / 23.115
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>11 / 16.818</b>	<b>55 / 10.073</b>	<b>83 / 17.736</b>	<b>76 / 23.115</b>	<b>- / -</b>	<b>76 / 23.115</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 \$23.115 million supports the procurement of 47 Common Robotic Systems-Heavy (CRS(H)), initial spares, Engineering Change Proposals (ECPs), Logistics products, Contractor Logistics Support (CLS), software support, and any program management costs associated with these activities.

NOTE: FY 2020 quantity does not match the P-40. FY 2020 quantity of 47 is the updated quantity.

There are no FY 2020 Base procurement dollars for the Man Transportable Robotic System (MTRS) MK II systems into Talon 5a 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.

**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 / 03 / 20	<b>P-1 Line Item Number / Title:</b> 4867W12001 / EOD Robotics Systems Recapitalization	<b>Item Number / Title [DODIC]:</b> W12001 / EOD Robotics Systems Recapitalization

<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)	11	55	83	76	-	76
Gross/Weapon System Cost (\$ in Millions)	16.818	10.073	17.736	23.115	-	23.115
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	16.818	10.073	17.736	23.115	-	23.115
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>16.818</b>	<b>10.073</b>	<b>17.736</b>	<b>23.115</b>	<b>-</b>	<b>23.115</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)	1,528.909	183.145	213.687	304.145	-	304.145

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																		
Man Transportable Robotic System (MTRS)-Talon 5a RECAP <sup>(†)</sup>	154.654	107	16.548	156.727	55	8.620	121.802	96	11.693	-	-	-	-	-	-	-	-	-
Common Robotic Systems - Heavy (CRS(H)) <sup>(†)</sup>	-	-	-	-	-	-	380.000	11	4.180	380.000	47	17.860	-	-	-	380.000	47	17.860
<i>Subtotal: Recurring Cost</i>	-	-	16.548	-	-	8.620	-	-	15.873	-	-	17.860	-	-	-	-	-	17.860
<b>Subtotal: Hardware Cost</b>	<b>-</b>	<b>-</b>	<b>16.548</b>	<b>-</b>	<b>-</b>	<b>8.620</b>	<b>-</b>	<b>-</b>	<b>15.873</b>	<b>-</b>	<b>-</b>	<b>17.860</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>17.860</b>
<b>Software Cost</b>																		
Recurring Cost																		
CRS(H) Software Support	-	-	-	-	-	-	-	-	-	-	-	0.300	-	-	-	-	-	0.300
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	0.300	-	-	-	-	-	0.300
<b>Subtotal: Software 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>0.300</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>0.300</b>
<b>Package Fielding Cost</b>																		
Recurring Cost																		
Talon 5a New Equipment Training (NET)	-	-	0.005	-	-	0.025	-	-	0.125	-	-	-	-	-	-	-	-	-
Talon 5a Initial Spares	-	-	0.045	-	-	1.213	-	-	0.861	-	-	-	-	-	-	-	-	-

**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 / 03 / 20	<b>P-1 Line Item Number / Title:</b> 4867W12001 / EOD Robotics Systems Recapitalization	<b>Item Number / Title [DODIC]:</b> W12001 / EOD Robotics Systems Recapitalization
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : B		<b>MDAP/MAIS Code:</b>

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

Cost Elements	Prior Years			FY 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>	-	-	0.050	-	-	1.238	-	-	0.986	-	-	-	-	-	-	-	-	-
<i>Subtotal: Package Fielding Cost</i>	-	-	0.050	-	-	1.238	-	-	0.986	-	-	-	-	-	-	-	-	-
<b>Logistics Cost</b>																		
<i>Recurring Cost</i>																		
CRS(H) Logistics Products	-	-	-	-	-	-	-	-	-	-	-	0.400	-	-	-	-	-	0.400
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	0.400	-	-	-	-	-	0.400
<i>Subtotal: Logistics Cost</i>	-	-	-	-	-	-	-	-	-	-	-	0.400	-	-	-	-	-	0.400
<b>Support - Contractor Logistics Support (CLS) Cost</b>																		
Oversight	-	-	-	-	-	-	-	-	0.230	-	-	2.815	-	-	-	-	-	2.815
<i>Subtotal: Support - Contractor Logistics Support (CLS) Cost</i>	-	-	-	-	-	-	-	-	0.230	-	-	2.815	-	-	-	-	-	2.815
<b>Support - Engineering Change Proposals Cost</b>																		
Engineering Change Proposals	-	-	-	-	-	-	-	-	-	-	-	0.180	-	-	-	-	-	0.180
<i>Subtotal: Support - Engineering Change Proposals Cost</i>	-	-	-	-	-	-	-	-	-	-	-	0.180	-	-	-	-	-	0.180
<b>Support - Fielding Cost</b>																		
Fielding	-	-	-	-	-	-	-	-	-	-	-	0.330	-	-	-	-	-	0.330
<i>Subtotal: Support - Fielding Cost</i>	-	-	-	-	-	-	-	-	-	-	-	0.330	-	-	-	-	-	0.330
<b>Support - Initial Spares and Repair Parts Cost</b>																		
Initial Spares and Repair Parts	-	-	-	-	-	-	4.833	12	0.058	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - Initial Spares and Repair Parts Cost</i>	-	-	-	-	-	-	-	-	0.058	-	-	-	-	-	-	-	-	-
<b>Support - New Equipment Training (NET) Cost</b>																		
Equipment	-	-	-	-	-	-	-	-	-	-	-	0.330	-	-	-	-	-	0.330
<i>Subtotal: Support - New Equipment Training (NET) Cost</i>	-	-	-	-	-	-	-	-	-	-	-	0.330	-	-	-	-	-	0.330
<b>Support - Program Management Cost</b>																		
Government Management	-	-	0.060	-	-	0.075	-	-	0.428	-	-	0.900	-	-	-	-	-	0.900

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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 / 03 / 20	<b>P-1 Line Item Number / Title:</b> 4867W12001 / EOD Robotics Systems Recapitalization	<b>Item Number / Title [DODIC]:</b> W12001 / EOD Robotics Systems Recapitalization
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : B		<b>MDAP/MAIS Code:</b>

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

Cost Elements	Prior Years			FY 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)
Contractor Management	-	-	0.160	-	-	0.140	-	-	0.161	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - Program Management Cost</i>	-	-	0.220	-	-	0.215	-	-	0.589	-	-	0.900	-	-	-	-	-	0.900
<b>Gross/Weapon System Cost</b>	<b>1,528.909</b>	<b>11</b>	<b>16.818</b>	<b>183.145</b>	<b>55</b>	<b>10.073</b>	<b>213.687</b>	<b>83</b>	<b>17.736</b>	<b>304.145</b>	<b>76</b>	<b>23.115</b>	-	-	-	<b>304.145</b>	<b>76</b>	<b>23.115</b>

**Remarks:**

Increase in Program Management due to acceleration in production schedule for Common Robotic Systems (Heavy) and the transition out of RDTE.

System issues prevented the correct population of quantities in the P5 Resource Summary header and Gross/Weapon System Cost totals for FY 2019 Base. The Cost Element detail of the P5 (Hardware) provides planned procurement quantities associated with FY 2019 Base requested funding (Talon 5a: Qty 96; CRS(H): Qty 11).

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	55	83	76	-	76
	Total Obligation Authority	10.073	17.736	23.115	-	23.115
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	<b>55</b>	<b>83</b>	<b>76</b>	-	<b>76</b>
	<b>Total Obligation Authority</b>	<b>10.073</b>	<b>17.736</b>	<b>23.115</b>	-	<b>23.115</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 / 03 / 20			<b>P-1 Line Item Number / Title:</b> 4867W12001 / EOD Robotics Systems Recapitalization					<b>Item Number / Title [DODIC]:</b> W12001 / EOD Robotics Systems Recapitalization				
<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>
Man Transportable Robotic System (MTRS)-Talon 5a RECAP		2018	Robot Log Spt Center / Harrison Twp, MI	C / IDIQ	Warren, MI	Dec 2017	Jun 2018	55	156.727	Y		
Man Transportable Robotic System (MTRS)-Talon 5a RECAP		2019	Robot Log Spt Center / Harrison Twp, MI	C / FFP	Warren, MI	Nov 2018	May 2019	96	121.802	Y		
Common Robotic Systems - Heavy (CRS(H)) <sup>(†)</sup>		2019	TBD / TBD	C / FFP	Warren, MI	Jul 2019	Jan 2020	11	380.000	N		
Common Robotic Systems - Heavy (CRS(H)) <sup>(†)</sup>		2020	TBD / TBD	C / FFP	Warren, MI	Nov 2019	May 2020	47	380.000	N		

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

**Remarks:**  
W12001 EOD Robotics Systems Recapitalization is a shared line for Talon 5a RECAP and Common Robotic System-Heavy.





**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 / 03 / 20										<b>P-1 Line Item Number / Title:</b> 4867W12001 / EOD Robotics Systems Recapitalization										<b>Item Number / Title [DODIC]:</b> W12001 / EOD Robotics Systems Recapitalization									

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
Common Robotic Systems - Heavy (CRS(H))																															
1		2019	ARMY	11	0	11	-	-	-	2	2	2	2	2	2	1														0	
1		2020	ARMY	47	0	47		A	-	-	-	-	-	-	2	2	4	4	4	5	5	5	4	4	4	4			0		
							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 / 03 / 20		<b>P-1 Line Item Number / Title:</b> 4867W12001 / EOD Robotics Systems Recapitalization
		<b>Item Number / Title [DODIC]:</b> W12001 / EOD Robotics Systems Recapitalization

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	1	5	10	0	1	6	7	0	1	6	7

**Remarks:**

Production rates are monthly.

"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 03: Other Support Equipment / BSA 20: Engineer (Non-Construction) Equipment	<b>P-1 Line Item Number / Title:</b> 4868W12002 / Robotics and Applique Systems
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready): B	<b>Program Elements for Code B Items:</b> 0604808A	<b>Other Related Program Elements:</b> 0605053A
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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	859	1,185	1,844	-	1,844	2,526	1,528	2,067	2,600	-	12,611
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	5.515	24.000	31.456	101.056	-	101.056	176.286	162.416	209.455	218.359	-	928.543
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	5.515	24.000	31.456	101.056	-	101.056	176.286	162.416	209.455	218.359	-	928.543
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>5.515</b>	<b>24.000</b>	<b>31.456</b>	<b>101.056</b>	<b>-</b>	<b>101.056</b>	<b>176.286</b>	<b>162.416</b>	<b>209.455</b>	<b>218.359</b>	<b>-</b>	<b>928.543</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> )	2,757.500	27.939	26.545	54.803	-	54.803	69.789	106.293	101.333	83.984	-	73.630

**Description:**

The Common Robotic System - Individual (CRS(I)) is the Army's small sized (<25 lbs.) Soldier back-packable, remotely operated, common robotic system. The system provides dismounted Soldiers with increased standoff capability from hazardous threats. The system consists of a Universal Controller (UC), a suite of payloads, and an open architecture common mobility platform allowing for future capability growth. The CRS(I) will allow the operator to quickly re-configure for other various missions by adding or removing modules and/or payloads. The CRS(I) will provide interrogation, detection, confirmation, and neutralization capabilities employed to support a wide spectrum of mobility missions for current and future forces. This capability provides commanders the ability to persistently monitor the Operating Environment (OE) while protecting and sustaining the force. The CRS(I) complements the Joint Integrated War-fighting Force by providing standoff to the Warfighter during major combat, stability, and homeland security operations. The Army Approved Acquisition Objective (AAO) for this program is 3,258.

The Universal Robotic Controller (URC) provides the capability to individually and/or concurrently control multiple Unmanned Systems (UxS) platforms and control/monitor a mesh network without having to obtain and/or carry separate Operator Control Unit (OCU)s for each system. A controlled UxS may be mobile or stationary, can be smart learning, and self-adaptive. Two URCs will be used to hand-off control of a system to a receiver, reducing hand-off time and the need for the UxSs to have multiple OCUs. The URC will also be capable of "hot swapping" batteries where one of its two batteries can be replaced without the system being shut down, halting mission progress, and use current or new Soldier power sources that will maximize its operational time and minimize the number of replacement batteries needed for most missions. The intent of this requirement is allow the Soldier at battalion and below to use the URC to operate unmanned aerial systems (e.g. Raven, PUMA, Short Range Micro (SRM), etc.) and unmanned ground vehicles (e.g. CRS(I), CRS(V), CRS(H), SMET, MTRS INC II, Light Reconnaissance (LR), Wingman, etc.) and emerging unmanned air/ground systems. The URC is defined in the Common Robotic System (Individual) (CRS(I)) Capability Development Document (CDD) and is included in the CRS(I) acquisition. As the URC is currently part of the CRS(I) contract; a standalone (CDD) is being developed and there is no specific AAO at this time.

The Soldier Borne Sensor (SBS) is a small unmanned aerial vehicle. The SBS provides a near term solution to three Army War-fighting Challenges at the Infantry Squad level: develop situational understanding, conduct air-ground reconnaissance, and conduct joint combined arms maneuver. The system is simple to deploy and use to support the squad leader's decision-making process. The system allows Soldiers to obtain local situational awareness and understanding of their immediate surroundings while remaining in covered or concealed positions.

The Man Transportable Robotic System (MTRS) Inc. II is the Army's Soldier transportable, remotely operated, medium size (<= 164 lbs.) common robotic system. The system utilizes both radio and tethered communications allowing dismounted Soldiers to perform hazardous missions from a safe standoff distance. The MTRS Inc. II system consists of an operator control unit (OCU), a suite of various mission payloads, and a mobility platform. Open architecture and the Ground Robotic Autonomous Systems (RAS) Interoperability Profile (IOP) requirements are employed to reduce obsolescence risks and to maximize

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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 03: Other Support Equipment / BSA 20: Engineer (Non-Construction) Equipment	<b>P-1 Line Item Number / Title:</b> 4868W12002 / Robotics and Applique Systems
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready): B	<b>Program Elements for Code B Items:</b> 0604808A	<b>Other Related Program Elements:</b> 0605053A
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**Line Item MDAP/MAIS Code:** N/A

efficiency in acquiring future capabilities. MTRS Inc. II will support current and future payload missions for the Engineer's route clearance platoons, Special Operational Forces (SOF) detachments, Chemical Biological Radiological and Nuclear (CBRN), and Explosive Ordnance Disposal (EOD) Units. The approved Army Acquisition Objective (AAO) for this program is 1,148.

The Squad Multipurpose Equipment Transport (SMET) will help to reduce Soldier loads and increase mission capabilities by transporting mission specific equipment, resupply equipment, and supplies required for extended operations. The SMET will be capable of carrying the equipment currently required to support Infantry and Engineer Platoons in the Infantry Brigade Combat Team (IBCT) for a 72 hour mission without resupply. The SMET will reduce Soldier load, increase squad mobility during combat operations and dismounted maneuvers. SMET will have open architectures, a remote control and support casualty evacuation, power generation/offload and integration of Modular Mission Payloads (MMP) and technical insertions.

	<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	859	1,185	1,162	-	1,162	1,532	933	985	1,138
	Total Obligation Authority	24.000	31.456	87.177	-	87.177	108.419	96.786	80.368	66.845
ANG	Quantity	-	-	465	-	465	828	595	802	1,182
	Total Obligation Authority	-	-	9.463	-	9.463	49.293	65.630	82.515	104.257
AR	Quantity	-	-	217	-	217	166	-	280	280
	Total Obligation Authority	-	-	4.416	-	4.416	18.574	-	46.572	47.257
<b>Total:</b>	<b>Quantity</b>	<b>859</b>	<b>1,185</b>	<b>1,844</b>	<b>-</b>	<b>1,844</b>	<b>2,526</b>	<b>1,528</b>	<b>2,067</b>	<b>2,600</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>24.000</b>	<b>31.456</b>	<b>101.056</b>	<b>-</b>	<b>101.056</b>	<b>176.286</b>	<b>162.416</b>	<b>209.455</b>	<b>218.359</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 03: Other Support Equipment / BSA 20: Engineer (Non-Construction) Equipment

**P-1 Line Item Number / Title:**  
4868W12002 / Robotics and Applique Systems

**ID Code** (A=Service Ready, B=Not Service Ready): B **Program Elements for Code B Items:** 0604808A **Other Related Program Elements:** 0605053A

**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	G93696 / Common Robotic System - Individual (CRS-I)	P-5a, P-21	B		- / -	- / -	- / -	271 / 30.387	- / -	271 / 30.387
P-5	G99595 / Common Robotic System-Individual (CRS-I)	P-5a	B		- / -	- / -	24 / 3.161	127 / 2.285	- / -	127 / 2.285
P-5	R12154 / Squad Multipurpose Equipment Transport (SMET)	P-5a, P-21	B		- / -	- / -	- / -	62 / 8.768	- / -	62 / 8.768
P-5	R67050 / Man Transportable Robotic Sys Inc II (MTRS Inc II)	P-5a, P-21	B		2 / 5.515	0 / -	20 / 6.615	236 / 36.254	- / -	236 / 36.254
P-5	W63798 / Soldier Borne Sensor (SBS)	P-5a, P-21			- / -	859 / 24.000	1,141 / 21.680	1,148 / 23.362	- / -	1,148 / 23.362
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>2 / 5.515</b>	<b>859 / 24.000</b>	<b>1,185 / 31.456</b>	<b>1,844 / 101.056</b>	<b>- / -</b>	<b>1,844 / 101.056</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 \$30.387 million for the Common Robotic System (Individual) {CRS(I)} supports the procurement of 271 Low Rate Initial Production (LRIP) CRS(I) systems with universal controllers, engineering and logistics data, Interim Contractor Logistics Support (ICLS), Engineering Change Proposals (ECP), potential delta follow-on testing on unmet CDD thresholds, and System Engineering Program Management (SEPM).

FY 2020 Base procurement dollars in the amount of \$2.285 million for the Universal Robotic Controller supports the procurement of 127 Low Rate Initial Production (LRIP) Universal Controllers for unmanned aerial systems (e.g. Raven, PUMA, Short Range Micro (SRM), etc.), unmanned ground vehicles (e.g. CRS(I), CRS(V), CRS(H), SMET, MTRS Inc. II, Light Reconnaissance (LR), Wingman, etc. ), and emerging unmanned air/ground systems, engineering and logistics data, Interim Contractor Logistics Support (ICLS), Engineering Change Proposals (ECP), and System Engineering Program Management (SEPM).

FY 2020 Base procurement dollars in the amount of \$23.362 million, supports the procurement of 1,148 Soldier Borne Sensor (SBS) systems.

FY 2020 Base procurement dollars in the amount of \$36.254 million supports the procurement of 236 Man Transportable Robotics System Increment II (MTRS Inc. II), software sustainment, Contractor Logistics Support (CLS) (or government support from the Robotics Logistics Support Center (RLSC)), MTRS Inc. II production systems, Chemical, Biological, Radiological, and Nuclear (CBRN) kits, initial spares, logistic activities, and System Engineering Program Management (SEPM).

FY 2020 Base procurement dollars in the amount of \$8.768 million procures 62 Squad Multipurpose Equipment Transport (SMET) and supports the refurbishment of Phase II systems and procurement of Low Rate Initial Production (LRIP), Logistics Product Development, Contractor Logistics Support (CLS) to include maintenance and parts, Modular Mission Payloads (MMP), Technical Insertions or Engineering Change Proposals (ECP), and Total Package Fielding. This funding also supports programmatic risk mitigation activities to address Cyber Security Controls, commonality directives, and interoperability (IOP).

NOTE: SSN G99595 was listed as Common Robotic System (Individual) {CRS(I)} for the FY 2019 President's Budget, but is now listed as Common Robotic System (Universal Controller) {(CRS(UC))} for the FY 2020 Budget Estimate Submission. SSN G93696 is a new SSN and is listed as the Common Robotic System (Individual) {CRS(I)}. Prior to Budget Estimate Submission FY 2020, both the Common Robotic System (Individual) {CRS(I)} and Common Robotic System (Universal Controller) {CRS(UC)} were funded under the same SSN G99595 and RDTE APE 655053FB4. Neither of these programs is a new start.

In accordance with Section 1815 of the FY 2008 National Defense Authorization Act (P.L 110-151), 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 / 03 / 20	<b>P-1 Line Item Number / Title:</b> 4868W12002 / Robotics and Applique Systems	<b>Item Number / Title [DODIC]:</b> G93696 / Common Robotic System - Individual (CRS-I)

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : B	<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)	-	-	-	271	-	271
Gross/Weapon System Cost (\$ in Millions)	-	-	-	30.387	-	30.387
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	-	-	-	30.387	-	30.387
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	-	-	-	<b>30.387</b>	-	<b>30.387</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)	-	-	-	112.129	-	112.129

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>																		
Recurring Cost																		
CRS(I) systems <sup>(†)</sup>	-	-	-	-	-	-	-	-	-	75.000	271	20.325	-	-	-	75.000	271	20.325
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	20.325	-	-	-	-	-	20.325
<i>Subtotal: Hardware Cost</i>	-	-	-	-	-	-	-	-	-	-	-	<b>20.325</b>	-	-	-	-	-	<b>20.325</b>
<b>Software Cost</b>																		
Recurring Cost																		
CRS(I) software support	-	-	-	-	-	-	-	-	-	-	-	1.854	-	-	-	-	-	1.854
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	1.854	-	-	-	-	-	1.854
<i>Subtotal: Software Cost</i>	-	-	-	-	-	-	-	-	-	-	-	<b>1.854</b>	-	-	-	-	-	<b>1.854</b>
<b>Support - Contractor Logistics Support (CLS) Cost</b>																		
Oversight	-	-	-	-	-	-	-	-	-	-	-	3.954	-	-	-	-	-	3.954
<i>Subtotal: Support - Contractor Logistics Support (CLS) Cost</i>	-	-	-	-	-	-	-	-	-	-	-	<b>3.954</b>	-	-	-	-	-	<b>3.954</b>
<b>Support - Engineering Change Proposals Cost</b>																		
Engineering Change Proposals	-	-	-	-	-	-	-	-	-	-	-	1.224	-	-	-	-	-	1.224
<i>Subtotal: Support - Engineering Change Proposals Cost</i>	-	-	-	-	-	-	-	-	-	-	-	<b>1.224</b>	-	-	-	-	-	<b>1.224</b>
<b>Support - New Equipment Training (NET) 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 / 03 / 20	<b>P-1 Line Item Number / Title:</b> 4868W12002 / Robotics and Applique Systems	<b>Item Number / Title [DODIC]:</b> G93696 / Common Robotic System - Individual (CRS-I)
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : B		<b>MDAP/MAIS Code:</b>

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

Cost Elements	Prior Years			FY 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)
Equipment	-	-	-	-	-	-	-	-	-	-	-	0.630	-	-	-	-	-	0.630
<i>Subtotal: Support - New Equipment Training (NET) Cost</i>	-	-	-	-	-	-	-	-	-	-	-	<b>0.630</b>	-	-	-	-	-	<b>0.630</b>
Support - Program Management Cost																		
Government Management	-	-	-	-	-	-	-	-	-	-	-	2.354	-	-	-	-	-	2.354
<i>Subtotal: Support - Program Management Cost</i>	-	-	-	-	-	-	-	-	-	-	-	<b>2.354</b>	-	-	-	-	-	<b>2.354</b>
Support - Training Cost																		
Services	-	-	-	-	-	-	-	-	-	-	-	0.046	-	-	-	-	-	0.046
<i>Subtotal: Support - Training Cost</i>	-	-	-	-	-	-	-	-	-	-	-	<b>0.046</b>	-	-	-	-	-	<b>0.046</b>
<b>Gross/Weapon System Cost</b>	-	-	-	-	-	-	-	-	-	112.129	271	30.387	-	-	-	112.129	271	30.387

**Remarks:**

NOTE: SSN G99595 was listed as Common Robotic System (Individual) {CRS(I)} for the FY 2019 President's Budget, but is now listed as Common Robotic System (Universal Controller) {(CRS(UC))} for the FY 2020 Budget Estimate Submission. SSN G93696 is a new SSN and is listed as the Common Robotic System (Individual) {CRS(I)}. Prior to Budget Estimate Submission FY 2020, both the Common Robotic System (Individual) {CRS(I)} and Common Robotic System (Universal Controller) {CRS(UC)} were funded under the same SSN G99595 and RDTE APE 655053FB4. Neither of these programs is a new start.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	-	-	271	-	271
	Total Obligation Authority	-	-	30.387	-	30.387
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	-	-	<b>271</b>	-	<b>271</b>
	<b>Total Obligation Authority</b>	-	-	<b>30.387</b>	-	<b>30.387</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 / 03 / 20			<b>P-1 Line Item Number / Title:</b> 4868W12002 / Robotics and Applique Systems				<b>Item Number / Title [DODIC]:</b> G93696 / Common Robotic System - Individual (CRS-I)					
<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>
CRS(I) systems <sup>(†)</sup>		2020	TBD / TBD	C / FFP	Warren, MI	Nov 2019	Mar 2020	271	75.000	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
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 03 / 20		<b>P-1 Line Item Number / Title:</b> 4868W12002 / Robotics and Applique Systems
		<b>Item Number / Title [DODIC]:</b> G93696 / Common Robotic System - Individual (CRS-I)

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	30	60	100	0	1	4	5	0	1	4	5

"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 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 / 03 / 20						<b>P-1 Line Item Number / Title:</b> 4868W12002 / Robotics and Applique Systems						<b>Item Number / Title [DODIC]:</b> G99595 / Common Robotic System- Individual (CRS-I)						
<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> )				-		-		24		127		-		127				
Gross/Weapon System Cost ( <i>\$ in Millions</i> )				-		-		3.161		2.285		-		2.285				
Less PY Advance Procurement ( <i>\$ in Millions</i> )				-		-		-		-		-		-				
Net Procurement (P-1) ( <i>\$ in Millions</i> )				-		-		3.161		2.285		-		2.285				
Plus CY Advance Procurement ( <i>\$ in Millions</i> )				-		-		-		-		-		-				
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )				-		-		<b>3.161</b>		<b>2.285</b>		-		<b>2.285</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> )				-		-		131.708		17.992		-		17.992				
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)
Hardware Cost																		
Recurring Cost																		
Common Robotic Controller - Individual (CRS(I)) <sup>(†)</sup>	-	-	-	-	-	-	130.000	24	3.120	-	-	-	-	-	-	-	-	-
Universal Robotic Controller (URC) <sup>(†)</sup>	-	-	-	-	-	-	-	-	-	15.000	127	1.905	-	-	-	15.000	127	1.905
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	3.120	-	-	1.905	-	-	-	-	-	1.905
<i>Subtotal: Hardware Cost</i>	-	-	-	-	-	-	-	-	<b>3.120</b>	-	-	<b>1.905</b>	-	-	-	-	-	<b>1.905</b>
Support - Engineering Change Proposals Cost																		
Engineering Change Proposals	-	-	-	-	-	-	-	-	-	-	-	0.175	-	-	-	-	-	0.175
<i>Subtotal: Support - Engineering Change Proposals Cost</i>	-	-	-	-	-	-	-	-	-	-	-	<b>0.175</b>	-	-	-	-	-	<b>0.175</b>
Support - Program Management Cost																		
Government Management	-	-	-	-	-	-	-	-	0.041	-	-	0.205	-	-	-	-	-	0.205
<i>Subtotal: Support - Program Management Cost</i>	-	-	-	-	-	-	-	-	<b>0.041</b>	-	-	<b>0.205</b>	-	-	-	-	-	<b>0.205</b>
<b>Gross/Weapon System Cost</b>	-	-	-	-	-	-	<b>131.708</b>	<b>24</b>	<b>3.161</b>	<b>17.992</b>	<b>127</b>	<b>2.285</b>	-	-	-	<b>17.992</b>	<b>127</b>	<b>2.285</b>
<b>Remarks:</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 / 03 / 20	<b>P-1 Line Item Number / Title:</b> 4868W12002 / Robotics and Applique Systems	<b>Item Number / Title [DODIC]:</b> G99595 / Common Robotic System-Individual (CRS-I)

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

NOTE: SSN G99595 was listed as Common Robotic System (Individual) {CRS(I)} for the FY 2019 President's Budget, but is now listed as Common Robotic System (Universal Controller) {(CRS(UC))} for the FY 2020 Budget Estimate Submission. SSN G93696 is a new SSN and is listed as the Common Robotic System (Individual) {CRS(I)}. Prior to Budget Estimate Submission FY 2020, both the Common Robotic System (Individual) {CRS(I)} and Common Robotic System (Universal Controller) {CRS(UC)} were funded under the same SSN G99595 and RDTE APE 655053FB4. Neither of these programs is a new start.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	-	24	127	-	127
	Total Obligation Authority	-	3.161	2.285	-	2.285
<b>Total:</b>	<b>Quantity</b>	-	<b>24</b>	<b>127</b>	-	<b>127</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	-	<b>3.161</b>	<b>2.285</b>	-	<b>2.285</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 / 03 / 20			<b>P-1 Line Item Number / Title:</b> 4868W12002 / Robotics and Applique Systems				<b>Item Number / Title [DODIC]:</b> G99595 / Common Robotic System- Individual (CRS-I)				

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
Common Robotic Controller - Individual (CRS(I))		2019	TBD / TBD	C / FFP	Warren MI	Mar 2019	Jun 2019	24	130.000	N		
Universal Robotic Controller (URC)		2020	TBD / TBD	C / FFP	Warren, MI	Nov 2019	Mar 2020	127	15.000	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 / 03 / 20		<b>P-1 Line Item Number / Title:</b> 4868W12002 / Robotics and Applique Systems
		<b>Item Number / Title [DODIC]:</b> R12154 / Squad Multipurpose Equipment Transport (SMET)

<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)	-	-	-	62	-	62
Gross/Weapon System Cost (\$ in Millions)	-	-	-	8.768	-	8.768
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	-	-	-	8.768	-	8.768
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	-	-	-	<b>8.768</b>	-	<b>8.768</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)	-	-	-	141.419	-	141.419

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																		
Spare & Repair Parts for CLS	-	-	-	-	-	-	-	-	-	-	-	0.100	-	-	-	-	-	0.100
Modular Mission Payloads & Tech Insertions / ECPs	-	-	-	-	-	-	-	-	-	-	-	0.500	-	-	-	-	-	0.500
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	<i>0.600</i>	-	-	-	-	-	<i>0.600</i>
Non Recurring Cost																		
SMET Production Systems <sup>(1)</sup>	-	-	-	-	-	-	-	-	-	100.000	62	6.200	-	-	-	100.000	62	6.200
<i>Subtotal: Non Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	<i>6.200</i>	-	-	-	-	-	<i>6.200</i>
<i>Subtotal: Hardware Cost</i>	-	-	-	-	-	-	-	-	-	-	-	<b>6.800</b>	-	-	-	-	-	<b>6.800</b>
<b>Package Fielding Cost</b>																		
Recurring Cost																		
Total Package Fielding	-	-	-	-	-	-	-	-	-	-	-	0.250	-	-	-	-	-	0.250
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	<i>0.250</i>	-	-	-	-	-	<i>0.250</i>
<i>Subtotal: Package Fielding Cost</i>	-	-	-	-	-	-	-	-	-	-	-	<b>0.250</b>	-	-	-	-	-	<b>0.250</b>
<b>Logistics Cost</b>																		
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 / 03 / 20		<b>P-1 Line Item Number / Title:</b> 4868W12002 / Robotics and Applique Systems
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : B		<b>MDAP/MAIS Code:</b>
<b>Item Number / Title [DODIC]:</b> R12154 / Squad Multipurpose Equipment Transport (SMET)		

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 Data Deliverables	-	-	-	-	-	-	-	-	-	-	-	0.600	-	-	-	-	-	0.600
<i>Subtotal: Non Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	0.600	-	-	-	-	-	0.600
<i>Subtotal: Logistics Cost</i>	-	-	-	-	-	-	-	-	-	-	-	<b>0.600</b>	-	-	-	-	-	<b>0.600</b>
Support - Contractor Logistics Support (CLS) Cost																		
Oversight	-	-	-	-	-	-	-	-	-	-	-	0.500	-	-	-	-	-	0.500
<i>Subtotal: Support - Contractor Logistics Support (CLS) Cost</i>	-	-	-	-	-	-	-	-	-	-	-	<b>0.500</b>	-	-	-	-	-	<b>0.500</b>
Support - Program Management Cost																		
Government Management	-	-	-	-	-	-	-	-	-	-	-	0.618	-	-	-	-	-	0.618
<i>Subtotal: Support - Program Management Cost</i>	-	-	-	-	-	-	-	-	-	-	-	<b>0.618</b>	-	-	-	-	-	<b>0.618</b>
<b>Gross/Weapon System Cost</b>	-	-	-	-	-	-	-	-	-	141.419	62	8.768	-	-	-	141.419	62	8.768

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	-	-	62	-	62
	Total Obligation Authority	-	-	8.768	-	8.768
<b>Total:</b>	Quantity	-	-	62	-	62
<b>Secondary Distribution</b>	Total Obligation Authority	-	-	8.768	-	8.768

(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 / 03 / 20			<b>P-1 Line Item Number / Title:</b> 4868W12002 / Robotics and Applique Systems				<b>Item Number / Title [DODIC]:</b> R12154 / Squad Multipurpose Equipment Transport (SMET)					
<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>
SMET Production Systems <sup>(†)</sup>		2020	TBD / TBD	Option / FP	Warren, MI	Nov 2019	Aug 2020	62	100.000	N		Jun 2019

<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 / 03 / 20										<b>P-1 Line Item Number / Title:</b> 4868W12002 / Robotics and Applique Systems										<b>Item Number / Title [DODIC]:</b> R12154 / Squad Multipurpose Equipment Transport (SMET)									

Cost Elements <i>(Units in Each)</i>						Fiscal Year 2020										Fiscal Year 2021										BALANCE	
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2019	BAL DUE AS OF 1 OCT	Calendar Year 2020										Calendar Year 2021										
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R		M A Y

SMET Production Systems																																
1	2020	ARMY		62	0	62		A	-	-	-	-	-	-	-	-	-	-	-	15	15	15	15	2								0
								O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	
								C	O	E	A	E	A	P	A	U	U	U	E	C	O	V	E	A	F	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 / 03 / 20		<b>P-1 Line Item Number / Title:</b> 4868W12002 / Robotics and Applique Systems
		<b>Item Number / Title [DODIC]:</b> R12154 / Squad Multipurpose Equipment Transport (SMET)

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	5	15	20	0	3	5	8	0	3	5	8

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

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

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 03 / 20		<b>P-1 Line Item Number / Title:</b> 4868W12002 / Robotics and Applique Systems
		<b>Item Number / Title [DODIC]:</b> R67050 / Man Transportable Robotic Sys Inc II (MTRS Inc II)

<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)	2	0	20	236	-	236
Gross/Weapon System Cost (\$ in Millions)	5.515	-	6.615	36.254	-	36.254
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	5.515	-	6.615	36.254	-	36.254
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>5.515</b>	<b>-</b>	<b>6.615</b>	<b>36.254</b>	<b>-</b>	<b>36.254</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)	2,757.500	-	330.750	153.619	-	153.619

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																		
MTRS Robot <sup>(†)</sup>	-	-	-	-	-	-	126.000	20	2.520	102.000	236	24.072	-	-	-	102.000	236	24.072
MTRS CBRN kits	-	-	-	-	-	-	-	-	-	22.000	180	3.960	-	-	-	22.000	180	3.960
MTRS RDS kit	-	-	-	-	-	-	2.000	20	0.040	2.000	56	0.112	-	-	-	2.000	56	0.112
MTRS initial spares	-	-	-	-	-	-	9.000	20	0.180	9.000	236	2.124	-	-	-	9.000	236	2.124
TALON 5a Robots	156.000	2	0.312	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	0.312	-	-	-	-	-	2.740	-	-	30.268	-	-	-	-	-	30.268
<i>Subtotal: Hardware Cost</i>	-	-	0.312	-	-	-	-	-	2.740	-	-	30.268	-	-	-	-	-	30.268
<b>Software Cost</b>																		
Recurring Cost																		
MTRS software sustainment	-	-	-	-	-	-	-	-	0.024	-	-	2.200	-	-	-	-	-	2.200
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	0.024	-	-	2.200	-	-	-	-	-	2.200
<i>Subtotal: Software Cost</i>	-	-	-	-	-	-	-	-	0.024	-	-	2.200	-	-	-	-	-	2.200
<b>Support - Contractor Logistics Support (CLS) Cost</b>																		
Oversight	-	-	-	-	-	-	-	-	1.405	-	-	2.000	-	-	-	-	-	2.000
<i>Subtotal: Support - Contractor Logistics Support (CLS) Cost</i>	-	-	-	-	-	-	-	-	1.405	-	-	2.000	-	-	-	-	-	2.000
<b>Support - Data Cost</b>																		
Technical Publications	-	-	4.903	-	-	-	-	-	0.182	-	-	0.246	-	-	-	-	-	0.246

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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 / 03 / 20	<b>P-1 Line Item Number / Title:</b> 4868W12002 / Robotics and Applique Systems	<b>Item Number / Title [DODIC]:</b> R67050 / Man Transportable Robotic Sys Inc II (MTRS Inc II)
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : B		<b>MDAP/MAIS Code:</b>

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

Cost Elements	Prior Years			FY 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 Data Data	-	-	-	-	-	-	-	-	0.689	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - Data Cost</i>	-	-	4.903	-	-	-	-	-	0.871	-	-	0.246	-	-	-	-	-	0.246
Support - Program Management Cost																		
Government Management	-	-	0.300	-	-	-	-	-	1.575	-	-	1.540	-	-	-	-	-	1.540
<i>Subtotal: Support - Program Management Cost</i>	-	-	0.300	-	-	-	-	-	1.575	-	-	1.540	-	-	-	-	-	1.540
<b>Gross/Weapon System Cost</b>	2,757.500	2	5.515	-	0	-	330.750	20	6.615	153.619	236	36.254	-	-	-	153.619	236	36.254

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	-	20	236	-	236
	Total Obligation Authority	-	6.615	36.254	-	36.254
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	<b>0</b>	<b>20</b>	<b>236</b>	<b>-</b>	<b>236</b>
	<b>Total Obligation Authority</b>	<b>-</b>	<b>6.615</b>	<b>36.254</b>	<b>-</b>	<b>36.254</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 / 03 / 20			<b>P-1 Line Item Number / Title:</b> 4868W12002 / Robotics and Applique Systems				<b>Item Number / Title [DODIC]:</b> R67050 / Man Transportable Robotic Sys Inc II (MTRS Inc II)				

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
MTRS Robot <sup>(†)</sup>		2019	Endeavor / Chelmsford, MA	C / FFP	Warren, MI	Mar 2019	Sep 2019	20	126.000	N		
MTRS Robot <sup>(†)</sup>		2020	Endeavor / Chelmsford, MA	C / FFP	Warren, MI	Nov 2019	May 2020	236	102.000	N		

<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 / 03 / 20										<b>P-1 Line Item Number / Title:</b> 4868W12002 / Robotics and Applique Systems										<b>Item Number / Title [DODIC]:</b> R67050 / Man Transportable Robotic Sys Inc II (MTRS Inc II)									

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
MTRS Robot																															
	1	2019	ARMY	20	0	20																								0	
	1	2020	ARMY	236	0	236																								140	
							O C T	N O V	D E C	J A N	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 / 03 / 20										<b>P-1 Line Item Number / Title:</b> 4868W12002 / Robotics and Applique Systems										<b>Item Number / Title [DODIC]:</b> R67050 / Man Transportable Robotic Sys Inc II (MTRS Inc II)									

Cost Elements <i>(Units in Each)</i>							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	S E P					
MTRS Robot																																			
	1	2019	ARMY	20	20	0																								0					
	1	2020	ARMY	236	96	140	20	20	20	20	20	20	20																	0					
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					

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<b>Exhibit P-21, Production Schedule:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 03 / 20		<b>P-1 Line Item Number / Title:</b> 4868W12002 / Robotics and Applique Systems
		<b>Item Number / Title [DODIC]:</b> R67050 / Man Transportable Robotic Sys Inc II (MTRS Inc II)

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	Endeavor - Chelmsford, MA	15	40	75	0	6	6	12	0	6	6	12

"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 / 03 / 20		<b>P-1 Line Item Number / Title:</b> 4868W12002 / Robotics and Applique Systems
		<b>Item Number / Title [DODIC]:</b> W63798 / Soldier Borne Sensor (SBS)

<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)	-	859	1,141	1,148	-	1,148
Gross/Weapon System Cost (\$ in Millions)	-	24.000	21.680	23.362	-	23.362
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	-	24.000	21.680	23.362	-	23.362
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	-	<b>24.000</b>	<b>21.680</b>	<b>23.362</b>	-	<b>23.362</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)	-	27.939	19.001	20.350	-	20.350

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																		
Soldier Borne Sensor Hardware <sup>(†)</sup>	-	-	-	21.966	1,081	23.745	20.562	1,003	20.624	18.657	1,148	21.418	-	-	-	18.657	1,148	21.418
Program Management Support	-	-	-	-	-	0.255	-	-	0.422	-	-	0.559	-	-	-	-	-	0.559
Soldier Borne Sensor Fielding	-	-	-	-	-	-	-	-	0.358	-	-	0.401	-	-	-	-	-	0.401
Ancillary Support	-	-	-	-	-	-	-	-	-	-	-	0.694	-	-	-	-	-	0.694
Engineering Support	-	-	-	-	-	-	-	-	0.276	-	-	0.290	-	-	-	-	-	0.290
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	24.000	-	-	21.680	-	-	23.362	-	-	-	-	-	23.362
<i>Subtotal: Flyaway Cost</i>	-	-	-	-	-	24.000	-	-	21.680	-	-	23.362	-	-	-	-	-	23.362
<b>Gross/Weapon System Cost</b>	-	-	-	<b>27.939</b>	<b>859</b>	<b>24.000</b>	<b>19.001</b>	<b>1,141</b>	<b>21.680</b>	<b>20.350</b>	<b>1,148</b>	<b>23.362</b>	-	-	-	<b>20.350</b>	<b>1,148</b>	<b>23.362</b>

**Remarks:**

Soldier Borne Sensors (SBS) 2nd buy is due to a \$21,000 million Above Threshold Reprogramming action.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	859	1,141	466	-	466
	Total Obligation Authority	24.000	21.680	9.483	-	9.483
ANG	Quantity	-	-	465	-	465

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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 / 03 / 20	<b>P-1 Line Item Number / Title:</b> 4868W12002 / Robotics and Applique Systems	<b>Item Number / Title [DODIC]:</b> W63798 / Soldier Borne Sensor (SBS)
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<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	-	-	9.463	-	9.463
AR	Quantity	-	-	217	-	217
	Total Obligation Authority	-	-	4.416	-	4.416
<b>Total:</b>	<b>Quantity</b>	<b>859</b>	<b>1,141</b>	<b>1,148</b>	-	<b>1,148</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>24.000</b>	<b>21.680</b>	<b>23.362</b>	-	<b>23.362</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 / 03 / 20	<b>P-1 Line Item Number / Title:</b> 4868W12002 / Robotics and Applique Systems	<b>Item Number / Title [DODIC]:</b> W63798 / Soldier Borne Sensor (SBS)
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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
Soldier Borne Sensor Hardware <sup>(†)</sup>		2018	Quantico Tactical (1st FY18 Buy) / Norway	C / IDIQ	DLA-TS	May 2018	Dec 2018	61	45.000	Y		
Soldier Borne Sensor Hardware <sup>(†)</sup>		2018	Quantico Tactical (2nd FY18 Buy) / Norway	C / IDIQ	DLA-TS	Dec 2018	Jul 2019	1,020	20.588	Y		
Soldier Borne Sensor Hardware <sup>(†)</sup>		2019	Quantico Tactical / Norway	C / IDIQ	DLA-TS	Dec 2018	Jul 2019	1,003	20.562	Y		
Soldier Borne Sensor Hardware <sup>(†)</sup>		2020	TBD / TBD	C / IDIQ	TBD	Mar 2020	Jun 2020	1,148	18.657	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 / 03 / 20 **P-1 Line Item Number / Title:** 4868W12002 / Robotics and Applique Systems **Item Number / Title [DODIC]:** W63798 / Soldier Borne Sensor (SBS)

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
Soldier Borne Sensor Hardware																															
1		2018	ARMY	61	0	61																							0		
2		2018	ARMY	1,020	0	1,020																									
3		2019	ARMY	1,003	0	1,003																									
4		2020	ARMY	1,148	0	1,148																									

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

**Appropriation / Budget Activity / Budget Sub Activity:** 2035A / 03 / 20 **P-1 Line Item Number / Title:** 4868W12002 / Robotics and Applique Systems **Item Number / Title [DODIC]:** W63798 / Soldier Borne Sensor (SBS)

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
Soldier Borne Sensor Hardware																														
	1	2018	ARMY	61	61	0																							0	
	2	2018	ARMY	1,020	255	765	85	85	85	85	85	85	85	85															0	
	3	2019	ARMY	1,003	252	751	84	84	84	84	84	84	84	79															0	
	4	2020	ARMY	1,148	0	1,148																							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

**Appropriation / Budget Activity / Budget Sub Activity:** 2035A / 03 / 20 **P-1 Line Item Number / Title:** 4868W12002 / Robotics and Applique Systems **Item Number / Title [DODIC]:** W63798 / Soldier Borne Sensor (SBS)

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	Quantico Tactical (1st FY18 Buy) - Norway	20	100	200	2	8	7	15	2	6	3	9
2	Quantico Tactical (2nd FY18 Buy) - Norway	20	100	200	2	3	7	10	2	6	3	9
3	Quantico Tactical - Norway	20	100	200	2	3	7	10	2	3	7	10
4	TBD - TBD	38	100	200	2	6	3	9	2	3	3	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 03: Other Support Equipment / BSA 20: Engineer (Non-Construction) Equipment	<b>P-1 Line Item Number / Title:</b> 5912M60001 / Remote Demolition Systems
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Resource Summary	Prior Years	FY 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> )	80	86	-	-	-	-	-	-	-	-	-	166
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	27.102	4.454	1.748	-	-	-	-	-	-	-	-	33.304
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	27.102	4.454	1.748	-	-	-	-	-	-	-	-	33.304
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>27.102</b>	<b>4.454</b>	<b>1.748</b>	-	-	-	-	-	-	-	-	<b>33.304</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> )	338.775	51.791	-	-	-	-	-	-	-	-	-	200.627

**Description:**

Radio Frequency Remote Activation Munition System (RF RAMS)(MK152) M60002 is a radio-controlled wireless firing device that provides the capability to wirelessly control the initiation and the detonation of demolition charges or the remote operation of other items such as laser markers and radio functioning munitions. The basic components of the RF RAMS complete set are (1) MK26 Transmitter with two antennas, (6) MK16 Receivers with antennas and (1) M6 Battery Retainer which provides additional power for the transmitter. RF RAMS has a nominal range of 2 kilometers line-of-sight (LOS) and 5 kilometers LOS with the M6 Battery Retainer. The Shock Tube Initiator (STI) M50 is an associated component/interface that is required when using the MK152 to initiate Modernized Demolition Initiators M19, M21 and M23. 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	14	-	-	-	-	-	-	-
	Total Obligation Authority	0.725	1.748	-	-	-	-	-	-
ANG	Quantity	58	-	-	-	-	-	-	-
	Total Obligation Authority	3.004	-	-	-	-	-	-	-
AR	Quantity	14	-	-	-	-	-	-	-
	Total Obligation Authority	0.725	-	-	-	-	-	-	-
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	<b>86</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
	<b>Total Obligation Authority</b>	<b>4.454</b>	<b>1.748</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>

**Justification:**

There is no FY 2020 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 03: Other Support Equipment / BSA 20: Engineer (Non-Construction) Equipment		<b>P-1 Line Item Number / Title:</b> 5912M60001 / Remote Demolition Systems
<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
<b>Line Item MDAP/MAIS Code:</b> N/A		
In accordance with Section 1815 of the FY 2008 National Defense Authorization Act (P.L. 110-181), this item is necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses and providing military support to civil authorities.		



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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 03: Other Support Equipment / BSA 20: Engineer (Non-Construction) Equipment	<b>P-1 Line Item Number / Title:</b> 5913R63610 / Render Safe Sets kits Outfits
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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> 0654808A
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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	44	53	62	16	-	-	Continuing	Continuing
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	-	-	-	18.684	84.000	102.684	118.400	30.251	-	-	Continuing	Continuing
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	-	-	-	18.684	84.000	102.684	118.400	30.251	-	-	Continuing	Continuing
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	-	-	-	<b>18.684</b>	<b>84.000</b>	<b>102.684</b>	<b>118.400</b>	<b>30.251</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> )	-	-	-	2,076.000	1,909.091	1,937.434	1,909.677	1,890.688	-	-	Continuing	Continuing

**Description:**

The Explosive Ordnance Disposal (EOD) Render Safe (RS) Sets, Kits, and Outfits (SKO) provides capabilities needed for EOD teams to render safe US and foreign ordnance and improvised explosive devices, enabling ground force commanders to retain freedom of maneuver and secure lines of communications.

EOD RS SKO equips EOD teams with: low light visual augmentation system, electronic countermeasures, buried IED detection, dismantled X-ray imager, X-ray generator, trace detection (explosives, CBRN, and drugs), unmanned aerial system, power management, gamma and neutron search and detection, and render safe initiation. The RS SKO kit equips the three (3) EOD teams in a platoon. Each EOD team receives ten (10) capabilities for a total of thirty (30) systems in RS SKO kit. Some of the capabilities in the kit are also needed so that the EOD Team Leaders assigned to advise in the Security Force Assistance Brigades (SFABs) can maintain proficiency. The capabilities include electronic countermeasures, dismantled X-Ray imager, and X-Ray generator. The Army Acquisition Objective (AAO) for EOD RS SKO is 176.

Funds in this budget line are a new start 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	-	-	9	44	53	57	11	-
	Total Obligation Authority	-	-	18.684	84.000	102.684	108.600	20.451	-
ANG	Quantity	-	-	-	-	-	5	5	-
	Total Obligation Authority	-	-	-	-	-	9.800	9.800	-
<b>Total:</b> Secondary Distribution	<b>Quantity</b>	-	-	<b>9</b>	<b>44</b>	<b>53</b>	<b>62</b>	<b>16</b>	-
	<b>Total Obligation Authority</b>	-	-	<b>18.684</b>	<b>84.000</b>	<b>102.684</b>	<b>118.400</b>	<b>30.251</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 03: Other Support Equipment / BSA 20: Engineer (Non-Construction) Equipment **P-1 Line Item Number / Title:** 5913R63610 / Render Safe Sets kits Outfits

**ID Code** (A=Service Ready, B=Not Service Ready): B **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0654808A

**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	R63701 / Render Safe Sets Kits Outfits	P-5a, P-21	B		- / -	- / -	- / -	9 / 18.684	44 / 84.000	53 / 102.684
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				- / -	- / -	- / -	<b>9 / 18.684</b>	<b>44 / 84.000</b>	<b>53 / 102.684</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 \$18.684 million supports procurement of 9 Render Safe (RS) Sets, Kits, and Outfits (SKOs). FY 2020 OCO procurement dollars in the amount of \$84.000 million supports procurement of 44 RS SKOs in support of Operation Inherent Resolve for ISIL.

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 / 03 / 20		<b>P-1 Line Item Number / Title:</b> 5913R63610 / Render Safe Sets kits Outfits
		<b>Item Number / Title [DODIC]:</b> R63701 / Render Safe Sets Kits Outfits

<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)	-	-	-	9	44	53
Gross/Weapon System Cost (\$ in Millions)	-	-	-	18.684	84.000	102.684
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	-	-	-	18.684	84.000	102.684
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	-	-	-	<b>18.684</b>	<b>84.000</b>	<b>102.684</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)	-	-	-	2,076.000	1,909.091	1,937.434

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																		
Render Safe (RS) Sets, Kits, and Outfits (SKO) <sup>(f)</sup>	-	-	-	-	-	-	-	-	-	1,909.091	9	17.182	1,909.091	44	84.000	1,909.094	53	101.182
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	17.182	-	-	84.000	-	-	101.182
<i>Subtotal: Hardware Cost</i>	-	-	-	-	-	-	-	-	-	-	-	<b>17.182</b>	-	-	<b>84.000</b>	-	-	<b>101.182</b>
<b>Package Fielding Cost</b>																		
Recurring Cost																		
Shipping and Transportation	-	-	-	-	-	-	-	-	-	-	-	0.156	-	-	-	-	-	0.156
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	0.156	-	-	-	-	-	0.156
<i>Subtotal: Package Fielding Cost</i>	-	-	-	-	-	-	-	-	-	-	-	<b>0.156</b>	-	-	-	-	-	<b>0.156</b>
<b>Support - Acceptance Testing Cost</b>																		
First Article Test	-	-	-	-	-	-	-	-	-	-	-	0.050	-	-	-	-	-	0.050
<i>Subtotal: Support - Acceptance Testing Cost</i>	-	-	-	-	-	-	-	-	-	-	-	<b>0.050</b>	-	-	-	-	-	<b>0.050</b>
<b>Support - Initial Spares and Repair Parts Cost</b>																		
Initial Spares and Repair Parts	-	-	-	-	-	-	-	-	-	-	-	0.217	-	-	-	-	-	0.217
<i>Subtotal: Support - Initial Spares and Repair Parts Cost</i>	-	-	-	-	-	-	-	-	-	-	-	<b>0.217</b>	-	-	-	-	-	<b>0.217</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 / 03 / 20						<b>P-1 Line Item Number / Title:</b> 5913R63610 / Render Safe Sets kits Outfits						<b>Item Number / Title [DODIC]:</b> R63701 / Render Safe Sets Kits Outfits					
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : B												<b>MDAP/MAIS Code:</b>					

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

Cost Elements	Prior Years			FY 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	-	-	-	-	-	-	-	-	-	-	-	0.131	-	-	-	-	-	0.131
<i>Subtotal: Support - New Equipment Training (NET) Cost</i>	-	-	-	-	-	-	-	-	-	-	-	<b>0.131</b>	-	-	-	-	-	<b>0.131</b>
Support - Production Engineering Cost																		
Production Engineering	-	-	-	-	-	-	-	-	-	-	-	0.100	-	-	-	-	-	0.100
<i>Subtotal: Support - Production Engineering Cost</i>	-	-	-	-	-	-	-	-	-	-	-	<b>0.100</b>	-	-	-	-	-	<b>0.100</b>
Support - Program Management Cost																		
Government Management	-	-	-	-	-	-	-	-	-	-	-	0.848	-	-	-	-	-	0.848
<i>Subtotal: Support - Program Management Cost</i>	-	-	-	-	-	-	-	-	-	-	-	<b>0.848</b>	-	-	-	-	-	<b>0.848</b>
<b>Gross/Weapon System Cost</b>	-	-	-	-	-	-	-	-	-	<b>2,076.000</b>	<b>9</b>	<b>18.684</b>	<b>1,909.091</b>	<b>44</b>	<b>84.000</b>	<b>1,937.434</b>	<b>53</b>	<b>102.684</b>

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	-	-	9	44	53
	Total Obligation Authority	-	-	18.684	84.000	102.684
<b>Total:</b>	<b>Quantity</b>	-	-	<b>9</b>	<b>44</b>	<b>53</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	-	-	<b>18.684</b>	<b>84.000</b>	<b>102.684</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 / 03 / 20	<b>P-1 Line Item Number / Title:</b> 5913R63610 / Render Safe Sets kits Outfits	<b>Item Number / Title [DODIC]:</b> R63701 / Render Safe Sets Kits Outfits
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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
Render Safe (RS) Sets, Kits, and Outfits (SKO) <sup>(†)</sup>		2020	TBD / Various	MIPR	Philadelphia, PA	Jun 2020	Jan 2021	53	1,909.094	N		

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

**Remarks:**  
Acquire commercial off-the-shelf systems (COTs) using Defense Logistics Agency (DLA) and other Army contract vehicles.



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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 03 / 20	<b>P-1 Line Item Number / Title:</b> 5913R63610 / Render Safe Sets kits Outfits	<b>Item Number / Title [DODIC]:</b> R63701 / Render Safe Sets Kits Outfits
--	--	---

Cost Elements <i>(Units in Each)</i>						Fiscal Year 2022														Fiscal Year 2023														BALANCE	
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2021	BAL DUE AS OF 1 OCT	Calendar Year 2022														Calendar Year 2023														
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					
Render Safe (RS) Sets, Kits, and Outfits (SKO)																																			
	1	2020	ARMY	53	45	8	5	3																						0					
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					

**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 / 03 / 20					<b>P-1 Line Item Number / Title:</b> 5913R63610 / Render Safe Sets kits Outfits					<b>Item Number / Title [DODIC]:</b> R63701 / Render Safe Sets Kits Outfits			
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 - Various	1	5	7	6	6	6	12	3	3	3	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 03: Other Support Equipment / BSA 20: Engineer (Non-Construction) Equipment	<b>P-1 Line Item Number / Title:</b> 5943MA7700 / < \$5M, Countermining 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> )	-	7	40	-	-	-	-	-	-	-	-	47
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	65.594	1.530	5.914	-	-	-	-	-	-	-	-	73.038
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	65.594	1.530	5.914	-	-	-	-	-	-	-	-	73.038
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>65.594</b>	<b>1.530</b>	<b>5.914</b>	-	-	-	-	-	-	-	-	<b>73.038</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> )	-	218.571	147.850	-	-	-	-	-	-	-	-	1,554.000

**Description:**

The <\$5M Countermining Equipment line covers the procurement of countermining equipment including detectors, neutralizing devices, training aids and devices to support New Equipment Training (NET), initial entry training, and institutional training, as well as any related tasks.

The M303 Blasting Demolition Kit (BDK) contains shaped charge liners and other demolition items that are used to fabricate customized demolitions in the field. The kit can be procured as a whole kit or as individual components.

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	6	22	-	-	-	-	-	-
	Total Obligation Authority	1.311	3.253	-	-	-	-	-	-
AR	Quantity	1	18	-	-	-	-	-	-
	Total Obligation Authority	0.219	2.661	-	-	-	-	-	-
<b>Total:</b>	<b>Quantity</b>	<b>7</b>	<b>40</b>	-	-	-	-	-	-
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>1.530</b>	<b>5.914</b>	-	-	-	-	-	-

**Justification:**

There is 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 03: Other Support Equipment / BSA 20: Engineer (Non-Construction) Equipment	<b>P-1 Line Item Number / Title:</b> 8500R12001 / Family of Boats and Motors
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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	5	4	-	-	-	-	-	-	-	-	13
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	11.996	4.302	8.006	8.245	-	8.245	5.295	-	-	-	-	37.844
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	11.996	4.302	8.006	8.245	-	8.245	5.295	-	-	-	-	37.844
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>11.996</b>	<b>4.302</b>	<b>8.006</b>	<b>8.245</b>	<b>-</b>	<b>8.245</b>	<b>5.295</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>37.844</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> )	2,999.000	860.400	2,001.500	-	-	-	-	-	-	-	-	2,911.077

**Description:**

The Family of Boats and Motors (FoBaM) consists of 7-person Inflatable Combat Raiding Craft (I-CRC), 15 person Inflatable Combat Assault Craft (I-CAC) Common Motor, and Rigid Inflatable Boat (RIB). The 7-person I-CRC, 15-person I-CAC, Common Motor, and Rigid Inflatable Boat (RIB) replaces current outdated legacy systems to support Soldier lethality. All systems support, both engineer and special forces, contribute in a variety of operations such as: Assault landings; reconnaissance and river crossing operations; infiltration and exfiltration; long-range surveillance; amphibious raid, surface swimming, dive, submarine, ravine, anti-mine, bridging, and air operations; underwater construction; underwater repair work; dam and pier repairs; light salvage; and humanitarian aid/disaster relief. Army Acquisition Objective (AAO) for FoBaM is: 7-person I-CRC 160, 15-person I-CAC 22, and Common Motor 176.

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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 03: Other Support Equipment / BSA 20: Engineer (Non-Construction) Equipment		<b>P-1 Line Item Number / Title:</b> 8500R12001 / Family of Boats and Motors
<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		

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	R12010 / FoBAM Common Motor	P-5a			- / 5.402	- / -	- / 4.042	- / 2.173	- / -	- / 2.173
P-5	R12015 / FoBAM Rigid Inflatable Boat	P-5a			4 / 3.901	5 / 1.615	4 / 1.278	- / -	- / -	- / -
P-5	R12016 / FoBAM 7-Man Boat	P-5a			- / 0.949	- / -	- / 1.209	- / 1.713	- / -	- / 1.713
P-5	R12028 / FoBAM 15-Man Boat	P-5a			- / 1.744	- / 2.687	- / 1.477	- / 4.359	- / -	- / 4.359
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>4 / 11.996</b>	<b>5 / 4.302</b>	<b>4 / 8.006</b>	<b>- / 8.245</b>	<b>- / -</b>	<b>- / 8.245</b>

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

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

**Justification:**  
FY20 Base procurement dollars in the amount of \$8.245 million supports a quantity of 113 Common Motors, 89 7-person I-CRC, and 181 15-person I-CAC. Providing Soldiers these systems will give them the capability to complete required missions, provide support to civil authorities, and deter and defeat hybrid threats in support of Army requirements.

In accordance with Section 1815 of the FY 2008 National Defense Authorization Act (P.L. 110-181), these item 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.

**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 / 03 / 20						<b>P-1 Line Item Number / Title:</b> 8500R12001 / Family of Boats and Motors					<b>Item Number / Title [DODIC]:</b> R12010 / FoBAM Common Motor									
<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)				5.402		-			4.042			2.173			-			2.173		
Less PY Advance Procurement (\$ in Millions)				-		-			-			-			-			-		
Net Procurement (P-1) (\$ in Millions)				5.402		-			4.042			2.173			-			2.173		
Plus CY Advance Procurement (\$ in Millions)				-		-			-			-			-			-		
<b>Total Obligation Authority (\$ in Millions)</b>				<b>5.402</b>		<b>-</b>			<b>4.042</b>			<b>2.173</b>			<b>-</b>			<b>2.173</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)				131.756		-			32.079			19.230			-			19.230		

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																		
Common Motor <sup>(1)</sup>	12.639	294	3.716	-	-	-	15.405	126	1.941	15.947	113	1.802	-	-	-	15.947	113	1.802
Subtotal: Recurring Cost	-	-	3.716	-	-	-	-	-	1.941	-	-	1.802	-	-	-	-	-	1.802
Subtotal: Hardware Cost	-	-	3.716	-	-	-	-	-	1.941	-	-	1.802	-	-	-	-	-	1.802
Support - Fielding Cost																		
Fielding	-	-	0.454	-	-	-	1.124	267	0.300	-	-	0.136	-	-	-	-	-	0.136
Subtotal: Support - Fielding Cost	-	-	0.454	-	-	-	-	-	0.300	-	-	0.136	-	-	-	-	-	0.136
Support - Production Engineering Cost																		
Production Engineering	-	-	0.146	-	-	-	-	-	-	-	-	0.057	-	-	-	-	-	0.057
Subtotal: Support - Production Engineering Cost	-	-	0.146	-	-	-	-	-	-	-	-	0.057	-	-	-	-	-	0.057
Support - Program Management Cost																		
Government Management	-	-	1.040	-	-	-	-	-	1.801	-	-	0.163	-	-	-	-	-	0.163
Subtotal: Support - Program Management Cost	-	-	1.040	-	-	-	-	-	1.801	-	-	0.163	-	-	-	-	-	0.163
Support - Quality Assurance Cost																		
Quality Assurance	-	-	0.046	-	-	-	-	-	-	-	-	0.015	-	-	-	-	-	0.015
Subtotal: Support - Quality Assurance Cost	-	-	0.046	-	-	-	-	-	-	-	-	0.015	-	-	-	-	-	0.015
<b>Gross/Weapon System Cost</b>	<b>131.756</b>	<b>-</b>	<b>5.402</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>32.079</b>	<b>-</b>	<b>4.042</b>	<b>19.230</b>	<b>-</b>	<b>2.173</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>19.230</b>	<b>-</b>	<b>2.173</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 / 03 / 20	<b>P-1 Line Item Number / Title:</b> 8500R12001 / Family of Boats and Motors	<b>Item Number / Title [DODIC]:</b> R12010 / FoBAM Common Motor
<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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**Exhibit P-5a, Procurement History and Planning:** PB 2020 Army **Date:** March 2019

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 03 / 20	<b>P-1 Line Item Number / Title:</b> 8500R12001 / Family of Boats and Motors	<b>Item Number / Title [DODIC]:</b> R12010 / FoBAM Common Motor
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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
Common Motor		2019	Atlantic Diving Supply / Virginia Beach	C / FFP	TACOM Warren, MI	Nov 2018	Jan 2019	126	15.405	N		
Common Motor		2020	Atlantic Diving Supply / Virginia Beach	C / FFP	TACOM Warren, MI	Nov 2019	Jan 2020	113	15.947	N		

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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 / 03 / 20	<b>P-1 Line Item Number / Title:</b> 8500R12001 / Family of Boats and Motors	<b>Item Number / Title [DODIC]:</b> R12015 / FoBAM Rigid Inflatable Boat

<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)	4	5	4	-	-	-
Gross/Weapon System Cost (\$ in Millions)	3.901	1.615	1.278	-	-	-
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	3.901	1.615	1.278	-	-	-
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>3.901</b>	<b>1.615</b>	<b>1.278</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)	975.250	323.000	319.500	-	-	-

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</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>																		
Recurring Cost																		
Rigid Inflatable Boat <sup>(†)</sup>	433.444	9	3.901	290.000	5	1.450	319.500	4	1.278	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	3.901	-	-	1.450	-	-	1.278	-	-	-	-	-	-	-	-	-
<b>Subtotal: Hardware Cost</b>	-	-	<b>3.901</b>	-	-	<b>1.450</b>	-	-	<b>1.278</b>	-	-	-	-	-	-	-	-	-
<b>Support - Fielding Cost</b>																		
Fielding	-	-	-	-	-	0.030	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - Fielding Cost</i>	-	-	-	-	-	<b>0.030</b>	-	-	-	-	-	-	-	-	-	-	-	-
<b>Support - Program Management Cost</b>																		
Government Management	-	-	-	-	-	0.105	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - Program Management Cost</i>	-	-	-	-	-	<b>0.105</b>	-	-	-	-	-	-	-	-	-	-	-	-
<b>Support - Quality Assurance Cost</b>																		
Quality Assurance	-	-	-	-	-	0.030	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - Quality Assurance Cost</i>	-	-	-	-	-	<b>0.030</b>	-	-	-	-	-	-	-	-	-	-	-	-
<b>Gross/Weapon System Cost</b>	<b>975.250</b>	<b>4</b>	<b>3.901</b>	<b>323.000</b>	<b>5</b>	<b>1.615</b>	<b>319.500</b>	<b>4</b>	<b>1.278</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 / 03 / 20	<b>P-1 Line Item Number / Title:</b> 8500R12001 / Family of Boats and Motors	<b>Item Number / Title [DODIC]:</b> R12015 / FoBAM Rigid Inflatable Boat
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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
Rigid Inflatable Boat		2018	DEPARTMENT OF THE NAVY / VIRGINIA BEACH, VA	C / FFP	VIRGINIA BEACH, VA	Feb 2018	Aug 2018	5	290.000	N		
Rigid Inflatable Boat		2019	DEPARTMENT OF THE NAVY / VIRGINIA BEACH, VA	C / FFP	VIRGINIA BEACH, VA	Jan 2019	Aug 2019	4	319.500	N		



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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 / 03 / 20			<b>P-1 Line Item Number / Title:</b> 8500R12001 / Family of Boats and Motors			<b>Item Number / Title [DODIC]:</b> R12016 / FoBAM 7-Man Boat		
<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)			0.949	-	1.209	1.713	-	1.713
Less PY Advance Procurement (\$ in Millions)			-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)			0.949	-	1.209	1.713	-	1.713
Plus CY Advance Procurement (\$ in Millions)			-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>			<b>0.949</b>	<b>-</b>	<b>1.209</b>	<b>1.713</b>	<b>-</b>	<b>1.713</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)			79.083	-	17.779	19.247	-	19.247

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																		
7-person I-CRC <sup>(†)</sup>	79.083	12	0.949	-	-	-	11.529	68	0.784	15.416	89	1.372	-	-	-	15.416	89	1.372
<i>Subtotal: Recurring Cost</i>	-	-	<i>0.949</i>	-	-	-	-	-	<i>0.784</i>	-	-	<i>1.372</i>	-	-	-	-	-	<i>1.372</i>
<i>Subtotal: Hardware Cost</i>	-	-	<i>0.949</i>	-	-	-	-	-	<i>0.784</i>	-	-	<i>1.372</i>	-	-	-	-	-	<i>1.372</i>
<b>Support - Fielding Cost</b>																		
Fielding	-	-	-	-	-	-	-	-	0.016	-	-	0.141	-	-	-	-	-	0.141
<i>Subtotal: Support - Fielding Cost</i>	-	-	-	-	-	-	-	-	<i>0.016</i>	-	-	<i>0.141</i>	-	-	-	-	-	<i>0.141</i>
<b>Support - Production Engineering Cost</b>																		
Production Engineering	-	-	-	-	-	-	-	-	0.134	-	-	0.057	-	-	-	-	-	0.057
<i>Subtotal: Support - Production Engineering Cost</i>	-	-	-	-	-	-	-	-	<i>0.134</i>	-	-	<i>0.057</i>	-	-	-	-	-	<i>0.057</i>
<b>Support - Program Management Cost</b>																		
Government Management	-	-	-	-	-	-	-	-	0.275	-	-	0.128	-	-	-	-	-	0.128
<i>Subtotal: Support - Program Management Cost</i>	-	-	-	-	-	-	-	-	<i>0.275</i>	-	-	<i>0.128</i>	-	-	-	-	-	<i>0.128</i>
<b>Support - Quality Assurance Cost</b>																		
Quality Assurance	-	-	-	-	-	-	-	-	-	-	-	0.015	-	-	-	-	-	0.015
<i>Subtotal: Support - Quality Assurance Cost</i>	-	-	-	-	-	-	-	-	-	-	-	<i>0.015</i>	-	-	-	-	-	<i>0.015</i>
<b>Gross/Weapon System Cost</b>	<b>79.083</b>	<b>-</b>	<b>0.949</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>17.779</b>	<b>-</b>	<b>1.209</b>	<b>19.247</b>	<b>-</b>	<b>1.713</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>19.247</b>	<b>-</b>	<b>1.713</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 / 03 / 20	<b>P-1 Line Item Number / Title:</b> 8500R12001 / Family of Boats and Motors	<b>Item Number / Title [DODIC]:</b> R12016 / FoBAM 7-Man Boat
<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 / 03 / 20	<b>P-1 Line Item Number / Title:</b> 8500R12001 / Family of Boats and Motors	<b>Item Number / Title [DODIC]:</b> R12016 / FoBAM 7-Man Boat
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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
7-person I-CRC		2019	DEPARTMENT OF THE NAVY / VIRGINIA BEACH, VA	C / FFP	VIRGINIA BEACH, VA	Jan 2019	Feb 2019	68	11.529	N		
7-person I-CRC		2020	ATLANTIC DIVING SUPPLY / VIRGINIA BEACH, VA	C / FFP	VIRGINIA BEACH, VA	Jan 2020	Feb 2020	89	15.416	N		

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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 / 03 / 20						<b>P-1 Line Item Number / Title:</b> 8500R12001 / Family of Boats and Motors					<b>Item Number / Title [DODIC]:</b> R12028 / FoBAM 15-Man Boat				
<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)				1.744		2.687		1.477		4.359		-		4.359	
Less PY Advance Procurement (\$ in Millions)				-		-		-		-		-		-	
Net Procurement (P-1) (\$ in Millions)				1.744		2.687		1.477		4.359		-		4.359	
Plus CY Advance Procurement (\$ in Millions)				-		-		-		-		-		-	
<b>Total Obligation Authority (\$ in Millions)</b>				<b>1.744</b>		<b>2.687</b>		<b>1.477</b>		<b>4.359</b>		<b>-</b>		<b>4.359</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)				145.333		25.112		12.207		24.083		-		24.083	

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																		
15-person I-CAC(†)	12.708	113	1.436	19.645	107	2.102	6.628	121	0.802	21.050	181	3.810	-	-	-	21.050	181	3.810
Subtotal: Recurring Cost	-	-	1.436	-	-	2.102	-	-	0.802	-	-	3.810	-	-	-	-	-	3.810
Subtotal: Hardware Cost	-	-	1.436	-	-	2.102	-	-	0.802	-	-	3.810	-	-	-	-	-	3.810
<b>Support - Fielding Cost</b>																		
Fielding	-	-	0.020	-	-	0.086	-	-	0.134	-	-	0.150	-	-	-	-	-	0.150
Subtotal: Support - Fielding Cost	-	-	0.020	-	-	0.086	-	-	0.134	-	-	0.150	-	-	-	-	-	0.150
<b>Support - Production Engineering Cost</b>																		
Production Engineering	-	-	0.020	-	-	-	-	-	-	-	-	0.057	-	-	-	-	-	0.057
Subtotal: Support - Production Engineering Cost	-	-	0.020	-	-	-	-	-	-	-	-	0.057	-	-	-	-	-	0.057
<b>Support - Program Management Cost</b>																		
Government Management	-	-	0.248	-	-	0.499	-	-	0.541	-	-	0.327	-	-	-	-	-	0.327
Subtotal: Support - Program Management Cost	-	-	0.248	-	-	0.499	-	-	0.541	-	-	0.327	-	-	-	-	-	0.327
<b>Support - Quality Assurance Cost</b>																		
Quality Assurance	-	-	0.020	-	-	-	-	-	-	-	-	0.015	-	-	-	-	-	0.015
Subtotal: Support - Quality Assurance Cost	-	-	0.020	-	-	-	-	-	-	-	-	0.015	-	-	-	-	-	0.015
<b>Gross/Weapon System Cost</b>	<b>145.333</b>	<b>-</b>	<b>1.744</b>	<b>25.112</b>	<b>-</b>	<b>2.687</b>	<b>12.207</b>	<b>-</b>	<b>1.477</b>	<b>24.083</b>	<b>-</b>	<b>4.359</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>24.083</b>	<b>-</b>	<b>4.359</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 / 03 / 20	<b>P-1 Line Item Number / Title:</b> 8500R12001 / Family of Boats and Motors	<b>Item Number / Title [DODIC]:</b> R12028 / FoBAM 15-Man Boat
<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 / 03 / 20	<b>P-1 Line Item Number / Title:</b> 8500R12001 / Family of Boats and Motors	<b>Item Number / Title [DODIC]:</b> R12028 / FoBAM 15-Man Boat
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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
15-person I-CAC		2018	DEPARTMENT OF THE NAVY / VIRGINIA BEACH, VA	C / FFP	VIRGINIA BEACH, VA	Jul 2019	Nov 2019	107	19.645	N		
15-person I-CAC		2019	DEPARTMENT OF THE NAVY / VIRGINIA BEACH, VA	C / FFP	VIRGINIA BEACH, VA	Jul 2019	Nov 2019	121	6.628	N		
15-person I-CAC		2020	DEPARTMENT OF THE NAVY / VIRGINIA BEACH, VA	C / FFP	VIRGINIA BEACH, VA	Jan 2020	Feb 2020	181	21.050	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 03: Other Support Equipment / BSA 25: Combat Service Support Equipment	<b>P-1 Line Item Number / Title:</b> 0100MF9000 / Heaters and ECU's
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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> 0608804A
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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> )	464	630	918	617	-	617	860	814	730	780	-	5,813
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	127.743	7.675	10.122	7.336	0.008	7.344	10.030	9.245	8.474	8.556	-	189.189
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	127.743	7.675	10.122	7.336	0.008	7.344	10.030	9.245	8.474	8.556	-	189.189
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>127.743</b>	<b>7.675</b>	<b>10.122</b>	<b>7.336</b>	<b>0.008</b>	<b>7.344</b>	<b>10.030</b>	<b>9.245</b>	<b>8.474</b>	<b>8.556</b>	<b>-</b>	<b>189.189</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> )	275.308	12.183	11.026	11.890	-	11.903	11.663	11.357	11.608	10.969	-	32.546

**Description:**

This line supports the Army Network Modernization Strategy Line of Effort #4, Command Post (CP). Near term objectives are the delivery of Improved Environmental Control Units (IECUs) to support CP Directed Requirements.

This budget line represents the Army's family of Improved Environmental Control Units (IECUs), commonly known as Air Conditioners. IECUs provide cooling and supplemental heating for Army tents and shelters. Systems range in size from 9,000 to 60,000 British Thermal Units/hour (BTU/hr) and are powered by common electrical currents supplied by both mobile electric power systems and standard commercial facilities. IECUs also provide dehumidification and filtering of air in support of environmentally sensitive electronic equipment in mobile shelters and vans. IECUs support critical electronic equipment that would not support the Army mission without proper environmental control. IECUs support numerous major tactical weapon systems. The majority of the supported weapon systems are command, control, and communication items. Other applications include medical facilities, expeditionary basing, support equipment, satellite communications, intelligence gathering systems, petroleum and water logistics laboratories, electronic shop sets, Test Measurement and Diagnostic Equipment (TMDE), aviation shop sets and topographic support sets.

The IECU program will provide a new generation of Environmental Control Units (ECUs) that use environmentally approved refrigerants, with zero ozone-depleting chemicals (ODCs), to replace the current Military Standard (MIL-STD) Family of ECUs. The IECUs will provide improved cooling, heating, and dehumidification to soldiers and materiel systems in combat, combat support and combat service support units. IECUs are required to replace currently fielded environmental control units in order to comply with statutory and regulatory restrictions on the use of Class II Ozone Depleting Chemicals (ODCs) and to increase the performance of military ECUs. They are form, fit and function replacements to the current MIL-STD ECUs. IECUs operate at wider operating temperatures, are more ruggedized than commercial ECUs, and employ embedded diagnostics and automatic safety controls. Technical improvements over existing military-standard ECUs will yield significant fuel and weight savings, reduction in scheduled maintenance, and increased reliability.

- 60,000 (3 phase / 50-60 hertz) BTUH (British Thermal Units per Hour) Army Acquisition Objective (AAO) = 2,732
- 9,000 (single phase / 60 hertz) BTUH AAO = 1,400
- 18,000 (3 phase / 60 hertz / 208V) BTUH AAO = 3,575
- 18,000 (single phase / 60 hertz / 230V) BTUH AAO= 969
- 36,000 (3 phase / 60 hertz) BTUH AAO= 814

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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 03: Other Support Equipment / BSA 25: Combat Service Support Equipment		<b>P-1 Line Item Number / Title:</b> 0100MF9000 / Heaters and ECU's
<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> 0608804A
<b>Line Item MDAP/MAIS Code:</b> N/A		
<p>Note: They are required to fill existing shortages or provide replacement for assets that are over age, non-supportable, and non-repairable. The IECUs are critical to the systems they support. Additionally, IECUs are required to fill urgent shortages on new fieldings of high priority weapon systems. They are used in select shelters which house critical life-saving operations in Combat Support Hospitals and storage of perishable supplies in Brigade Support Battalions. The 9,000 BTU/hr, 18,000 BTU/hr and 36,000 BTU/hr IECUs provide an EPA compliant capability to the force structure before commercial/military stocks of previously used refrigerant are exhausted and no longer available. IECUs provide essential air conditioning, dehumidification and filtering of air in support of environmentally sensitive electronic equipment in mobile shelters and vans critical to the CP mission and are a critical component of multiple mobile weapons systems to include PATRIOT, THAAD, and MLRS.. Present and emerging command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR) systems require environmental control to moderate the environmental temperatures in which these systems operate.</p> <p>All OCO funding is Active Component.</p>		



**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 03: Other Support Equipment / BSA 25:  
Combat Service Support Equipment

**P-1 Line Item Number / Title:**  
0100MF9000 / Heaters and ECU's

**ID Code** (A=Service Ready, B=Not Service Ready): **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0608804A

**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	MF9303 / IMPROVED ENVIRONMENTAL CONTROL UNITS	P-5a			464 / 127.743	630 / 7.675	918 / 10.122	617 / 7.336	- / 0.008	617 / 7.344
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>464 / 127.743</b>	<b>630 / 7.675</b>	<b>918 / 10.122</b>	<b>617 / 7.336</b>	<b>- / 0.008</b>	<b>617 / 7.344</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 20 Base procurement dollars in the amount of \$7.336 million supports the family of Improved Environmental Control Units 9,000 BTU/hr (British Thermal Units) procure 135 units, 18,000 BTU/hr 208V procure 332 units, 18,000 BTU/hr 230V procure 105 units and 36,000 BTU/hr procure 73 units, IECUs that are required as a component or separately authorized in support of fielded tactical weapon systems. The RFS automatic feed on the P40 base quantity is incorrect, the correct quantity is 645 which is broken out on the P5 form.  
 FY 20 OCO procurement dollars in the amount of \$.008 million supports the family of Improved Environmental Control Units 18,000 BTU/hr procure 1 units, IECUs that are required as a component or separately authorized in support of fielded tactical weapon 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-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 03 / 25	<b>P-1 Line Item Number / Title:</b> 0100MF9000 / Heaters and ECU's	<b>Item Number / Title [DODIC]:</b> MF9303 / IMPROVED ENVIRONMENTAL CONTROL UNITS

<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> )	464	630	918	617	-	617
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	127.743	7.675	10.122	7.336	0.008	7.344
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	127.743	7.675	10.122	7.336	0.008	7.344
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>127.743</b>	<b>7.675</b>	<b>10.122</b>	<b>7.336</b>	<b>0.008</b>	<b>7.344</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> )	275.308	12.183	11.026	11.890	-	11.903

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>																		
1. Engineering Support	-	-	21.784	-	-	0.775	-	-	1.000	-	-	0.752	-	-	-	-	-	0.752
2. Engineering Change Orders	-	-	5.231	-	-	0.050	-	-	0.050	-	-	0.050	-	-	-	-	-	0.050
3. Testing	-	-	4.200	-	-	0.100	-	-	-	-	-	-	-	-	-	-	-	-
4. System Fielding Support	-	-	1.576	-	-	0.360	-	-	0.700	-	-	0.626	-	-	-	-	-	0.626
5. System Assessment	-	-	1.105	-	-	0.100	-	-	-	-	-	-	-	-	-	-	-	-
6. Logistic Support	-	-	28.834	-	-	0.500	-	-	0.950	-	-	0.700	-	-	-	-	-	0.700
7. Data	-	-	4.495	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8. Program Management Support	-	-	22.483	-	-	0.370	-	-	0.963	-	-	0.367	-	-	-	-	-	0.367
9,000 BTU/H ECU <sup>(†)</sup>	8.199	277	2.271	7.265	151	1.097	6.463	175	1.131	7.674	135	1.036	-	-	-	7.674	135	1.036
18,000 BTU/H ECU (208V 3PH/50/60Hz) <sup>(††)</sup>	8.902	246	2.190	8.570	244	2.091	8.188	400	3.275	5.837	332	1.938	8.000	1	0.008	5.844	333	1.946
18,000 BTU/H ECU (230V 1PH/50/60Hz) <sup>(††)</sup>	9.015	130	1.172	8.500	126	1.071	7.768	125	0.971	8.229	105	0.864	-	-	-	8.229	105	0.864
36,000 BTU/H ECU <sup>(†)</sup>	11.423	196	2.239	10.651	109	1.161	9.836	110	1.082	13.740	73	1.003	-	-	-	13.740	73	1.003

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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 / 03 / 25		<b>P-1 Line Item Number / Title:</b> 0100MF9000 / Heaters and ECU's
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :		<b>MDAP/MAIS Code:</b>
<b>Item Number / Title [DODIC]:</b> MF9303 / IMPROVED ENVIRONMENTAL CONTROL UNITS		

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)
60,000 BTU/H IECU (Full Rate)	8.314	3,628	30.164	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	127.743	-	-	7.675	-	-	10.122	-	-	7.336	-	-	0.008	-	-	7.344
<i>Subtotal: Flyaway Cost</i>	-	-	127.743	-	-	7.675	-	-	10.122	-	-	7.336	-	-	0.008	-	-	7.344
<b>Gross/Weapon System Cost</b>	<b>275.308</b>	<b>464</b>	<b>127.743</b>	<b>12.183</b>	<b>630</b>	<b>7.675</b>	<b>11.026</b>	<b>918</b>	<b>10.122</b>	<b>11.890</b>	<b>617</b>	<b>7.336</b>	<b>-</b>	<b>-</b>	<b>0.008</b>	<b>11.903</b>	<b>617</b>	<b>7.344</b>

**Remarks:**

The automatic feed on the P40 Base quantity is incorrect, the correct quantity is 645 which is broken out on the P5 form.

The automatic feed on the P40 OCO quantity is incorrect, the correct quantity is 1 which is broken out on the P5 form.

(†) 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 / 03 / 25	<b>P-1 Line Item Number / Title:</b> 0100MF9000 / Heaters and ECU's	<b>Item Number / Title [DODIC]:</b> MF9303 / IMPROVED ENVIRONMENTAL CONTROL UNITS
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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
9,000 BTU/H ECU		2018	TFAB Defense / Madison, AL	C / FFP	ACC-APG Natick, MA	Jun 2018	Jun 2019	151	7.265	Y	Dec 2016	Mar 2017
9,000 BTU/H ECU		2019	TFAB Defense / Madison, AL	C / FFP	ACC-APG Natick, MA	Apr 2019	Apr 2020	175	6.463	Y	Dec 2016	Mar 2017
9,000 BTU/H ECU		2020	TFAB Defense / Madison, AL	C / FFP	ACC-APG Natick, MA	Feb 2020	Dec 2020	135	7.674	Y	Dec 2016	Mar 2017
18,000 BTU/H ECU (208V 3PH/50/60Hz)		2018	TFAB Defense / Madison, AL	C / FFP	ACC-APG Natick, MA	Jun 2018	Jun 2019	244	8.570	Y	Dec 2016	Mar 2017
18,000 BTU/H ECU (208V 3PH/50/60Hz)		2019	TFAB Defense / Madison, AL	C / FFP	ACC-APG Natick, MA	Apr 2019	Apr 2020	400	8.188	Y	Dec 2016	Mar 2017
18,000 BTU/H ECU (208V 3PH/50/60Hz)		2020	TFAB Defense / Madison, AL	C / FFP	ACC-APG Natick, MA	Feb 2020	Dec 2020	333	5.844	Y	Dec 2016	Mar 2017
18,000 BTU/H ECU (230V 1PH/50/60Hz)		2018	TFAB Defense / Madison, AL	C / FFP	ACC-APG Natick, MA	Jun 2018	Jun 2019	126	8.500	Y	Dec 2016	Mar 2017
18,000 BTU/H ECU (230V 1PH/50/60Hz)		2019	TFAB Defense / Madison, AL	C / FFP	ACC-APG Natick, MA	Apr 2019	Apr 2020	125	7.768	Y	Feb 2019	Mar 2017
18,000 BTU/H ECU (230V 1PH/50/60Hz)		2020	TFAB Defense / Madison, AL	C / FFP	ACC-APG Natick, MA	Feb 2020	Dec 2020	105	8.229	Y	Feb 2019	Mar 2017
36,000 BTU/H ECU		2018	TFAB Defense / Madison, AL	C / FFP	ACC-APG Natick, MA	Jun 2018	Jun 2019	109	10.651	Y	Dec 2016	Mar 2017
36,000 BTU/H ECU		2019	TFAB Defense / Madison, AL	C / FFP	ACC-APG Natick, MA	Apr 2019	Apr 2020	110	9.836	Y	Dec 2016	Mar 2017
36,000 BTU/H ECU		2020	TFAB Defense / Madison, AL	C / FFP	ACC-APG Natick, MA	Feb 2020	Dec 2020	73	13.740	Y	Dec 2016	Mar 2017

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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 03: Other Support Equipment / BSA 25: Combat Service Support Equipment	<b>P-1 Line Item Number / Title:</b> 8796MA6800 / Soldier Enhancement
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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> )	261.345	1.095	1.103	-	-	-	-	-	-	-	-	263.543
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	261.345	1.095	1.103	-	-	-	-	-	-	-	-	263.543
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>261.345</b>	<b>1.095</b>	<b>1.103</b>	-	-	-	-	-	-	-	-	<b>263.543</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 Soldier Enhancement Program (SEP) was established by the Fiscal Year 1990 National Defense Authorization Act. The purpose of the SEP is to provide an impetus for increasing the combat effectiveness of our Army Infantryman/Soldiers through the procurement of Commercial Off the Shelf (COTS), Government Off the Shelf (GOTS) or Non-Developmental Item (NDI) of lighter, more lethal weapons and improved equipment, including lighter, more comfortable loadbearing equipment, field gear, survivability items, communications equipment, navigational aids and training capabilities for Soldier evaluation. The SEP evaluates available COTS, GOTS or NDI equipment to determine if items have the potential to provide increased combat effectiveness to the Soldier. The SEP OPA3 funding provides a means of procuring individual equipment designed to increase the Soldiers' operational effectiveness for evaluation.

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	1.095	1.103	-	-	-	-	-	-	-
<b>Total:</b>									
<b>Secondary Distribution</b>									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	<b>1.095</b>	<b>1.103</b>	-	-	-	-	-	-	-

**Justification:**

No FY2020 PB Request.

"In accordance with Section 1815 of the FY 2008 National Defense Authorization Act (P.L. 110-181), this item is necessary for the 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 03: Other Support Equipment / BSA 25: Combat Service Support Equipment	<b>P-1 Line Item Number / Title:</b> 8822G01101 / Personnel Recovery Support System (PRSS)
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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> )	9,237	2,000	8,055	2,123	5,000	7,123	7,442	2,267	2,578	3,451	-	42,153
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	87.393	5.390	10.175	4.281	5.101	9.382	9.731	4.598	4.604	5.379	-	136.652
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	87.393	5.390	10.175	4.281	5.101	9.382	9.731	4.598	4.604	5.379	-	136.652
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>87.393</b>	<b>5.390</b>	<b>10.175</b>	<b>4.281</b>	<b>5.101</b>	<b>9.382</b>	<b>9.731</b>	<b>4.598</b>	<b>4.604</b>	<b>5.379</b>	<b>-</b>	<b>136.652</b>

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

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	9.461	2.695	1.263	2.016	1.020	1.317	1.308	2.028	1.786	1.559	-	3.242

**Description:**

The Personnel Recovery Support System (PRSS) consists of items including PRSS 1b Secure Personal Locator Beacons and other Personnel Recovery equipment items to report and locate isolated, missing, detained and captured Soldiers.

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	2,000	8,055	2,123	5,000	7,123	7,442	2,267	2,578	3,451
	Total Obligation Authority	5.390	10.175	4.281	5.101	9.382	9.731	4.598	4.604	5.379
<b>Total:</b> Secondary Distribution	Quantity	<b>2,000</b>	<b>8,055</b>	<b>2,123</b>	<b>5,000</b>	<b>7,123</b>	<b>7,442</b>	<b>2,267</b>	<b>2,578</b>	<b>3,451</b>
	Total Obligation Authority	<b>5.390</b>	<b>10.175</b>	<b>4.281</b>	<b>5.101</b>	<b>9.382</b>	<b>9.731</b>	<b>4.598</b>	<b>4.604</b>	<b>5.379</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 03: Other Support Equipment / BSA 25:  
Combat Service Support Equipment

**P-1 Line Item Number / Title:**  
8822G01101 / Personnel Recovery Support System (PRSS)

**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	G01101 / Personnel Recovery Support System (PRSS)	P-5a			9,237 / 87.393	2,000 / 5.390	8,055 / 10.175	2,123 / 4.281	5,000 / 5.101	7,123 / 9.382
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>9,237 / 87.393</b>	<b>2,000 / 5.390</b>	<b>8,055 / 10.175</b>	<b>2,123 / 4.281</b>	<b>5,000 / 5.101</b>	<b>7,123 / 9.382</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 20 Base procurement dollars in the amount of \$4.281 million support procurement of Personnel Recovery Support System (PRSS) products that support the Army's capability to report and locate isolated, missing, detained and captured Soldiers. Funding procures equipment and materiel to support a balanced investment strategy for the Army's approved force structure.

FY 20 OCO procurement dollars in the amount of \$5.101 million funds the purchase of PRSS 1b Secure Personal Locator Beacons and associated support services for use in overseas contingency operations by the active and reserve components of the Armed Forces.

The AAO for the PRSS 1b Secure beacons is 50,790.

**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 / 03 / 25		<b>P-1 Line Item Number / Title:</b> 8822G01101 / Personnel Recovery Support System (PRSS)
		<b>Item Number / Title [DODIC]:</b> G01101 / Personnel Recovery Support System (PRSS)

<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)	9,237	2,000	8,055	2,123	5,000	7,123
Gross/Weapon System Cost (\$ in Millions)	87.393	5.390	10.175	4.281	5.101	9.382
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	87.393	5.390	10.175	4.281	5.101	9.382
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>87.393</b>	<b>5.390</b>	<b>10.175</b>	<b>4.281</b>	<b>5.101</b>	<b>9.382</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)	9.461	2.695	1.263	2.016	1.020	1.317

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																		
Personnel Recovery Equipment Items <sup>(†)</sup>	1.026	46,690	47.901	0.914	2,000	1.827	0.906	4,554	4.127	0.936	1,707	1.598	-	-	-	0.936	1,707	1.598
Secure Personal Locator Beacons <sup>(†)</sup>	-	-	-	-	-	-	0.685	5,000	3.425	-	-	-	0.838	5,000	4.188	0.838	5,000	4.188
Initial Spares & Repair Parts	-	-	3.098	-	-	0.172	-	-	0.014	-	-	-	-	-	0.014	-	-	0.014
Support Equipment	-	-	3.705	-	-	0.100	-	-	0.226	-	-	0.138	-	-	0.198	-	-	0.336
Systems Test and Evaluation	-	-	0.847	-	-	0.141	-	-	-	-	-	0.022	-	-	-	-	-	0.022
Nonrecurring Engineering	-	-	6.595	-	-	0.057	-	-	0.188	-	-	0.196	-	-	0.142	-	-	0.338
Systems Integration and Engineering	-	-	5.917	-	-	0.633	-	-	0.300	-	-	0.370	-	-	0.308	-	-	0.678
Project Management Admin	-	-	4.909	-	-	0.465	-	-	0.399	-	-	0.332	-	-	-	-	-	0.332
Fielding	-	-	1.750	-	-	0.377	-	-	0.465	-	-	0.352	-	-	0.249	-	-	0.601
Contract Logistics/ Subject Expert Spt	-	-	12.668	-	-	1.617	-	-	1.032	-	-	1.273	-	-	-	-	-	1.273
<i>Subtotal: Recurring Cost</i>	-	-	<b>87.393</b>	-	-	<b>5.390</b>	-	-	<b>10.175</b>	-	-	<b>4.281</b>	-	-	<b>5.101</b>	-	-	<b>9.382</b>
<i>Subtotal: Flyaway Cost</i>	-	-	<b>87.393</b>	-	-	<b>5.390</b>	-	-	<b>10.175</b>	-	-	<b>4.281</b>	-	-	<b>5.101</b>	-	-	<b>9.382</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 / 03 / 25	<b>P-1 Line Item Number / Title:</b> 8822G01101 / Personnel Recovery Support System (PRSS)	<b>Item Number / Title [DODIC]:</b> G01101 / Personnel Recovery Support System (PRSS)
<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	9.461	9,237	87.393	2.695	2,000	5.390	1.263	8,055	10.175	2.016	2,123	4.281	1.020	5,000	5.101	1.317	7,123	9.382

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	2,000	8,055	2,123	5,000	7,123
	Total Obligation Authority	5.390	10.175	4.281	5.101	9.382
<b>Total:</b> Secondary Distribution	<b>Quantity</b>	<b>2,000</b>	<b>8,055</b>	<b>2,123</b>	<b>5,000</b>	<b>7,123</b>
	<b>Total Obligation Authority</b>	<b>5.390</b>	<b>10.175</b>	<b>4.281</b>	<b>5.101</b>	<b>9.382</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 / 03 / 25	<b>P-1 Line Item Number / Title:</b> 8822G01101 / Personnel Recovery Support System (PRSS)	<b>Item Number / Title [DODIC]:</b> G01101 / Personnel Recovery Support System (PRSS)
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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
Personnel Recovery Equipment Items		2018	Various Contractors / Various Locations	C / FP	Aberdeen, MD	Mar 2018	Jul 2018	2,000	0.914	Y		
Personnel Recovery Equipment Items		2019	Various Contractors / Various Locations	Option / FP	Aberdeen, MD	Feb 2019	May 2019	4,554	0.906	Y		
Personnel Recovery Equipment Items		2020	Various Contractors / Various Locations	Option / FP	Aberdeen, MD	Feb 2020	May 2020	1,707	0.936	Y		
Secure Personal Locator Beacons		2019	McMurdo, Inc. / Rochester, NY	Option / FP	Aberdeen, MD	Nov 2018	Jun 2019	5,000	0.685	Y		
Secure Personal Locator Beacons	✓	2020	McMurdo, Inc. / Rochester, NY	Option / FP	Aberdeen, MD	Mar 2020	Jun 2020	5,000	0.838	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 03: Other Support Equipment / BSA 25: Combat Service Support Equipment	<b>P-1 Line Item Number / Title:</b> 8825R80501 / Ground Soldier 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> )	1,493	1,666	4,126	3,784	1,631	5,415	6,281	4,950	4,950	4,950	-	33,831
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	368.588	135.768	36.506	111.955	1.760	113.715	156.860	182.214	185.487	188.819	-	1,367.957
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	368.588	135.768	36.506	111.955	1.760	113.715	156.860	182.214	185.487	188.819	-	1,367.957
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>368.588</b>	<b>135.768</b>	<b>36.506</b>	<b>111.955</b>	<b>1.760</b>	<b>113.715</b>	<b>156.860</b>	<b>182.214</b>	<b>185.487</b>	<b>188.819</b>	-	<b>1,367.957</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> )	246.877	81.493	8.848	29.586	1.079	21.000	24.974	36.811	37.472	38.145	-	40.435

**Description:**

The Nett Warrior (NW) funding line supports the Army's Network Modernization Strategy Line of Effort (LOE) #1, Unified Network.

FY2020 base procurement funding procures Nett Warrior (NW) commercial End User Devices and supporting equipment to provide the dismounted leader an integrated mission command and situational awareness for use during combat operations. The NW system provides operators real-time information on friendly positions, information about enemy activity and movement, navigational data and map imagery, and other mission related graphics. Nett Warrior applies feedback from conventional and Special Operations units to procure and implement Secure but Unclassified (SBU) networking equipment for Integrated Tactical Network Brigades to enable faster, more flexible Mission Command data exchanges with Joint and Coalition forces while maintaining the existing integrated mission command capability with Joint Battle Command-Platform systems. NW uses Commercial-Off-The-Shelf (COTS) and Non-Developmental (NDI) communications equipment to create a robust and flexible SBU Integrated Tactical Network that enables faster and more accurate decision making during combat operations at the tactical level. NW also procures supporting power systems to reduce power requirements in the expeditionary environment. NW also provides the dismounted common computational platform for the Mobile Handheld Computing Environment and includes integration and interface of products on Soldiers. Ground Soldier Systems is known as Nett Warrior (NW), named in honor of Medal of Honor recipient, Colonel Robert C. Nett.

FY 2020 Overseas Contingency Operations funding in the amount of \$1.76 million funds hardware and co-located field service to deployed units.

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	1,254	4,126	3,446	1,631	5,077	5,981	4,678	4,631	4,688
	Total Obligation Authority	126.718	36.506	101.955	1.760	103.715	146.860	172.214	173.517	178.819
ANG	Quantity	412	-	338	-	338	300	272	319	262
	Total Obligation Authority	9.050	-	10.000	-	10.000	10.000	10.000	11.970	10.000
<b>Total:</b>	<b>Quantity</b>	<b>1,666</b>	<b>4,126</b>	<b>3,784</b>	<b>1,631</b>	<b>5,415</b>	<b>6,281</b>	<b>4,950</b>	<b>4,950</b>	<b>4,950</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>135.768</b>	<b>36.506</b>	<b>111.955</b>	<b>1.760</b>	<b>113.715</b>	<b>156.860</b>	<b>182.214</b>	<b>185.487</b>	<b>188.819</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 03: Other Support Equipment / BSA 25:  
Combat Service Support Equipment

**P-1 Line Item Number / Title:**  
8825R80501 / Ground Soldier System

**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	R80501 / Ground Soldier System	P-5a			1,493 / 368.588	1,666 / 135.768	4,126 / 36.506	3,784 / 111.955	1,631 / 1.760	5,415 / 113.715
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>1,493 / 368.588</b>	<b>1,666 / 135.768</b>	<b>4,126 / 36.506</b>	<b>3,784 / 111.955</b>	<b>1,631 / 1.760</b>	<b>5,415 / 113.715</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 funding procures Nett Warrior (NW) commercial End User Devices and supporting equipment to provide the dismounted leader an integrated mission command and situational awareness for use during combat operations. The NW system provides operators real-time information on friendly positions, information about enemy activity and movement, navigational data and map imagery, and other mission related graphics. Nett Warrior applies feedback from conventional and Special Operations units to procure and implement Secure but Unclassified (SBU) networking equipment for Integrated Tactical Network Brigades to enable faster, more flexible Mission Command data exchanges with Joint and Coalition forces while maintaining the existing integrated mission command capability with Joint Battle Command-Platform systems. NW uses Commercial-Off-The-Shelf (COTS) and Non-Developmental (NDI) communications equipment to create a robust and flexible SBU Integrated Tactical Network that enables faster and more accurate decision making during combat operations at the tactical level. NW also procures supporting power systems to reduce power requirements in the expeditionary environment. NW also provides the dismounted common computational platform for the Mobile Handheld Computing Environment and includes integration and interface of products on Soldiers. Ground Soldier Systems is known as Nett Warrior (NW), named in honor of Medal of Honor recipient, Colonel Robert C. Nett.

FY2020 Overseas Contingency Operations funding in the amount of \$1.76 million funds hardware and co-located field service to deployed units.

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

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 03 / 25	<b>P-1 Line Item Number / Title:</b> 8825R80501 / Ground Soldier System	<b>Item Number / Title [DODIC]:</b> R80501 / Ground Soldier 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 (Units in Each)	1,493	1,666	4,126	3,784	1,631	5,415
Gross/Weapon System Cost (\$ in Millions)	368.588	135.768	36.506	111.955	1.760	113.715
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	368.588	135.768	36.506	111.955	1.760	113.715
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>368.588</b>	<b>135.768</b>	<b>36.506</b>	<b>111.955</b>	<b>1.760</b>	<b>113.715</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)	246.877	81.493	8.848	29.586	1.079	21.000

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)
<b>Hardware Cost</b>																		
<b>Recurring Cost</b>																		
NW Soldier Worn Hardware (COMPO 1) <sup>(f)</sup>	3.516	25,184	88.545	1.850	2,967	5.488	2.090	947	1.979	1.603	3,446	5.523	-	-	-	1.603	3,446	5.523
Vehicle Integration Kits (COMPO 1)	-	-	143.321	-	-	22.747	-	-	2.216	-	-	6.186	-	-	-	-	-	6.186
Network Support Equipment (COMPO 1)	-	-	115.838	-	-	16.900	-	-	1.590	-	-	4.437	-	-	-	-	-	4.437
Battery and Recharging (COMPO 1)	-	-	20.885	-	-	20.688	-	-	6.369	-	-	17.773	-	-	-	-	-	17.773
Voice Data Gateway (COMPO 1)	-	-	-	-	-	1.712	-	-	0.294	-	-	0.821	-	-	-	-	-	0.821
Echelon TOC Boxes (COMPO 1)	-	-	-	-	-	20.089	-	-	10.270	-	-	28.662	-	-	-	-	-	28.662
Network Extenders (COMPO 1)	-	-	-	-	-	-	-	-	5.139	-	-	14.341	-	-	-	-	-	14.341
System Fielding, Initial Spares and Support (COMPO 1)	-	-	-	-	-	39.094	-	-	8.649	-	-	24.138	-	-	1.760	-	-	25.898
NW Soldier Worn Hardware (COMPO 2)	-	-	-	1.852	223	0.413	-	-	-	1.615	338	0.546	-	-	-	1.615	338	0.546
Vehicle Integration Kits (COMPO 2)	-	-	-	-	-	1.712	-	-	-	-	-	0.612	-	-	-	-	-	0.612

**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 / 03 / 25		<b>P-1 Line Item Number / Title:</b> 8825R80501 / Ground Soldier 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)
Network Support Equipment (COMPO 2)	-	-	-	-	-	1.272	-	-	-	-	-	0.439	-	-	-	-	-	0.439
Battery and Recharging (COMPO 2)	-	-	-	-	-	1.557	-	-	-	-	-	1.758	-	-	-	-	-	1.758
Voice Data Gateway (COMPO 2)	-	-	-	-	-	0.129	-	-	-	-	-	0.081	-	-	-	-	-	0.081
Echelon TOC Boxes (COMPO 2)	-	-	-	-	-	1.512	-	-	-	-	-	2.835	-	-	-	-	-	2.835
Network Extenders (COMPO 2)	-	-	-	-	-	-	-	-	-	-	-	1.418	-	-	-	-	-	1.418
System Fielding, Initial Spares and Support (COMPO 2)	-	-	-	-	-	2.454	-	-	-	-	-	2.384	-	-	-	-	-	2.384
<i>Subtotal: Recurring Cost</i>	-	-	368.591	-	-	135.768	-	-	36.506	-	-	111.955	-	-	1.760	-	-	113.715
<i>Subtotal: Hardware Cost</i>	-	-	368.591	-	-	135.768	-	-	36.506	-	-	111.955	-	-	1.760	-	-	113.715
<b>Gross/Weapon System Cost</b>	246.877	1,493	368.588	81.493	1,666	135.768	8.848	4,126	36.506	29.586	3,784	111.955	1.079	1,631	1.760	21.000	5,415	113.715

**Remarks:**  
this is from the remark section

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	1,254	4,126	3,446	1,631	5,077
	Total Obligation Authority	126.718	36.506	101.955	1.760	103.715
ANG	Quantity	412	-	338	-	338
	Total Obligation Authority	9.050	-	10.000	-	10.000
<b>Total: Secondary Distribution</b>	Quantity	1,666	4,126	3,784	1,631	5,415
	Total Obligation Authority	135.768	36.506	111.955	1.760	113.715

(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 / 03 / 25	<b>P-1 Line Item Number / Title:</b> 8825R80501 / Ground Soldier System	<b>Item Number / Title [DODIC]:</b> R80501 / Ground Soldier 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
NW Soldier Worn Hardware (COMPO 1)		2018	TBD / APG, MD	C / FFP	APG, MD	Mar 2018	Jun 2018	2,967	1.850	N		
NW Soldier Worn Hardware (COMPO 1)		2019	TBD / APG, MD	C / FFP	APG-MD	Mar 2019	Aug 2019	947	2.090	N		
NW Soldier Worn Hardware (COMPO 1)		2020	TBD / APG, MD	C / FFP	APG-MD	Mar 2020	Aug 2020	3,446	1.603	N		

**Remarks:**  
 The NW program focuses on the integration and evaluation of commercial off the shelf (COTS) smart devices for the MC/SA system. P21 form is not provided, as program procures commercial off the shelf (COTS) products.  
 FY18 quantity does not include COMPO 2 quantity of 412.

**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 03: Other Support Equipment / BSA 25: Combat Service Support Equipment	<b>P-1 Line Item Number / Title:</b> 8827R80800 / Mobile Soldier Power
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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> )	-	3,250	18,480	14,896	-	14,896	13,793	-	-	-	-	50,419
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	-	6.431	30.774	31.364	-	31.364	34.333	-	-	-	-	102.902
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	-	6.431	30.774	31.364	-	31.364	34.333	-	-	-	-	102.902
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	-	<b>6.431</b>	<b>30.774</b>	<b>31.364</b>	-	<b>31.364</b>	<b>34.333</b>	-	-	-	-	<b>102.902</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> )	-	1.979	1.665	2.106	-	2.106	2.489	-	-	-	-	2.041

**Description:**

These power generation, storage, and charging systems enable dismounted and mounted Soldiers to execute their missions for longer durations with fewer battery resupplies, thus reducing the risk and logistical burden associated with moving fuel and both rechargeable and primary (disposable) batteries.

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	3,250	9,176	7,244	-	7,244	6,797	-	-	-
	Total Obligation Authority	6.431	19.069	17.256	-	17.256	19.940	-	-	-
ANG	Quantity	-	9,304	7,652	-	7,652	6,996	-	-	-
	Total Obligation Authority	-	11.705	14.108	-	14.108	14.393	-	-	-
<b>Total:</b>	<b>Quantity</b>	<b>3,250</b>	<b>18,480</b>	<b>14,896</b>	<b>-</b>	<b>14,896</b>	<b>13,793</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>6.431</b>	<b>30.774</b>	<b>31.364</b>	<b>-</b>	<b>31.364</b>	<b>34.333</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 03: Other Support Equipment / BSA 25: Combat Service Support Equipment **P-1 Line Item Number / Title:** 8827R80800 / Mobile Soldier Power

**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	R07091 / Platoon Power Generator	P-5a			- / -	- / -	- / -	252 / 4.004	- / -	252 / 4.004
P-5	R08090 / Integrated Soldier Power Data System - Core	P-5a			- / -	3,092 / 4.533	17,740 / 22.318	13,516 / 17.495	- / -	13,516 / 17.495
P-5	R09103 / Universal Battery Charger	P-5a			- / -	158 / 1.898	740 / 8.456	1,128 / 9.865	- / -	1,128 / 9.865
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				- / -	<b>3,250 / 6.431</b>	<b>18,480 / 30.774</b>	<b>14,896 / 31.364</b>	- / -	<b>14,896 / 31.364</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 \$31.364M procure and field integrated power and data managing devices and battery chargers along with associated equipment in support of SFABs and Integrated Tactical Network fieldings.  
 Funds also support new production of the Platoon Power Generators for testing and subsequent fielding to Airborne and Special Forces units.

The increased digital capability of electronic devices generates an increased demand for power on the battlefield. Additional batteries add weight and consume more space in the combat load. Mobile Soldier devices meet the demand for increased power, while taking advantage of emerging COTs and GOTs solutions. These solutions reduce the logistical burden on the soldier to facilitate a 72hrs of mission before resupply. Soldier and small unit power systems reduce the number of logistical convoys pushing supplies to the forward edge of the battlefield and associated cost and risk involved with battery and fuel resupply missions.

"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 / 03 / 25	<b>P-1 Line Item Number / Title:</b> 8827R80800 / Mobile Soldier Power	<b>Item Number / Title [DODIC]:</b> R07091 / Platoon Power Generator

<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)	-	-	-	252	-	252
Gross/Weapon System Cost (\$ in Millions)	-	-	-	4.004	-	4.004
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	-	-	-	4.004	-	4.004
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	-	-	-	<b>4.004</b>	-	<b>4.004</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)	-	-	-	15.889	-	15.889

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																		
PPG <sup>(†)</sup>	-	-	-	-	-	-	-	-	-	9.214	252	2.322	-	-	-	9.214	252	2.322
1. Engineering Support	-	-	-	-	-	-	-	-	-	-	-	0.380	-	-	-	-	-	0.380
2. Endengineering Change Orders	-	-	-	-	-	-	-	-	-	-	-	0.175	-	-	-	-	-	0.175
3. Testing	-	-	-	-	-	-	-	-	-	-	-	0.325	-	-	-	-	-	0.325
4. System Fielding Support	-	-	-	-	-	-	-	-	-	-	-	0.035	-	-	-	-	-	0.035
5. Logistics Support	-	-	-	-	-	-	-	-	-	-	-	0.352	-	-	-	-	-	0.352
6. Data	-	-	-	-	-	-	-	-	-	-	-	0.045	-	-	-	-	-	0.045
7. PM Management Support	-	-	-	-	-	-	-	-	-	-	-	0.370	-	-	-	-	-	0.370
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	4.004	-	-	-	-	-	4.004
<i>Subtotal: Flyaway Cost</i>	-	-	-	-	-	-	-	-	-	-	-	4.004	-	-	-	-	-	4.004
<b>Gross/Weapon System Cost</b>	-	-	-	-	-	-	-	-	-	15.889	252	4.004	-	-	-	15.889	252	4.004

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	-	-	252	-	252
	Total Obligation Authority	-	-	4.004	-	4.004

**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 / 03 / 25		<b>P-1 Line Item Number / Title:</b> 8827R80800 / Mobile Soldier Power		<b>Item Number / Title [DODIC]:</b> R07091 / Platoon Power Generator		
<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>	-	-	252	-	252
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	-	-	4.004	-	4.004

(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
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<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 03 / 25	<b>P-1 Line Item Number / Title:</b> 8827R80800 / Mobile Soldier Power	<b>Item Number / Title [DODIC]:</b> R07091 / Platoon Power Generator
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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
PPG		2020	TBD / TBD	C / TBD	Picatinny	Jun 2020	Mar 2021	252	9.214	N		

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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 / 03 / 25	<b>P-1 Line Item Number / Title:</b> 8827R80800 / Mobile Soldier Power	<b>Item Number / Title [DODIC]:</b> R08090 / Integrated Soldier Power Data System - Core

<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)	-	3,092	17,740	13,516	-	13,516
Gross/Weapon System Cost (\$ in Millions)	-	4.533	22.318	17.495	-	17.495
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	-	4.533	22.318	17.495	-	17.495
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	-	<b>4.533</b>	<b>22.318</b>	<b>17.495</b>	-	<b>17.495</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)	-	1.466	1.258	1.294	-	1.294

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																		
Non Recurring Cost																		
Soldier Power Hardware <sup>(†)</sup>	-	-	-	1.044	2,916	3.043	1.136	16,895	19.190	1.172	13,516	15.834	-	-	-	1.172	13,516	15.834
Sys Eng/Program Management	-	-	-	-	-	1.367	-	-	1.963	-	-	1.086	-	-	-	-	-	1.086
System Fielding and Support	-	-	-	-	-	0.122	-	-	1.162	-	-	0.575	-	-	-	-	-	0.575
<i>Subtotal: Non Recurring Cost</i>	-	-	-	-	-	4.533	-	-	22.318	-	-	17.502	-	-	-	-	-	17.502
<i>Subtotal: Flyaway Cost</i>	-	-	-	-	-	4.533	-	-	22.318	-	-	17.502	-	-	-	-	-	17.502
<b>Gross/Weapon System Cost</b>	-	-	-	1.466	3,092	4.533	1.258	17,740	22.318	1.294	13,516	17.495	-	-	-	1.294	13,516	17.495

<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	3,092	8,436	6,428	-	6,428
	Total Obligation Authority	4.533	10.613	8.320	-	8.320
ANG	Quantity	-	9,304	7,088	-	7,088
	Total Obligation Authority	-	11.705	9.175	-	9.175
<b>Total:</b>	<b>Quantity</b>	<b>3,092</b>	<b>17,740</b>	<b>13,516</b>	-	<b>13,516</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 / 03 / 25	<b>P-1 Line Item Number / Title:</b> 8827R80800 / Mobile Soldier Power	<b>Item Number / Title [DODIC]:</b> R08090 / Integrated Soldier Power Data System - Core

<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	4.533	22.318	17.495	-	17.495

(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 / 03 / 25			<b>P-1 Line Item Number / Title:</b> 8827R80800 / Mobile Soldier Power				<b>Item Number / Title [DODIC]:</b> R08090 / Integrated Soldier Power Data System - Core				

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
Soldier Power Hardware		2018	Secure Communications / Santa Ana, CA	MIPR	DLA	Oct 2017	Apr 2018	2,916	1.044	N		
Soldier Power Hardware		2019	Secure Communications / Santa Ana, CA	MIPR	TBD	Dec 2018	Jun 2019	16,895	1.136	N		
Soldier Power Hardware		2020	Secure Communications / Santa Ana, CA	MIPR	TBD	Dec 2019	Jun 2020	13,516	1.172	N		

**Remarks:**  
P-21 not required. Program funding procures commercial off the shelf items for the Integrated Soldier Power Data System.

**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 / 03 / 25	<b>P-1 Line Item Number / Title:</b> 8827R80800 / Mobile Soldier Power	<b>Item Number / Title [DODIC]:</b> R09103 / Universal Battery Charger

<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> )	-	158	740	1,128	-	1,128
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	-	1.898	8.456	9.865	-	9.865
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	-	1.898	8.456	9.865	-	9.865
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	-	<b>1.898</b>	<b>8.456</b>	<b>9.865</b>	-	<b>9.865</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> )	-	12.013	11.427	8.746	-	8.746

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																		
Universal Battery Charger (UBC) Hardware <sup>(†)</sup>	-	-	-	5.415	234	1.267	5.091	198	1.008	6.894	1,128	7.776	-	-	-	6.894	1,128	7.776
UBC Fielding and Support	-	-	-	-	-	0.086	-	-	1.562	-	-	0.006	-	-	-	-	-	0.006
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	1.353	-	-	2.570	-	-	7.782	-	-	-	-	-	7.782
Non Recurring Cost																		
UBC Vehicle Integration	-	-	-	-	-	0.183	-	-	3.747	-	-	-	-	-	-	-	-	-
System Engineering/ Program Management	-	-	-	-	-	0.362	-	-	2.139	-	-	2.083	-	-	-	-	-	2.083
<i>Subtotal: Non Recurring Cost</i>	-	-	-	-	-	0.545	-	-	5.886	-	-	2.083	-	-	-	-	-	2.083
<i>Subtotal: Hardware Cost</i>	-	-	-	-	-	<b>1.898</b>	-	-	<b>8.456</b>	-	-	<b>9.865</b>	-	-	-	-	-	<b>9.865</b>
<b>Gross/Weapon System Cost</b>	-	-	-	<b>12.013</b>	<b>158</b>	<b>1.898</b>	<b>11.427</b>	<b>740</b>	<b>8.456</b>	<b>8.746</b>	<b>1,128</b>	<b>9.865</b>	-	-	-	<b>8.746</b>	<b>1,128</b>	<b>9.865</b>

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	158	740	564	-	564
	Total Obligation Authority	1.898	8.456	4.932	-	4.932
ANG	Quantity	-	-	564	-	564



**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 03 / 25	<b>P-1 Line Item Number / Title:</b> 8827R80800 / Mobile Soldier Power	<b>Item Number / Title [DODIC]:</b> R09103 / Universal Battery Charger
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**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>
Total Obligation Authority	-	-	4.933	-	4.933
<b>Total:</b>					
<b>Secondary Distribution</b>					
Quantity	158	740	1,128	-	1,128
Total Obligation Authority	1.898	8.456	9.865	-	9.865

(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 / 03 / 25	<b>P-1 Line Item Number / Title:</b> 8827R80800 / Mobile Soldier Power	<b>Item Number / Title [DODIC]:</b> R09103 / Universal Battery Charger
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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
Universal Battery Charger (UBC) Hardware		2018	Thales Defense / Arlington, VA	MIPR	Defense Logistic Agency	Aug 2018	Nov 2018	234	5.415	N		
Universal Battery Charger (UBC) Hardware		2019	Thales Defense / Arlington, VA	MIPR	TBD	Aug 2019	Nov 2019	198	5.091	N		
Universal Battery Charger (UBC) Hardware		2020	Thales Defense / Arlington, VA	TBD	TBD	Aug 2020	Aug 2020	1,128	6.894	N		

**Remarks:**  
P-21 not required. Program funding procures commercial off the shelf items for the Universal Battery Charger.

**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 03: Other Support Equipment / BSA 25: Combat Service Support Equipment	<b>P-1 Line Item Number / Title:</b> 8860M80200 / Force Provider
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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> )	12	0	12	-	12	12	12	-	-	-	-	48
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	1,136.686	-	55.800	-	56.400	56.400	56.400	-	-	-	-	1,305.286
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	1,136.686	-	55.800	-	56.400	56.400	56.400	-	-	-	-	1,305.286
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>1,136.686</b>	<b>-</b>	<b>55.800</b>	<b>-</b>	<b>56.400</b>	<b>56.400</b>	<b>56.400</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>1,305.286</b>

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

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	94,723.833	-	4,650.000	-	4,700.000	4,700.000	4,700.000	-	-	-	-	27,193.458

**Description:**

Force Provider is a fully integrated system providing critical basic life support for Soldiers deployed in remote areas. A Force Provider module provides billeting, field feeding and hygiene capabilities that include all the integrated utilities to include climate control, power generation, water and waste water systems, and fuel storage. A typical Force Provider module is capable of sustaining 150 personnel. Force Provider is fully containerized for rapid deployment and is transportable by rail, sea, land, and air using C-130, C-17 or C-5A aircraft. With the addition of Cold Weather Kits (CWKs), the module is deployable in temperatures as low as -15 degrees Fahrenheit. Missions for Force Provider are: Base camps for enforcement missions, peace keeping, theater reception/redeployment, intermediate staging base operations, humanitarian aid and disaster relief (both in theater and in austere environments). Force Provider modules are placed in Prepositioned Stocks to meet critical Operational Plan requirements of the Army Service Component Commands (ASCC). Each Force Provider module is configured in 150-Soldier or 50/75-Soldier expeditionary subsets that are capable of operating independently as mission requirements dictate. These systems are configured with optional Resource and Energy Efficiency Kits, Power Generation and Distribution Kits, Cold Weather Kits and Prime Power Kits which increase their deployment versatility. The Army Acquisition Objective for Force Provider is 226 each 150-Soldier modules and 20 each 50/75 Soldier modules. Twenty four of the 150-Soldier Modules will be equipped with energy-efficient Rigid-Walled Shelters in lieu of the standard soft-walled shelters.

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	0	12	12	12	-	-	-
Total Obligation Authority	-	55.800	0.000	56.400	56.400	56.400	-	-	-
<b>Total:</b>									
<b>Secondary Distribution</b>									
Quantity	-	12	0	12	12	12	-	-	-
Total Obligation Authority	-	55.800	-	56.400	56.400	56.400	-	-	-

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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 03: Other Support Equipment / BSA 25: Combat Service Support Equipment **P-1 Line Item Number / Title:** 8860M80200 / Force Provider

**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	M80200 / Force Provider	P-5a, P-21			12 / 1,136.686	0 / -	12 / 55.800	- / -	12 / 56.400	12 / 56.400
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>12 / 1,136.686</b>	<b>0 / -</b>	<b>12 / 55.800</b>	<b>- / -</b>	<b>12 / 56.400</b>	<b>12 / 56.400</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:**  
 FY 20 OCO procurement dollars in the amount of \$56.400 million supports the production of 12 Force Provider 150-Soldier equivalent systems, 6 Power Generation and Distribution Kits, and 3 Expeditionary TRICON Kits to replace battle losses. The Power Generation and Distribution kits and TRICON kits are subcomponents in Force Provider.

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 / 03 / 25						<b>P-1 Line Item Number / Title:</b> 8860M80200 / Force Provider					<b>Item Number / Title [DODIC]:</b> M80200 / Force Provider						
<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)				12		0		12		-		12		12			
Gross/Weapon System Cost (\$ in Millions)				1,136.686		-		55.800		-		56.400		56.400			
Less PY Advance Procurement (\$ in Millions)				-		-		-		-		-		-			
Net Procurement (P-1) (\$ in Millions)				1,136.686		-		55.800		-		56.400		56.400			
Plus CY Advance Procurement (\$ in Millions)				-		-		-		-		-		-			
<b>Total Obligation Authority (\$ in Millions)</b>				<b>1,136.686</b>		<b>-</b>		<b>55.800</b>		<b>-</b>		<b>56.400</b>		<b>56.400</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)				94,723.833		-		4,650.000		-		4,700.000		4,700.000			

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 Force Provider Module <sup>(t)</sup>	27,448.500	28	768.558	-	-	-	4,006.000	12	48.072	-	-	-	4,089.000	12	49.068	4,089.000	12	49.068
Hardware Power Generation and Distribution Kit	5,835.296	27	157.553	-	-	-	326.000	6	1.956	-	-	-	329.000	6	1.974	329.000	6	1.974
Hardware Expeditionary TRICON Set	6,753.852	27	182.354	-	-	-	390.000	3	1.170	-	-	-	400.000	3	1.200	400.000	3	1.200
Hardware Spare Parts	-	-	2.691	-	-	-	-	-	0.335	-	-	-	-	-	0.340	-	-	0.340
System Engineering/ Program Management	-	-	7.340	-	-	-	-	-	1.050	-	-	-	-	-	1.100	-	-	1.100
Data	-	-	4.225	-	-	-	-	-	0.175	-	-	-	-	-	0.175	-	-	0.175
Fielding	-	-	6.295	-	-	-	-	-	0.267	-	-	-	-	-	0.270	-	-	0.270
Testing	-	-	0.295	-	-	-	-	-	0.150	-	-	-	-	-	-	-	-	-
Logistics	-	-	3.197	-	-	-	-	-	0.175	-	-	-	-	-	0.175	-	-	0.175
System Technical Support	-	-	4.178	-	-	-	-	-	2.450	-	-	-	-	-	2.098	-	-	2.098
<i>Subtotal: Recurring Cost</i>	-	-	1,136.686	-	-	-	-	-	55.800	-	-	0.000	-	-	56.400	-	-	56.400
<i>Subtotal: Flyaway Cost</i>	-	-	1,136.686	-	-	-	-	-	55.800	-	-	0.000	-	-	56.400	-	-	56.400
<b>Gross/Weapon System Cost</b>	<b>94,723.833</b>	<b>12</b>	<b>1,136.686</b>	<b>-</b>	<b>0</b>	<b>-</b>	<b>4,650.000</b>	<b>12</b>	<b>55.800</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>4,700.000</b>	<b>12</b>	<b>56.400</b>	<b>4,700.000</b>	<b>12</b>	<b>56.400</b>

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<b>Exhibit P-5, Cost Analysis:</b> PB 2020 Army	<b>Date:</b> March 2019
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<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 03 / 25	<b>P-1 Line Item Number / Title:</b> 8860M80200 / Force Provider	<b>Item Number / Title [DODIC]:</b> M80200 / Force Provider
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<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
Army	Quantity	-	12	0	12	12
	Total Obligation Authority	-	55.800	0.000	56.400	56.400
<b>Total:</b>	<b>Quantity</b>	<b>0</b>	<b>12</b>	<b>-</b>	<b>12</b>	<b>12</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>-</b>	<b>55.800</b>	<b>-</b>	<b>56.400</b>	<b>56.400</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 / 03 / 25	<b>P-1 Line Item Number / Title:</b> 8860M80200 / Force Provider	<b>Item Number / Title [DODIC]:</b> M80200 / Force Provider
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Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty <i>(Each)</i>	Unit Cost <i>(\$ K)</i>	Specs Avail Now?	Date Revision Available	RFP Issue Date
Hardware Force Provider Module <sup>(†)</sup>		2019	Letterkenny Army Depot / Chambersburg, PA	SS / FFP	Natick, MA	Apr 2019	Jan 2020	12	4,006.000	Y	Jun 2017	Jun 2017
Hardware Force Provider Module <sup>(†)</sup>	✓	2020	Letterkenny Army Depot / Chambersburg, PA	SS / FFP	Natick, MA	Apr 2020	Jan 2021	12	4,089.000	Y	Jun 2017	Jun 2017

<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 / 03 / 25	<b>P-1 Line Item Number / Title:</b> 8860M80200 / Force Provider	<b>Item Number / Title [DODIC]:</b> M80200 / Force Provider
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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
Hardware Force Provider Module																															
Prior Years Deliveries: 28																															
	1	2019	ARMY	12	12	0																							0		
✓	1	2020	ARMY	12	0	12	-	-	-	4	-	4	-	4															0		
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 03 / 25	<b>P-1 Line Item Number / Title:</b> 8860M80200 / Force Provider	<b>Item Number / Title [DODIC]:</b> M80200 / Force Provider
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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	Letterkenny Army Depot - Chambersburg, PA	4	12	24	0	6	9	15	0	3	9	12

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

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

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

**Appropriation / Budget Activity / Budget Sub Activity:**  
2035A: Other Procurement, Army / BA 03: Other Support Equipment / BSA 25: Combat Service Support Equipment

**P-1 Line Item Number / Title:**  
9120M65800 / Field Feeding Equipment

**ID Code** (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0604713A

**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> )	133	78	107	26	-	26	2	1	-	-	-	347
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	548.375	15.485	18.556	1.673	-	1.673	0.880	0.440	-	-	-	585.409
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	548.375	15.485	18.556	1.673	-	1.673	0.880	0.440	-	-	-	585.409
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>548.375</b>	<b>15.485</b>	<b>18.556</b>	<b>1.673</b>	<b>-</b>	<b>1.673</b>	<b>0.880</b>	<b>0.440</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>585.409</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> )	4,123.120	198.526	173.421	64.346	-	64.346	440.000	440.000	-	-	-	1,687.058

**Description:**

The Field Feeding and Refrigeration program provides equipment to conduct tactical food service operations. Field Feeding is a combat multiplier which improves morale and enhances the Soldier's physical and cognitive capabilities. Associated with food service operations are storage, preparation, serving and cleanup. Equipment items include: field kitchens, food sanitation centers, and refrigerated containers. This program supports the production of the Battlefield Kitchen that will replace the over-age and outdated Mobile Kitchen Trailer (MKT) as the Army's mid-sized kitchen. The Battlefield Kitchen will provide units with a modern, safer, and more operationally and energy efficient capability. It is designed for today's rations and tactical prime movers that meet Army requirements for improved mobility, survivability, and deployability. This program supports production of the Multi Temperature Refrigerated Container System (MTRCS), Assault Kitchen (AK), Containerized Kitchen (CK) and Field Feeding Sanitation Center (FSC). This equipment in conjunction with food service personnel and field rations, comprises the Army Field Feeding System (AFFS) which supports the Army standard of a minimum of one hot prepared meal per day in the field. This program provides a critical capability that supports Army transformation and modularity concept while maintaining readiness through fielding and integration of new equipment. It enhances the field Soldier's well being and reduces requirements for related lift demands, combat zone footprint, and logistical support costs. AAO is as the following:

1. AK = 1527
2. BK = 1606
3. MTRCS = 2024
4. CK = 1033
5. FSC = 2528

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	52	-	-	-	2	1	-	-
	Total Obligation Authority	11.468	13.969	-	-	-	0.880	0.440	-	-
ANG	Quantity	63	55	26	-	26	-	-	-	-
	Total Obligation Authority	4.017	4.587	1.673	-	1.673	-	-	-	-
<b>Total:</b>	<b>Quantity</b>	<b>78</b>	<b>107</b>	<b>26</b>	<b>-</b>	<b>26</b>	<b>2</b>	<b>1</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 03: Other Support Equipment / BSA 25: Combat Service Support Equipment	<b>P-1 Line Item Number / Title:</b> 9120M65800 / Field Feeding 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> 0604713A
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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	15.485	18.556	1.673	-	1.673	0.880	0.440	-	-

**Justification:**  
 FY 2020 Base procurement dollars in the amount of \$1.673 million supports production of 26 Assault Kitchens (AKs) to support company level feeding in light through heavy forces.

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 03: Other Support Equipment / BSA 25: Combat Service Support Equipment	<b>P-1 Line Item Number / Title:</b> 9140MA7804 / Cargo Aerial Del & Personnel Parachute 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> )	983	2,946	5,515	8,167	33	8,200	8,773	9,195	9,800	8,326	-	53,738
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	614.990	32.587	46.835	43.622	2.040	45.662	55.117	47.805	39.849	39.017	-	921.862
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	614.990	32.587	46.835	43.622	2.040	45.662	55.117	47.805	39.849	39.017	-	921.862
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>614.990</b>	<b>32.587</b>	<b>46.835</b>	<b>43.622</b>	<b>2.040</b>	<b>45.662</b>	<b>55.117</b>	<b>47.805</b>	<b>39.849</b>	<b>39.017</b>	<b>-</b>	<b>921.862</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> )	625.626	11.061	8.492	5.341	61.818	5.569	6.283	5.199	4.066	4.686	-	17.155

**Description:**

The Advanced Tactical Parachute System (ATPS) is the Army's next generation parachute system for personnel static line airdrop operations and consists of the T-11 (non-steerable) and MC-6 (steerable) systems. The T-11 consists of an integrated harness, reserve parachute and the T-11 main canopy for mass tactical static line airdrop operations. The T-11 replaced the T-10 main canopy, the Modified Improved Reserve Parachute System (MIRPS) and the existing parachute harness. The total Army Acquisition Objective (AAO) of 43,708 has been procured. Fielding was completed in FY15. The MC-6 consists of the same reserve and harness as the T-11 and the MC-6 main steerable canopy. The MC-6 replaced the MC-1. The total MC-6 AAO of 25,649 has been procured and fielding was completed in FY14.

-Parachutes provided to the field during the initial fielding of the MC-6 and T-11 are reaching the end of their service life and replacement systems are being procured to maintain units' mission readiness. Both the T-11 and MC-6 are Class VII items centrally funded and controlled, and as such replacement systems are procured and fielded to operational units by the Project Manager through multi-year contracts.

-The RA-1 Parachute System is replacing the current MC-4 ram air parachute system with a multi-mission High Altitude Low Opening (HALO) and High Altitude High Opening (HAHO) standoff capability, that also provides a static line deployed ram air parachute insertion capability. The RA-1 allows personnel to exit at altitudes between 3,500 ft to 35,000 ft Mean Sea Level with a total jumper weight of 450 lbs. The AAO is 5,470 and is being procured from FY14 through FY21. Additionally, 600 RA-1 systems will have to be procured in FY20 to replace the systems initially fielded to the Special Warfare Center and School (SWCS) that are reaching the end of their service life".

-The Parachutist Navigation System (PARANAVSYS) provides a Global Positioning System (GPS) capability for the RA-1 free-fall parachutists. Procurement begins in 2019 (new start) with an AAO of 1,887.

-Joint Precision Air Drop System (JPADS) represents the DoD's next generation of cargo aerial delivery. The system provides autonomous guidance of loads dropped from altitudes up to 25,000 feet Mean Sea Level (MSL) at increments of 2,000 (2K) and 10,000 (10K) pounds. JPADS will allow precise delivery of critical supplies to the Warfighter on the ground while allowing aircraft delivering payloads to fly at significantly safer altitudes. This line includes both 2K and 10K procurement. AAO for JPADS 2K systems is 1,557 and the AAO for 10K systems is 467.

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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 03: Other Support Equipment / BSA 25: Combat Service Support Equipment **P-1 Line Item Number / Title:** 9140MA7804 / Cargo Aerial Del & Personnel Parachute 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	MA7801 / Advanced Tactical Parachute System				865 / 455.802	2,898 / 28.440	5,454 / 41.104	8,167 / 43.622	- / -	8,167 / 43.622
P-5	MA7806 / Precision Airdrop	P-5a			118 / 159.188	48 / 4.147	61 / 5.731	- / -	33 / 2.040	33 / 2.040
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>983 / 614.990</b>	<b>2,946 / 32.587</b>	<b>5,515 / 46.835</b>	<b>8,167 / 43.622</b>	<b>33 / 2.040</b>	<b>8,200 / 45.662</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 20 Base procurement dollars in the amount of \$43.622 million supports the procurement of MC-6 (3,463), RA-1 (200), T-11 (4,846), T-11R Pack Trays (5,018), and PARANAVSYS RTK (95). The FY20 quantity shown in above table for MA7801 reflects the numbers for MC-6, T-11 and RA-1 systems only.

FY 2020 OCO procurement dollars in the amount of \$2.040 million supports production of an additional 33 Joint Precision Airdrop 2K partial systems consisting of Modular Autonomous Guidance Unit (MAGU) and harness to replace battle losses.

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 / 03 / 25		<b>P-1 Line Item Number / Title:</b> 9140MA7804 / Cargo Aerial Del & Personnel Parachute Systems
		<b>Item Number / Title [DODIC]:</b> MA7801 / Advanced Tactical Parachute 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)		865	2,898	5,454	8,167	-	8,167
Gross/Weapon System Cost (\$ in Millions)		455.802	28.440	41.104	43.622	-	43.622
Less PY Advance Procurement (\$ in Millions)		-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)		455.802	28.440	41.104	43.622	-	43.622
Plus CY Advance Procurement (\$ in Millions)		-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>		<b>455.802</b>	<b>28.440</b>	<b>41.104</b>	<b>43.622</b>	<b>-</b>	<b>43.622</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)	526.939	9.814	7.536	5.341	-	5.341	

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

Cost Elements	Prior Years			FY 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																		
Program Support (PM, Engineering, Logistics)	-	-	12.000	-	-	2.000	-	-	5.076	-	-	2.003	-	-	-	-	-	2.003
New Equipment Training	39,732.500	2	79.465	2,276.000	1	2.276	4,749.000	1	4.749	-	-	4.100	-	-	-	-	-	4.100
T-11	4.481	43,708	195.843	4.000	2,175	8.700	4.000	4,200	16.800	4.000	4,846	19.384	-	-	-	4.000	4,846	19.384
T-11R Pack Tray	-	-	-	0.200	10,010	2.002	-	-	-	0.200	5,018	1.004	-	-	-	0.200	5,018	1.004
MC-6	5.081	25,257	128.327	3.013	1,278	3.851	3.800	2,922	11.104	3.800	3,463	13.159	-	-	-	3.800	3,463	13.159
RA-1 (ARAPS)	10.464	3,479	36.405	13.980	640	8.947	15.394	200	3.079	13.095	200	2.619	-	-	-	13.095	200	2.619
RA-1 SPARE PARTS	1,881.000	2	3.762	664.000	1	0.664	-	-	0.100	-	-	0.194	-	-	-	-	-	0.194
PARANAVSYS RTK	-	-	-	-	-	-	12.211	14	0.171	12.200	95	1.159	-	-	-	12.200	95	1.159
PARANAVSYS Protective Cases	-	-	-	-	-	-	0.648	39	0.025	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	455.818	-	-	28.440	-	-	41.104	-	-	43.622	-	-	-	-	-	43.622
<i>Subtotal: Flyaway Cost</i>	-	-	455.818	-	-	28.440	-	-	41.104	-	-	43.622	-	-	-	-	-	43.622
<b>Gross/Weapon System Cost</b>	<b>526.939</b>	<b>865</b>	<b>455.802</b>	<b>9.814</b>	<b>2,898</b>	<b>28.440</b>	<b>7.536</b>	<b>5,454</b>	<b>41.104</b>	<b>5.341</b>	<b>8,167</b>	<b>43.622</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>5.341</b>	<b>8,167</b>	<b>43.622</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 / 03 / 25	<b>P-1 Line Item Number / Title:</b> 9140MA7804 / Cargo Aerial Del & Personnel Parachute Systems	<b>Item Number / Title [DODIC]:</b> MA7806 / Precision Airdrop

<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)		118	48	61	-	33	33
Gross/Weapon System Cost (\$ in Millions)		159.188	4.147	5.731	-	2.040	2.040
Less PY Advance Procurement (\$ in Millions)		-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)		159.188	4.147	5.731	-	2.040	2.040
Plus CY Advance Procurement (\$ in Millions)		-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>		<b>159.188</b>	<b>4.147</b>	<b>5.731</b>	<b>-</b>	<b>2.040</b>	<b>2.040</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)	1,349.051	86.396	93.951	-	61.818	61.818

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 JPADS 2K <sup>(†)</sup>	359.810	205	73.761	33.000	60	1.980	33.000	60	1.980	-	-	-	33.939	33	1.120	33.939	33	1.120
Hardware Spares JPADS 2K	-	-	0.096	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sys Test & Evaluate, Production JPADS 2K	-	-	0.056	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sys Engineer/Program Mgt JPADS 2K	-	-	0.033	-	-	-	-	-	-	-	-	-	-	-	0.470	-	-	0.470
Fielding/Training JPADS 2K	-	-	0.043	-	-	-	-	-	-	-	-	-	-	-	0.450	-	-	0.450
Data JPADS 2K	-	-	0.059	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Engineering Changes JPADS 2K	-	-	0.050	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CLS/Shipping JPADS 2K	-	-	0.046	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hardware JPADS 10K <sup>(†)</sup>	561.327	98	55.010	97.000	15	1.455	100.000	28	2.800	-	-	-	-	-	-	-	-	-
System Test & Evaluation, Production	-	-	5.460	-	-	0.186	-	-	0.140	-	-	-	-	-	-	-	-	-
Engineering Changes	-	-	5.849	-	-	0.135	-	-	0.140	-	-	-	-	-	-	-	-	-
Fielding/Training	-	-	6.109	-	-	0.180	-	-	0.196	-	-	-	-	-	-	-	-	-



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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 / 03 / 25	<b>P-1 Line Item Number / Title:</b> 9140MA7804 / Cargo Aerial Del & Personnel Parachute Systems	<b>Item Number / Title [DODIC]:</b> MA7806 / Precision Airdrop
<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)
System Engineering/ Program Management	-	-	5.565	-	-	0.058	-	-	0.070	-	-	-	-	-	-	-	-	-
Data	-	-	5.252	-	-	0.067	-	-	0.115	-	-	-	-	-	-	-	-	-
Spares	-	-	1.168	-	-	0.040	-	-	0.168	-	-	-	-	-	-	-	-	-
CLS/Shipping	-	-	0.631	-	-	0.046	-	-	0.122	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	<i>159.188</i>	-	-	<i>4.147</i>	-	-	<i>5.731</i>	-	-	<i>0.000</i>	-	-	<i>2.040</i>	-	-	<i>2.040</i>
<i>Subtotal: Flyaway Cost</i>	-	-	<i>159.188</i>	-	-	<i>4.147</i>	-	-	<i>5.731</i>	-	-	<i>0.000</i>	-	-	<i>2.040</i>	-	-	<i>2.040</i>
<b>Gross/Weapon System Cost</b>	<b>1,349.051</b>	<b>118</b>	<b>159.188</b>	<b>86.396</b>	<b>48</b>	<b>4.147</b>	<b>93.951</b>	<b>61</b>	<b>5.731</b>	-	-	-	<b>61.818</b>	<b>33</b>	<b>2.040</b>	<b>61.818</b>	<b>33</b>	<b>2.040</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 / 03 / 25			<b>P-1 Line Item Number / Title:</b> 9140MA7804 / Cargo Aerial Del & Personnel Parachute Systems				<b>Item Number / Title [DODIC]:</b> MA7806 / Precision Airdrop					

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 JPADS 2K		2018	TBD / TBD	C / IDIQ	RDECOM, Natick MA	Feb 2018	Jul 2018	60	33.000	Y		Jun 2014
Hardware JPADS 2K		2019	TBD / TBD	C / IDIQ	RDECOM, Natick MA	Feb 2019	Jul 2019	60	33.000	Y		Jun 2014
Hardware JPADS 2K	✓	2020	TBD / TBD	C / IDIQ	RDECOM, Natick, MA	Mar 2020	Aug 2020	33	33.939	Y		Jun 2014
Hardware JPADS 10K		2018	Airborne Systems NA / Pennsauken, NJ	C / IDIQ	RDECOM, Natick, MA	Mar 2018	Aug 2018	15	97.000	Y		Sep 2013
Hardware JPADS 10K		2019	Airborne Systems NA / Pennsauken, NJ	C / IDIQ	RDECOM, Natick, MA	Mar 2019	Aug 2019	28	100.000	Y		

**Remarks:**  
JPADS 2K contract is an IDIQ with multiple vendors with each delivery order completed amongst the qualified vendors.

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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 03: Other Support Equipment / BSA 25: Combat Service Support Equipment	<b>P-1 Line Item Number / Title:</b> 9462R70001 / Family Of Engr Combat and Construction Sets
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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> )	340	167	140	302	-	302	706	981	-	-	-	2,636
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	237.182	10.426	15.978	11.451	-	11.451	23.348	30.436	-	-	-	328.821
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	237.182	10.426	15.978	11.451	-	11.451	23.348	30.436	-	-	-	328.821
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>237.182</b>	<b>10.426</b>	<b>15.978</b>	<b>11.451</b>	<b>-</b>	<b>11.451</b>	<b>23.348</b>	<b>30.436</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>328.821</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> )	697.594	62.431	114.129	37.917	-	37.917	33.071	31.025	-	-	-	124.742

**Description:**

The Family Of Engineering Combat and Construction Sets (ECACS) is a family of systems that will support combat operations by construction engineer teams in urban, rural, and subterranean and dense environments. ECACS sets utilized in the range of urban environments will aid in detection, protection, surveillance, monitoring, evacuation and clearing. ECACS sets utilized in the range rural environments will allow clearing and troop mobility support areas to include airfields, ports, facilities, and roads.

The Engineer Equipment Set: Urban Operations, Platoon Set (UOpPS) consists of high technology equipment that provides Soldiers with enhanced capabilities to perform missions in urbanized or complex terrain. It provides engineers and Soldiers with specialized tools enabling them to conduct operations in urban environments in a safe, more expedient manner. The components include remote viewing instruments, detectors for explosives and gases, portable welders, metal cutting torches, rescue tools, winch, and battery operated drills and saws. The set standardizes tools, reducing logistical support and provides a Type Classified (TC)-standard Army system. Army Acquisition Objective (AAO) for Urban Operations, Platoon Set (UOpPS) is 1177.

The Engineer Equipment Set: Urban Operations, Squad Set (UOpSS) consists of equipment that provides Soldiers with enhanced capabilities to perform missions in urbanized or complex terrain. Components include portable blast shield, collapsible lightweight assault ladders, mechanical entry tools, and rappelling gear. This set supports dismounted engineer Soldiers and others in conducting Military Operations in Urban Terrain (MOUT). The set standardizes tools, reducing logistical support and provides a Type Classified (TC)-standard Army system.

Army Acquisition Objective (AAO) for Urban Operations, Squad Set (UOpSS) is 1841.

Vertical Skills Engineer Construction Kits (VSECK) has six types which each provide tools and power equipment to meet maintenance and construction mission requirements.

VSECK - Type I Carpenters Tool Kit Squad (CTKS) is a new configuration containing industrial quality hand tools, safety equipment, deployment bags and tool belts for up to eight Construction Engineers secured in a waterproof rapid inventory case. Hand tools include hammers, utility knives, chisels, punches, hacksaws, hand saws, pliers, screwdrivers, squares and tape measures. VSECK Type I replaces one legacy system through modernization, consolidation and optimization. The legacy system this replaces does not meet current mission requirements and does not have any warranty associated with the current components. . Army Acquisition Objective for Type I is 2452.

VSECK Type II Carpenters Supplemental Tool Kit (CSTK) is a new configuration containing battery powered & carpentry hand tools to increase productivity at remote sites supporting a platoon size element. The cordless tools are a minimum of 18v and standardized to use the same power source with a power management system capable of recharging multiple power sources simultaneously. Cordless power tools include: hammer drills, right angle drills, circular saws, jig saws and reciprocating saws. VSECK Type II replaces one legacy system through modernization, consolidation and optimization. The legacy system this replaces does not meet current mission requirements and does not have any warranty associated with the current components. Army Acquisition Objective for Type II is 624.

VSECK Type III Carpenters Tool Kit (CTK) is a new configuration containing commercial pneumatic, electric & hand carpentry tools that enable Soldiers to perform common carpentry tasks including construction

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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 03: Other Support Equipment / BSA 25: Combat Service Support Equipment		<b>P-1 Line Item Number / Title:</b> 9462R70001 / Family Of Engr Combat and Construction Sets

<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

of fighting positions, shelters, base camps, POW camps, temporary structures, bridges, ports & repair of existing structures. Tool load includes pneumatic nailer, blow gun, router, jig saw, 10" table saw, 10" circular saw, 14" cut off saw, 12" miter saw, nibbler, electric shears and tile cutter. VSECK Type III replaces one legacy system through modernization, consolidation and optimization. The legacy system this replaces does not meet current mission requirements and does not have any warranty associated with the current components. Army Acquisition Objective for Type III is 272.

VSECK Type IV Electricians Tool Kit (ETK) enables 3 electricians to perform construction & maintenance tasks related to distribution & transmission of electrical power: interior & exterior lighting, installation & repair of lighting & wiring aboard ships. Kit contains conduit benders, auger bits, pliers, knives, wood chisels, crimpers, tube & PVC cutters, key sets, levels multimeter, strippers, wrenches, ladders, electric saws & drills and flood lights. VSECK IV replaces one legacy system through modernization, consolidation and optimization. The legacy system this replaces does not meet current mission requirements and does not have any warranty associated with the current components. Army Acquisition Objective for Type IV is 834.

VSECK Type V Mason and Concrete Tool Kit (MCTK) includes brick hammers, levels, chalk line, rulers, plumb bobs, trowels, floats, bull floats, specialized floats, screeds, edger, groover, brooms, hoses & nozzles, mortar mixer, scaffolding, sealant sprayer, pliers, vibrator, cut-off saws, grinder, rebar cutters & benders, hacksaws, knee boards, mortar boards & stands, buckets, brushes, laser level, come-a-long, tarps, hoes, rakes & shovels. VSECK Type V replaces one legacy system through modernization, consolidation and optimization. The legacy system this replaces does not meet current mission requirements and does not have any warranty associated with the current components. Army Acquisition Objective for Type V is 538.

VSECK Type VI Plumbers and Pipefitters Tool Kit (PPTK) is specialized equipment required by a team of plumbers and pipefitters stock to perform construction and maintenance tasks working with metal, brass, aluminum, PVC or PEX. Contains hand tools enabling performance of individual & collective tasks related to heating & air conditioning, water distribution, waste water removal & solid waste removal. The tool load includes: hammers, hack saws, chisels, wrenches, pliers, putty knives, screwdrivers, saws, level plumb bob, tool box, ladder, powered saws & drills, pry & line up bars, tubing & pipe cutters, floodlight, key set, & plunger. VSECK VI replaces three legacy systems through modernization, consolidation and optimization. The legacy systems this replaces do not meet current mission requirements and do not have any warranty associated with the current components. Army Acquisition Objective for Type VI is 815.

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	149	89	149	-	149	277	456	-	-
	Total Obligation Authority	6.800	11.562	4.801	-	4.801	9.846	13.244	-	-
ANG	Quantity	10	51	75	-	75	137	174	-	-
	Total Obligation Authority	1.127	4.416	4.421	-	4.421	5.424	8.031	-	-
AR	Quantity	8	-	78	-	78	292	351	-	-
	Total Obligation Authority	2.499	-	2.229	-	2.229	8.078	9.161	-	-
<b>Total:</b>	<b>Quantity</b>	<b>167</b>	<b>140</b>	<b>302</b>	<b>-</b>	<b>302</b>	<b>706</b>	<b>981</b>	<b>-</b>	<b>-</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>10.426</b>	<b>15.978</b>	<b>11.451</b>	<b>-</b>	<b>11.451</b>	<b>23.348</b>	<b>30.436</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 03: Other Support Equipment / BSA 25: Combat Service Support Equipment

**P-1 Line Item Number / Title:**  
9462R70001 / Family Of Engr Combat and Construction Sets

**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	R70110 / HEPPOE	P-5a	A		62 / 112.749	10 / 3.124	4 / 5.374	- / -	- / -	- / -
P-5	R70120 / URBAN OPERATIONS, PLATOON SET	P-5a	A		60 / 61.206	17 / 3.235	24 / 6.747	12 / 2.043	- / -	12 / 2.043
P-5	R70130 / URBAN OPERATIONS, SQUAD SET	P-5a	A		102 / 60.206	31 / 1.335	63 / 1.680	40 / 3.299	- / -	40 / 3.299
P-5	R70170 / Vertical Skills Engr Const Kit: Type VI	P-5a	A		36 / 0.977	48 / 1.422	10 / 0.533	97 / 2.399	- / -	97 / 2.399
P-5	R70180 / Vertical Skills Engr Const Kit: Type V	P-5a	A		15 / 0.639	8 / 0.300	4 / 0.276	24 / 0.959	- / -	24 / 0.959
P-5	R70185 / Vertical Skills Engr Const Kit: Type IV	P-5a	A		10 / 0.294	13 / 0.277	4 / 0.341	33 / 0.809	- / -	33 / 0.809
P-5	R70195 / Vertical Skills Engr Const Kit: Type III	P-5a	A		15 / 0.473	11 / 0.290	5 / 0.266	15 / 0.505	- / -	15 / 0.505
P-5	R70196 / Vertical Skills Engr Const Kit: Type II	P-5a	A		14 / 0.350	14 / 0.274	10 / 0.467	38 / 0.841	- / -	38 / 0.841
P-5	R70198 / Vertical Skills Engr Const Kit: Type I	P-5a	A		26 / 0.288	15 / 0.169	16 / 0.294	43 / 0.596	- / -	43 / 0.596
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>340 / 237.182</b>	<b>167 / 10.426</b>	<b>140 / 15.978</b>	<b>302 / 11.451</b>	<b>- / -</b>	<b>302 / 11.451</b>

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

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

**Justification:**

FY20 base funding in the amount of \$2.043 million procures 12 Urban Operations Platoon Sets. The Engineer Equipment Set: Urban Operations, Platoon Set (UOpPS) uniquely fills capability gaps that exist at the platoon level for conducting operations in the range of urban environments. The specialized high technology tools included in this kit provide engineers, infantry, military police and other military units with enhanced capability to conduct operations in urban environments in a safe and expeditious manner. This set will standardize the tools used for conducting urban operations thereby reducing logistical support and provide a Type Classified (TC)-standard Army system.

FY20 base funding in the amount of \$3.299 million procures 40 Urban Operations Squad Sets. The Engineer Equipment Set: Urban Operations, Squad Set (UOpSS) uniquely fills capability gaps that exist at the squad level for conducting operations in the range of urban environments. The specialized low technology tools included in this set provide engineers, infantry, military police and other military units with enhanced capability to conduct operations in urban environments in a safe and expeditious manner. This set will standardize the tools used for conducting urban operations thereby reducing logistical support and provide a Type Classified (TC)-Army system.

FY20 base funding in the amount of \$0.596 million procures 43 Type I VSECK assets. Currently there is a large capability gap in the field that severely needs this materiel solution for a rapidly available, portable and modernized tool kit for the Engineer community. This will increase productivity, expand capabilities, reduce risk and will contribute to rapid mobility of Construction Engineers. Providing this capability to the Soldier will increase the Soldier's ability to complete the required missions, provide support to civil authorities and deter/defeat hybrid threats in support of the Army process.

FY20 base funding in the amount of \$0.841 million procures 38 Type II VSECK assets. Currently there is a large capability gap in the field that severely needs this materiel solution for a rapidly available, portable and modernized tool kit for the Engineer community. This will increase productivity, expand capabilities, reduce risk and will contribute to rapid mobility of Construction Engineers. Providing this capability to the Soldier will increase the Soldier's ability to complete the required missions, provide support to civil authorities and deter/defeat hybrid threats in support of the Army process.

FY20 base funding in the amount of \$0.505 million procures 15 Type III VSECK assets. Currently there is a large capability gap in the field that severely needs this materiel solution for a rapidly available, portable and modernized tool kit for the Engineer community. This will increase productivity, expand capabilities, reduce risk and will contribute to rapid mobility of Construction Engineers. Providing this capability to the soldier will increase the Soldier's ability to complete the required missions, provide support to civil authorities and deter/defeat hybrid threats in support of the Army process.

**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 03: Other Support Equipment / BSA 25: Combat Service Support Equipment		<b>P-1 Line Item Number / Title:</b> 9462R70001 / Family Of Engr Combat and Construction Sets
<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
<b>Line Item MDAP/MAIS Code:</b> N/A		
<p>FY20 base funding in the amount of \$0.809 million procures 33 Type IV VSECK assets. Currently there is a large capability gap in the field that severely needs this materiel solution for a rapidly available, portable and modernized tool kit for the Engineer community. This will increase productivity, expand capabilities, reduce risk and will contribute to rapid mobility of Construction Engineers. Providing this capability to the Soldier will increase the Soldier's ability to complete the required missions, provide support to civil authorities and deter/defeat hybrid threats in support of the Army process.</p> <p>FY20 base funding in the amount of \$0.959 million procures 24 Type V VSECK assets. Currently there is a large capability gap in the field that severely needs this materiel solution for a rapidly available, portable and modernized tool kit for the Engineer community. This will increase productivity, expand capabilities, reduce risk and will contribute to rapid mobility of Construction Engineers. Providing this capability to the Soldier will increase the Soldier's ability to complete the required missions, provide support to civil authorities and deter/defeat hybrid threats in support of the Army process</p> <p>FY20 base funding in the amount of \$2.399 million procures 97 Type VI VSECK assets. Currently there is a large capability gap in the field that severely needs this materiel solution for a rapidly available, portable and modernized tool kit for the Engineer community. This will increase productivity, expand capabilities, reduce risk and will contribute to rapid mobility of Construction Engineers. Providing this capability to the Soldier will increase the Soldier's ability to complete the required missions, provide support to civil authorities and deter/defeat hybrid threats in support of the Army process.</p> <p>In accordance with Section 1815 of the FY 2008 National Defense Authorization Act (P.L. 110-181), these items are necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities.</p>		

**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 / 03 / 25	<b>P-1 Line Item Number / Title:</b> 9462R70001 / Family Of Engr Combat and Construction Sets	<b>Item Number / Title [DODIC]:</b> R70110 / HEPPOE

<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)	62	10	4	-	-	-
Gross/Weapon System Cost (\$ in Millions)	112.749	3.124	5.374	-	-	-
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	112.749	3.124	5.374	-	-	-
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>112.749</b>	<b>3.124</b>	<b>5.374</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 (\$ in Millions)	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	1,818.532	312.400	1,343.500	-	-	-

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>																		
Program Management	-	-	11.937	-	-	0.847	-	-	0.214	-	-	-	-	-	-	-	-	-
Quality Assurance	-	-	3.984	-	-	0.027	-	-	-	-	-	-	-	-	-	-	-	-
Engineering	-	-	8.933	-	-	0.036	-	-	-	-	-	-	-	-	-	-	-	-
HEPPOE <sup>(f)</sup>	205.547	380	78.108	193.500	10	1.935	222.000	4	0.888	-	-	-	-	-	-	-	-	-
System Fielding Support	-	-	9.787	-	-	0.279	-	-	0.272	-	-	-	-	-	-	-	-	-
<b>Subtotal: Recurring Cost</b>	<b>-</b>	<b>-</b>	<b>112.749</b>	<b>-</b>	<b>-</b>	<b>3.124</b>	<b>-</b>	<b>-</b>	<b>1.374</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Non Recurring Cost</b>																		
Hydrologic Survey Vessels	-	-	-	-	-	-	-	-	4.000	-	-	-	-	-	-	-	-	-
<b>Subtotal: Non Recurring Cost</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>4.000</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>112.749</b>	<b>-</b>	<b>-</b>	<b>3.124</b>	<b>-</b>	<b>-</b>	<b>5.374</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Gross/Weapon System Cost</b>	<b>1,818.532</b>	<b>62</b>	<b>112.749</b>	<b>312.400</b>	<b>10</b>	<b>3.124</b>	<b>1,343.500</b>	<b>4</b>	<b>5.374</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</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	-	4	-	-	-
	Total Obligation Authority	-	5.374	-	-	-
ANG	Quantity	2	-	-	-	-

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis:</b> PB 2020 Army	<b>Date:</b> March 2019
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<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 03 / 25	<b>P-1 Line Item Number / Title:</b> 9462R70001 / Family Of Engr Combat and Construction Sets	<b>Item Number / Title [DODIC]:</b> R70110 / HEPPOE
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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	0.625	-	-	-	-
AR	Quantity	8	-	-	-	-
	Total Obligation Authority	2.499	-	-	-	-
<b>Total:</b>	<b>Quantity</b>	<b>10</b>	<b>4</b>	-	-	-
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>3.124</b>	<b>5.374</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 / 03 / 25	<b>P-1 Line Item Number / Title:</b> 9462R70001 / Family Of Engr Combat and Construction Sets	<b>Item Number / Title [DODIC]:</b> R70110 / HEPPOE
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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
HEPPOE		2018	Kipper / Gainsville GA	SS / FFP	TACOM, Warren, MI	Oct 2017	Apr 2018	10	193.500	N		
HEPPOE		2019	Kipper / Gainsville GA	SS / FFP	TACOM, Warren, MI	Oct 2018	Apr 2019	4	222.000	N		

**Remarks:**  
FY19 is below MSR

**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 / 03 / 25	<b>P-1 Line Item Number / Title:</b> 9462R70001 / Family Of Engr Combat and Construction Sets	<b>Item Number / Title [DODIC]:</b> R70120 / URBAN OPERATIONS, PLATOON SET

<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)	60	17	24	12	-	12
Gross/Weapon System Cost (\$ in Millions)	61.206	3.235	6.747	2.043	-	2.043
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	61.206	3.235	6.747	2.043	-	2.043
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>61.206</b>	<b>3.235</b>	<b>6.747</b>	<b>2.043</b>	<b>-</b>	<b>2.043</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)	1,020.100	190.294	281.125	170.250	-	170.250

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

Cost Elements	Prior Years			FY 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																		
Program Management	-	-	6.425	-	-	0.054	-	-	0.675	-	-	0.111	-	-	-	-	-	0.111
Quality Assurance Support	-	-	0.625	-	-	0.021	-	-	0.165	-	-	0.024	-	-	-	-	-	0.024
Engineering Support	-	-	11.705	-	-	-	-	-	0.169	-	-	0.024	-	-	-	-	-	0.024
System Fielding Support	-	-	2.188	-	-	0.040	-	-	0.187	-	-	0.065	-	-	-	-	-	0.065
Log Support	-	-	-	-	-	-	-	-	-	-	-	0.083	-	-	-	-	-	0.083
<i>Subtotal: Recurring Cost</i>	-	-	20.943	-	-	0.115	-	-	1.196	-	-	0.307	-	-	-	-	-	0.307
<i>Subtotal: Flyaway Cost</i>	-	-	20.943	-	-	0.115	-	-	1.196	-	-	0.307	-	-	-	-	-	0.307
Hardware Cost																		
Recurring Cost																		
Urban Ops Platoon <sup>(†)</sup>	95.864	420	40.263	141.818	22	3.120	146.079	38	5.551	144.667	12	1.736	-	-	-	144.667	12	1.736
<i>Subtotal: Recurring Cost</i>	-	-	40.263	-	-	3.120	-	-	5.551	-	-	1.736	-	-	-	-	-	1.736
<i>Subtotal: Hardware Cost</i>	-	-	40.263	-	-	3.120	-	-	5.551	-	-	1.736	-	-	-	-	-	1.736
<b>Gross/Weapon System Cost</b>	<b>1,020.100</b>	<b>60</b>	<b>61.206</b>	<b>190.294</b>	<b>17</b>	<b>3.235</b>	<b>281.125</b>	<b>24</b>	<b>6.747</b>	<b>170.250</b>	<b>12</b>	<b>2.043</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>170.250</b>	<b>12</b>	<b>2.043</b>

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	16	12	6	-	6

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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 / 03 / 25	<b>P-1 Line Item Number / Title:</b> 9462R70001 / Family Of Engr Combat and Construction Sets	<b>Item Number / Title [DODIC]:</b> R70120 / URBAN OPERATIONS, PLATOON 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
	Total Obligation Authority	3.040	3.373	0.949	-	0.949
ANG	Quantity	1	12	6	-	6
	Total Obligation Authority	0.195	3.374	1.094	-	1.094
<b>Total:</b>	<b>Quantity</b>	<b>17</b>	<b>24</b>	<b>12</b>	-	<b>12</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>3.235</b>	<b>6.747</b>	<b>2.043</b>	-	<b>2.043</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 / 03 / 25			<b>P-1 Line Item Number / Title:</b> 9462R70001 / Family Of Engr Combat and Construction Sets				<b>Item Number / Title [DODIC]:</b> R70120 / URBAN OPERATIONS, PLATOON SET				

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
Urban Ops Platoon		2018	BEYOUND VISION / Milwaukee, WI	C / FFP	TACOM Warren, MI	Jan 2018	Jun 2018	22	141.818	Y		Mar 2017
Urban Ops Platoon		2019	BEYOUND VISION / Milwaukee, WI	C / FFP	TACOM Warren, MI	Jan 2019	Jun 2019	38	146.079	N		
Urban Ops Platoon		2020	BEYOUND VISION / Milwaukee, WI	C / FFP	TACOM Warren, MI	Jan 2020	Jun 2020	12	144.667	N		

**Remarks:**  
FY19 is below MSR

**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 / 03 / 25	<b>P-1 Line Item Number / Title:</b> 9462R70001 / Family Of Engr Combat and Construction Sets	<b>Item Number / Title [DODIC]:</b> R70130 / URBAN OPERATIONS, SQUAD SET

<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)	102	31	63	40	-	40
Gross/Weapon System Cost (\$ in Millions)	60.206	1.335	1.680	3.299	-	3.299
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	60.206	1.335	1.680	3.299	-	3.299
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>60.206</b>	<b>1.335</b>	<b>1.680</b>	<b>3.299</b>	<b>-</b>	<b>3.299</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)	590.255	43.065	26.667	82.475	-	82.475

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																		
Program Management	-	-	-	-	-	0.048	-	-	0.170	-	-	0.147	-	-	-	-	-	0.147
Engineering Support	-	-	2.119	-	-	-	-	-	0.043	-	-	0.070	-	-	-	-	-	0.070
Quality Assurance Support	-	-	0.762	-	-	0.012	-	-	0.043	-	-	0.073	-	-	-	-	-	0.073
Urban Ops Squad Hardware <sup>(†)</sup>	76.885	706	54.281	51.875	24	1.245	54.273	22	1.194	64.000	40	2.560	-	-	-	64.000	40	2.560
System Fielding Support	-	-	3.044	-	-	0.030	-	-	0.230	-	-	0.202	-	-	-	-	-	0.202
Log Support	-	-	-	-	-	-	-	-	-	-	-	0.247	-	-	-	-	-	0.247
<i>Subtotal: Recurring Cost</i>	-	-	60.206	-	-	1.335	-	-	1.680	-	-	3.299	-	-	-	-	-	3.299
<i>Subtotal: Flyaway Cost</i>	-	-	60.206	-	-	1.335	-	-	1.680	-	-	3.299	-	-	-	-	-	3.299
<b>Gross/Weapon System Cost</b>	<b>590.255</b>	<b>102</b>	<b>60.206</b>	<b>43.065</b>	<b>31</b>	<b>1.335</b>	<b>26.667</b>	<b>63</b>	<b>1.680</b>	<b>82.475</b>	<b>40</b>	<b>3.299</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>82.475</b>	<b>40</b>	<b>3.299</b>

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	24	24	15	-	15
	Total Obligation Authority	1.028	0.638	1.288	-	1.288
ANG	Quantity	7	39	25	-	25
	Total Obligation Authority	0.307	1.042	2.011	-	2.011

**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 / 03 / 25	<b>P-1 Line Item Number / Title:</b> 9462R70001 / Family Of Engr Combat and Construction Sets	<b>Item Number / Title [DODIC]:</b> R70130 / URBAN OPERATIONS, SQUAD SET

**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
<b>Total:</b>	<b>Quantity</b>	31	63	40	-	40
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	1.335	1.680	3.299	-	3.299

(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 / 03 / 25			<b>P-1 Line Item Number / Title:</b> 9462R70001 / Family Of Engr Combat and Construction Sets				<b>Item Number / Title [DODIC]:</b> R70130 / URBAN OPERATIONS, SQUAD SET				

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
Urban Ops Squad Hardware		2018	Beyond Vision / Milwaukee, WI	C / FFP	TACOM, WARREN, MI	Jan 2018	Jun 2018	24	51.875	Y		Mar 2017
Urban Ops Squad Hardware		2019	Beyond Vision / Milwaukee, WI	C / FFP	TACOM, Warren, MI	Jan 2019	Jun 2019	22	54.273	N		
Urban Ops Squad Hardware		2020	Beyond Vision / Milwaukee, WI	C / FFP	TACOM, Warren, MI	Jan 2020	Jun 2020	40	64.000	Y		

**Remarks:**  
FY19 is below MSR

**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 / 03 / 25						<b>P-1 Line Item Number / Title:</b> 9462R70001 / Family Of Engr Combat and Construction Sets						<b>Item Number / Title [DODIC]:</b> R70170 / Vertical Skills Engr Const Kit: Type VI						
<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)				36		48		10		97		-		97				
Gross/Weapon System Cost (\$ in Millions)				0.977		1.422		0.533		2.399		-		2.399				
Less PY Advance Procurement (\$ in Millions)				-		-		-		-		-		-				
Net Procurement (P-1) (\$ in Millions)				0.977		1.422		0.533		2.399		-		2.399				
Plus CY Advance Procurement (\$ in Millions)				-		-		-		-		-		-				
<b>Total Obligation Authority (\$ in Millions)</b>				<b>0.977</b>		<b>1.422</b>		<b>0.533</b>		<b>2.399</b>		<b>-</b>		<b>2.399</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)				27.139		29.625		53.300		24.732		-		24.732				
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																		
Program Management	-	-	0.033	-	-	0.083	-	-	0.070	-	-	0.061	-	-	-	-	-	0.061
Quality Assurance	-	-	0.003	-	-	0.025	-	-	0.008	-	-	0.007	-	-	-	-	-	0.007
Engineering	-	-	0.003	-	-	0.042	-	-	0.010	-	-	0.012	-	-	-	-	-	0.012
Log Support	-	-	-	-	-	-	-	-	-	-	-	0.021	-	-	-	-	-	0.021
<i>Subtotal: Recurring Cost</i>	-	-	<i>0.039</i>	-	-	<i>0.150</i>	-	-	<i>0.088</i>	-	-	<i>0.101</i>	-	-	-	-	-	<i>0.101</i>
<i>Subtotal: Flyaway Cost</i>	-	-	<i>0.039</i>	-	-	<i>0.150</i>	-	-	<i>0.088</i>	-	-	<i>0.101</i>	-	-	-	-	-	<i>0.101</i>
Hardware Cost																		
Recurring Cost																		
Hardware <sup>(†)</sup>	25.167	36	0.906	24.000	48	1.152	22.000	13	0.286	22.000	97	2.134	-	-	-	22.000	97	2.134
TPF	-	-	0.030	-	-	0.072	-	-	0.124	-	-	0.067	-	-	-	-	-	0.067
Transportation	-	-	0.002	-	-	0.048	-	-	0.035	-	-	0.097	-	-	-	-	-	0.097
<i>Subtotal: Recurring Cost</i>	-	-	<i>0.938</i>	-	-	<i>1.272</i>	-	-	<i>0.445</i>	-	-	<i>2.298</i>	-	-	-	-	-	<i>2.298</i>
<i>Subtotal: Hardware Cost</i>	-	-	<i>0.938</i>	-	-	<i>1.272</i>	-	-	<i>0.445</i>	-	-	<i>2.298</i>	-	-	-	-	-	<i>2.298</i>
<b>Gross/Weapon System Cost</b>	<b>27.139</b>	<b>36</b>	<b>0.977</b>	<b>29.625</b>	<b>48</b>	<b>1.422</b>	<b>53.300</b>	<b>10</b>	<b>0.533</b>	<b>24.732</b>	<b>97</b>	<b>2.399</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>24.732</b>	<b>97</b>	<b>2.399</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			48		10		40		-		40						



**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 / 03 / 25	<b>P-1 Line Item Number / Title:</b> 9462R70001 / Family Of Engr Combat and Construction Sets	<b>Item Number / Title [DODIC]:</b> R70170 / Vertical Skills Engr Const Kit: Type VI

**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
	Total Obligation Authority	1.422	0.533	0.668	-	0.668
ANG	Quantity	-	-	37	-	37
	Total Obligation Authority	-	-	1.063	-	1.063
AR	Quantity	-	-	20	-	20
	Total Obligation Authority	-	-	0.668	-	0.668
<b>Total:</b>	<b>Quantity</b>	<b>48</b>	<b>10</b>	<b>97</b>	-	<b>97</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>1.422</b>	<b>0.533</b>	<b>2.399</b>	-	<b>2.399</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 / 03 / 25			<b>P-1 Line Item Number / Title:</b> 9462R70001 / Family Of Engr Combat and Construction Sets					<b>Item Number / Title [DODIC]:</b> R70170 / Vertical Skills Engr Const Kit: Type VI				
<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		2018	I.B. Milwaukee - West Allis, WI 53214 / Milwaukee, WI	C / FFP	Warren, MI	Mar 2018	Apr 2018	48	24.000	N		
Hardware		2019	I.B. Milwaukee - West Allis, WI 53214 / Milwaukee, WI	C / FFP	Warren, MI	Mar 2019	Apr 2019	13	22.000	N		
Hardware		2020	I.B. Milwaukee - West Allis, WI 53214 / Milwaukee, WI	C / FFP	Warren, MI	Mar 2020	Apr 2020	97	22.000	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 / 03 / 25						<b>P-1 Line Item Number / Title:</b> 9462R70001 / Family Of Engr Combat and Construction Sets						<b>Item Number / Title [DODIC]:</b> R70180 / Vertical Skills Engr Const Kit: Type V						
<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)				15		8		4		24		-		24				
Gross/Weapon System Cost (\$ in Millions)				0.639		0.300		0.276		0.959		-		0.959				
Less PY Advance Procurement (\$ in Millions)				-		-		-		-		-		-				
Net Procurement (P-1) (\$ in Millions)				0.639		0.300		0.276		0.959		-		0.959				
Plus CY Advance Procurement (\$ in Millions)				-		-		-		-		-		-				
<b>Total Obligation Authority (\$ in Millions)</b>				<b>0.639</b>		<b>0.300</b>		<b>0.276</b>		<b>0.959</b>		<b>-</b>		<b>0.959</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)				42.600		37.500		69.000		39.958		-		39.958				
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																		
Quality Assurance	-	-	0.001	-	-	0.035	-	-	0.008	-	-	0.007	-	-	-	-	-	0.007
Engineering	-	-	0.005	-	-	-	-	-	0.010	-	-	0.012	-	-	-	-	-	0.012
Program Support	-	-	-	-	-	-	-	-	-	-	-	0.028	-	-	-	-	-	0.028
Log Support	-	-	-	-	-	-	-	-	-	-	-	0.021	-	-	-	-	-	0.021
<i>Subtotal: Recurring Cost</i>	-	-	<i>0.006</i>	-	-	<i>0.035</i>	-	-	<i>0.018</i>	-	-	<i>0.068</i>	-	-	-	-	-	<i>0.068</i>
<i>Subtotal: Flyaway Cost</i>	-	-	<i>0.006</i>	-	-	<i>0.035</i>	-	-	<i>0.018</i>	-	-	<i>0.068</i>	-	-	-	-	-	<i>0.068</i>
Hardware Cost																		
Recurring Cost																		
VSECK Type V <sup>(t)</sup>	41.133	15	0.617	32.125	8	0.257	33.000	4	0.132	32.583	24	0.782	-	-	-	32.583	24	0.782
TPF	-	-	0.010	-	-	-	-	-	0.118	-	-	0.067	-	-	-	-	-	0.067
Transportation	-	-	0.006	-	-	0.008	-	-	0.008	-	-	0.042	-	-	-	-	-	0.042
<i>Subtotal: Recurring Cost</i>	-	-	<i>0.633</i>	-	-	<i>0.265</i>	-	-	<i>0.258</i>	-	-	<i>0.891</i>	-	-	-	-	-	<i>0.891</i>
<i>Subtotal: Hardware Cost</i>	-	-	<i>0.633</i>	-	-	<i>0.265</i>	-	-	<i>0.258</i>	-	-	<i>0.891</i>	-	-	-	-	-	<i>0.891</i>
<b>Gross/Weapon System Cost</b>	<b>42.600</b>	<b>15</b>	<b>0.639</b>	<b>37.500</b>	<b>8</b>	<b>0.300</b>	<b>69.000</b>	<b>4</b>	<b>0.276</b>	<b>39.958</b>	<b>24</b>	<b>0.959</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>39.958</b>	<b>24</b>	<b>0.959</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			8		4		16		-		16						

**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 / 03 / 25	<b>P-1 Line Item Number / Title:</b> 9462R70001 / Family Of Engr Combat and Construction Sets	<b>Item Number / Title [DODIC]:</b> R70180 / Vertical Skills Engr Const Kit: Type V

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A	<b>MDAP/MAIS Code:</b>
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<b>Secondary Distribution</b>		<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
	Total Obligation Authority	0.300	0.276	0.598	-	0.598
AR	Quantity	-	-	8	-	8
	Total Obligation Authority	-	-	0.361	-	0.361
<b>Total:</b>	<b>Quantity</b>	<b>8</b>	<b>4</b>	<b>24</b>	-	<b>24</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>0.300</b>	<b>0.276</b>	<b>0.959</b>	-	<b>0.959</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 / 03 / 25			<b>P-1 Line Item Number / Title:</b> 9462R70001 / Family Of Engr Combat and Construction Sets				<b>Item Number / Title [DODIC]:</b> R70180 / Vertical Skills Engr Const Kit: Type V				

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
VSECK Type V		2018	I. B. Milwaukee / West Allis, WI 53214	SS / FFP	TACOM, Warren, MI	Apr 2018	Aug 2018	8	32.125	N		
VSECK Type V		2019	I. B. Milwaukee / West Allis, WI 53214	SS / FFP	TACOM, Warren, MI	Mar 2019	Apr 2019	4	33.000	N		
VSECK Type V		2020	I. B. Milwaukee / West Allis, WI 53214	SS / FFP	TACOM, Warren, MI	Mar 2020	Apr 2020	24	32.583	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 / 03 / 25						<b>P-1 Line Item Number / Title:</b> 9462R70001 / Family Of Engr Combat and Construction Sets						<b>Item Number / Title [DODIC]:</b> R70185 / Vertical Skills Engr Const Kit: Type IV						
<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)				10		13		4		33		-		33				
Gross/Weapon System Cost (\$ in Millions)				0.294		0.277		0.341		0.809		-		0.809				
Less PY Advance Procurement (\$ in Millions)				-		-		-		-		-		-				
Net Procurement (P-1) (\$ in Millions)				0.294		0.277		0.341		0.809		-		0.809				
Plus CY Advance Procurement (\$ in Millions)				-		-		-		-		-		-				
<b>Total Obligation Authority (\$ in Millions)</b>				<b>0.294</b>		<b>0.277</b>		<b>0.341</b>		<b>0.809</b>		<b>-</b>		<b>0.809</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)				29.400		21.308		85.250		24.515		-		24.515				
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																		
Program Management	-	-	0.018	-	-	0.012	-	-	0.068	-	-	0.017	-	-	-	-	-	0.017
Quality Assurance	-	-	0.002	-	-	0.004	-	-	0.008	-	-	0.007	-	-	-	-	-	0.007
Engineering	-	-	0.003	-	-	0.007	-	-	0.010	-	-	0.012	-	-	-	-	-	0.012
Log Support	-	-	-	-	-	-	-	-	-	-	-	0.021	-	-	-	-	-	0.021
<i>Subtotal: Recurring Cost</i>	-	-	<i>0.023</i>	-	-	<i>0.023</i>	-	-	<i>0.086</i>	-	-	<i>0.057</i>	-	-	-	-	-	<i>0.057</i>
<i>Subtotal: Flyaway Cost</i>	-	-	<i>0.023</i>	-	-	<i>0.023</i>	-	-	<i>0.086</i>	-	-	<i>0.057</i>	-	-	-	-	-	<i>0.057</i>
Hardware Cost																		
Recurring Cost																		
VSECK TYPE IV <sup>(†)</sup>	25.100	10	0.251	18.538	13	0.241	19.833	6	0.119	19.394	33	0.640	-	-	-	19.394	33	0.640
TPF	-	-	0.018	-	-	-	-	-	0.124	-	-	0.067	-	-	-	-	-	0.067
TRANSPORTATION	-	-	0.002	-	-	0.013	-	-	0.012	-	-	0.045	-	-	-	-	-	0.045
<i>Subtotal: Recurring Cost</i>	-	-	<i>0.271</i>	-	-	<i>0.254</i>	-	-	<i>0.255</i>	-	-	<i>0.752</i>	-	-	-	-	-	<i>0.752</i>
<i>Subtotal: Hardware Cost</i>	-	-	<i>0.271</i>	-	-	<i>0.254</i>	-	-	<i>0.255</i>	-	-	<i>0.752</i>	-	-	-	-	-	<i>0.752</i>
<b>Gross/Weapon System Cost</b>	<b>29.400</b>	<b>10</b>	<b>0.294</b>	<b>21.308</b>	<b>13</b>	<b>0.277</b>	<b>85.250</b>	<b>4</b>	<b>0.341</b>	<b>24.515</b>	<b>33</b>	<b>0.809</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>24.515</b>	<b>33</b>	<b>0.809</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					13		4		21		-		21				

**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 / 03 / 25	<b>P-1 Line Item Number / Title:</b> 9462R70001 / Family Of Engr Combat and Construction Sets	<b>Item Number / Title [DODIC]:</b> R70185 / Vertical Skills Engr Const Kit: Type IV

<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	0.277	0.341	0.486	-	0.486
AR	Quantity	-	-	12	-	12
	Total Obligation Authority	-	-	0.323	-	0.323
<b>Total:</b>	<b>Quantity</b>	<b>13</b>	<b>4</b>	<b>33</b>	-	<b>33</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>0.277</b>	<b>0.341</b>	<b>0.809</b>	-	<b>0.809</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 / 03 / 25			<b>P-1 Line Item Number / Title:</b> 9462R70001 / Family Of Engr Combat and Construction Sets				<b>Item Number / Title [DODIC]:</b> R70185 / Vertical Skills Engr Const Kit: Type IV				

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
VSECK TYPE IV		2018	I. B. Milwaukee / West Allis, WI 53214	SS / FFP	TACOM, Warren, MI	Apr 2018	Aug 2018	13	18.538	N		
VSECK TYPE IV		2019	I. B. Milwaukee / West Allis, WI 53214	SS / FFP	TACOM, Warren, MI	Mar 2019	Apr 2019	6	19.833	N		
VSECK TYPE IV		2020	I. B. Milwaukee / West Allis, WI 53214	SS / FFP	TACOM, Warren, MI	Mar 2020	Apr 2020	33	19.394	N		



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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 / 03 / 25						<b>P-1 Line Item Number / Title:</b> 9462R70001 / Family Of Engr Combat and Construction Sets						<b>Item Number / Title [DODIC]:</b> R70195 / Vertical Skills Engr Const Kit: Type III									
<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)				15			11			5			15			-			15		
Gross/Weapon System Cost (\$ in Millions)				0.473			0.290			0.266			0.505			-			0.505		
Less PY Advance Procurement (\$ in Millions)				-			-			-			-			-			-		
Net Procurement (P-1) (\$ in Millions)				0.473			0.290			0.266			0.505			-			0.505		
Plus CY Advance Procurement (\$ in Millions)				-			-			-			-			-			-		
<b>Total Obligation Authority (\$ in Millions)</b>				<b>0.473</b>			<b>0.290</b>			<b>0.266</b>			<b>0.505</b>			<b>-</b>			<b>0.505</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)				31.533			26.364			53.200			33.667			-			33.667		
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																					
Program Management		-	-	0.006	-	-	0.012	-	-	-	-	-	0.015	-	-	-	-	-	0.015		
Quality Assurance		-	-	0.002	-	-	-	-	-	0.008	-	-	0.007	-	-	-	-	-	0.007		
Engineering		-	-	0.003	-	-	-	-	-	0.010	-	-	0.012	-	-	-	-	-	0.012		
Log Support		-	-	-	-	-	-	-	-	-	-	-	0.021	-	-	-	-	-	0.021		
<i>Subtotal: Recurring Cost</i>		-	-	<i>0.011</i>	-	-	<i>0.012</i>	-	-	<i>0.018</i>	-	-	<i>0.055</i>	-	-	-	-	-	<i>0.055</i>		
<i>Subtotal: Flyaway Cost</i>		-	-	<i>0.011</i>	-	-	<i>0.012</i>	-	-	<i>0.018</i>	-	-	<i>0.055</i>	-	-	-	-	-	<i>0.055</i>		
Hardware Cost																					
Recurring Cost																					
VSECK Type III <sup>(†)</sup>		30.400	15	0.456	24.273	11	0.267	23.667	6	0.142	23.800	15	0.357	-	-	-	23.800	15	0.357		
TPF		-	-	0.004	-	-	-	-	-	0.094	-	-	0.067	-	-	-	-	-	0.067		
Transportation		-	-	0.002	-	-	0.011	-	-	0.012	-	-	0.026	-	-	-	-	-	0.026		
<i>Subtotal: Recurring Cost</i>		-	-	<i>0.462</i>	-	-	<i>0.278</i>	-	-	<i>0.248</i>	-	-	<i>0.450</i>	-	-	-	-	-	<i>0.450</i>		
<i>Subtotal: Hardware Cost</i>		-	-	<i>0.462</i>	-	-	<i>0.278</i>	-	-	<i>0.248</i>	-	-	<i>0.450</i>	-	-	-	-	-	<i>0.450</i>		
<b>Gross/Weapon System Cost</b>		<b>31.533</b>	<b>15</b>	<b>0.473</b>	<b>26.364</b>	<b>11</b>	<b>0.290</b>	<b>53.200</b>	<b>5</b>	<b>0.266</b>	<b>33.667</b>	<b>15</b>	<b>0.505</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>33.667</b>	<b>15</b>	<b>0.505</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				11			5			-			-			-			

**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 / 03 / 25	<b>P-1 Line Item Number / Title:</b> 9462R70001 / Family Of Engr Combat and Construction Sets	<b>Item Number / Title [DODIC]:</b> R70195 / Vertical Skills Engr Const Kit: Type III

<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	0.290	0.266	-	-	-
ANG	Quantity	-	-	7	-	7
	Total Obligation Authority	-	-	0.253	-	0.253
AR	Quantity	-	-	8	-	8
	Total Obligation Authority	-	-	0.252	-	0.252
<b>Total:</b>	<b>Quantity</b>	<b>11</b>	<b>5</b>	<b>15</b>	<b>-</b>	<b>15</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>0.290</b>	<b>0.266</b>	<b>0.505</b>	<b>-</b>	<b>0.505</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 / 03 / 25			<b>P-1 Line Item Number / Title:</b> 9462R70001 / Family Of Engr Combat and Construction Sets				<b>Item Number / Title [DODIC]:</b> R70195 / Vertical Skills Engr Const Kit: Type III				

<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>
VSECK Type III		2018	I. B. Milwaukee / West Allis, WI 53214	SS / FFP	TACOM, Warren, MI	Mar 2018	Aug 2018	11	24.273	N		
VSECK Type III		2019	I. B. Milwaukee / West Allis, WI 53214	SS / FFP	TACOM, Warren, MI	Mar 2019	Apr 2019	6	23.667	N		
VSECK Type III		2020	I. B. Milwaukee / West Allis, WI 53214	SS / FFP	TACOM, Warren, MI	Mar 2020	Apr 2020	15	23.800	N		

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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 / 03 / 25						<b>P-1 Line Item Number / Title:</b> 9462R70001 / Family Of Engr Combat and Construction Sets						<b>Item Number / Title [DODIC]:</b> R70196 / Vertical Skills Engr Const Kit: Type II						
<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)				14		14		10		38		-		38				
Gross/Weapon System Cost (\$ in Millions)				0.350		0.274		0.467		0.841		-		0.841				
Less PY Advance Procurement (\$ in Millions)				-		-		-		-		-		-				
Net Procurement (P-1) (\$ in Millions)				0.350		0.274		0.467		0.841		-		0.841				
Plus CY Advance Procurement (\$ in Millions)				-		-		-		-		-		-				
<b>Total Obligation Authority (\$ in Millions)</b>				<b>0.350</b>		<b>0.274</b>		<b>0.467</b>		<b>0.841</b>		<b>-</b>		<b>0.841</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)				25.000		19.571		46.700		22.132		-		22.132				
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																		
Program Management	-	-	0.018	-	-	0.017	-	-	0.087	-	-	0.047	-	-	-	-	-	0.047
Quality Assurance	-	-	0.002	-	-	-	-	-	0.008	-	-	0.007	-	-	-	-	-	0.007
Engineering	-	-	0.003	-	-	-	-	-	0.010	-	-	0.012	-	-	-	-	-	0.012
Log Support	-	-	-	-	-	-	-	-	-	-	-	0.021	-	-	-	-	-	0.021
<i>Subtotal: Recurring Cost</i>	-	-	<i>0.023</i>	-	-	<i>0.017</i>	-	-	<i>0.105</i>	-	-	<i>0.087</i>	-	-	-	-	-	<i>0.087</i>
<i>Subtotal: Flyaway Cost</i>	-	-	<i>0.023</i>	-	-	<i>0.017</i>	-	-	<i>0.105</i>	-	-	<i>0.087</i>	-	-	-	-	-	<i>0.087</i>
Hardware Cost																		
Recurring Cost																		
VSECK TYPE II(†)	20.214	14	0.283	17.357	14	0.243	17.833	12	0.214	17.526	38	0.666	-	-	-	17.526	38	0.666
TPF	-	-	0.042	-	-	-	-	-	0.124	-	-	0.067	-	-	-	-	-	0.067
Transportation	-	-	0.002	-	-	0.014	-	-	0.024	-	-	0.021	-	-	-	-	-	0.021
<i>Subtotal: Recurring Cost</i>	-	-	<i>0.327</i>	-	-	<i>0.257</i>	-	-	<i>0.362</i>	-	-	<i>0.754</i>	-	-	-	-	-	<i>0.754</i>
<i>Subtotal: Hardware Cost</i>	-	-	<i>0.327</i>	-	-	<i>0.257</i>	-	-	<i>0.362</i>	-	-	<i>0.754</i>	-	-	-	-	-	<i>0.754</i>
<b>Gross/Weapon System Cost</b>	<b>25.000</b>	<b>14</b>	<b>0.350</b>	<b>19.571</b>	<b>14</b>	<b>0.274</b>	<b>46.700</b>	<b>10</b>	<b>0.467</b>	<b>22.132</b>	<b>38</b>	<b>0.841</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>22.132</b>	<b>38</b>	<b>0.841</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					14		10		21		-		21				

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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 / 03 / 25	<b>P-1 Line Item Number / Title:</b> 9462R70001 / Family Of Engr Combat and Construction Sets	<b>Item Number / Title [DODIC]:</b> R70196 / Vertical Skills Engr Const Kit: Type II

**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
	Total Obligation Authority	0.274	0.467	0.448	-	0.448
AR	Quantity	-	-	17	-	17
	Total Obligation Authority	-	-	0.393	-	0.393
<b>Total:</b>	<b>Quantity</b>	<b>14</b>	<b>10</b>	<b>38</b>	-	<b>38</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>0.274</b>	<b>0.467</b>	<b>0.841</b>	-	<b>0.841</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 / 03 / 25			<b>P-1 Line Item Number / Title:</b> 9462R70001 / Family Of Engr Combat and Construction Sets				<b>Item Number / Title [DODIC]:</b> R70196 / Vertical Skills Engr Const Kit: Type II				

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
VSECK TYPE II		2018	I. B. Milwaukee / West Allis, WI 53214	SS / FFP	TACOM, Warren, MI	Mar 2018	Aug 2018	14	17.357	N		
VSECK TYPE II		2019	I. B. Milwaukee / West Allis, WI 53214	SS / FFP	TACOM, Warren, MI	Mar 2019	Apr 2019	12	17.833	N		
VSECK TYPE II		2020	I. B. Milwaukee / West Allis, WI 53214	SS / FFP	TACOM, Warren, MI	Mar 2020	Apr 2020	38	17.526	N		

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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 / 03 / 25						<b>P-1 Line Item Number / Title:</b> 9462R70001 / Family Of Engr Combat and Construction Sets						<b>Item Number / Title [DODIC]:</b> R70198 / Vertical Skills Engr Const Kit: Type I																																																																																																																																																																																																																																																																																																																																																						
<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)				26		15		16		43		-		43																																																																																																																																																																																																																																																																																																																																																				
Gross/Weapon System Cost (\$ in Millions)				0.288		0.169		0.294		0.596		-		0.596																																																																																																																																																																																																																																																																																																																																																				
Less PY Advance Procurement (\$ in Millions)				-		-		-		-		-		-																																																																																																																																																																																																																																																																																																																																																				
Net Procurement (P-1) (\$ in Millions)				0.288		0.169		0.294		0.596		-		0.596																																																																																																																																																																																																																																																																																																																																																				
Plus CY Advance Procurement (\$ in Millions)				-		-		-		-		-		-																																																																																																																																																																																																																																																																																																																																																				
<b>Total Obligation Authority (\$ in Millions)</b>				<b>0.288</b>		<b>0.169</b>		<b>0.294</b>		<b>0.596</b>		<b>-</b>		<b>0.596</b>																																																																																																																																																																																																																																																																																																																																																				
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>																																																																																																																																																																																																																																																																																																																																																																		
Initial Spares (\$ in Millions)				-		-		-		-		-		-		-																																																																																																																																																																																																																																																																																																																																																		
Gross/Weapon System Unit Cost (\$ in Thousands)				11.077		11.267		18.375		13.860		-		13.860																																																																																																																																																																																																																																																																																																																																																				
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<td>0.067</td> </tr> <tr> <td>Transportation</td> <td>-</td> <td>-</td> <td>0.002</td> <td>-</td> <td>-</td> <td>0.015</td> <td>-</td> <td>-</td> <td>0.018</td> <td>-</td> <td>-</td> <td>0.043</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>0.043</td> </tr> <tr> <td><i>Subtotal: Recurring Cost</i></td> <td>-</td> <td>-</td> <td><i>0.288</i></td> <td>-</td> <td>-</td> <td><i>0.159</i></td> <td>-</td> <td>-</td> <td><i>0.276</i></td> <td>-</td> <td>-</td> <td><i>0.540</i></td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td><i>0.540</i></td> </tr> <tr> <td><i>Subtotal: Hardware Cost</i></td> <td>-</td> <td>-</td> <td><b>0.288</b></td> <td>-</td> <td>-</td> <td><b>0.159</b></td> <td>-</td> <td>-</td> <td><b>0.276</b></td> <td>-</td> <td>-</td> <td><b>0.540</b></td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td><b>0.540</b></td> </tr> <tr> <td><b>Gross/Weapon System Cost</b></td> <td><b>11.077</b></td> <td><b>26</b></td> <td><b>0.288</b></td> 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Support	-	-	-	-	-	-	-	-	-	-	-	0.022	-	-	-	-	-	0.022	<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	<i>0.010</i>	-	-	<i>0.018</i>	-	-	<i>0.056</i>	-	-	-	-	-	<i>0.056</i>	<i>Subtotal: Flyaway Cost</i>	-	-	-	-	-	<b>0.010</b>	-	-	<b>0.018</b>	-	-	<b>0.056</b>	-	-	-	-	-	<b>0.056</b>	Hardware Cost																		Recurring Cost																		VSECK Type I <sup>(†)</sup>	11.000	26	0.286	9.600	15	0.144	9.833	18	0.177	10.000	43	0.430	-	-	-	10.000	43	0.430	TPF	-	-	-	-	-	-	-	-	0.081	-	-	0.067	-	-	-	-	-	0.067	Transportation	-	-	0.002	-	-	0.015	-	-	0.018	-	-	0.043	-	-	-	-	-	0.043	<i>Subtotal: Recurring Cost</i>	-	-	<i>0.288</i>	-	-	<i>0.159</i>	-	-	<i>0.276</i>	-	-	<i>0.540</i>	-	-	-	-	-	<i>0.540</i>	<i>Subtotal: Hardware Cost</i>	-	-	<b>0.288</b>	-	-	<b>0.159</b>	-	-	<b>0.276</b>	-	-	<b>0.540</b>	-	-	-	-	-	<b>0.540</b>	<b>Gross/Weapon System 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<i>Subtotal: Recurring Cost</i>	-	-	<i>0.288</i>	-	-	<i>0.159</i>	-	-	<i>0.276</i>	-	-	<i>0.540</i>	-	-	-	-	-	<i>0.540</i>																																																																																																																																																																																																																																																																																																																																																
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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 / 03 / 25	<b>P-1 Line Item Number / Title:</b> 9462R70001 / Family Of Engr Combat and Construction Sets	<b>Item Number / Title [DODIC]:</b> R70198 / Vertical Skills Engr Const Kit: Type I

<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	0.169	0.294	0.364	-	0.364
AR	Quantity	-	-	13	-	13
	Total Obligation Authority	-	-	0.232	-	0.232
<b>Total:</b>	<b>Quantity</b>	<b>15</b>	<b>16</b>	<b>43</b>	-	<b>43</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>0.169</b>	<b>0.294</b>	<b>0.596</b>	-	<b>0.596</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 / 03 / 25			<b>P-1 Line Item Number / Title:</b> 9462R70001 / Family Of Engr Combat and Construction Sets				<b>Item Number / Title [DODIC]:</b> R70198 / Vertical Skills Engr Const Kit: Type I				

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
VSECK Type I		2018	I. B. Milwaukee / West Allis, WI 53214	SS / FFP	TACOM, Warren, MI	Mar 2018	Aug 2018	15	9.600	N		
VSECK Type I		2019	I. B. Milwaukee / West Allis, WI 53214	SS / FFP	TACOM, Warren, MI	Mar 2019	Apr 2019	18	9.833	N		
VSECK Type I		2020	I. B. Milwaukee / West Allis, WI 53214	SS / FFP	TACOM, Warren, MI	Mar 2020	Apr 2020	43	10.000	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 03: Other Support Equipment / BSA 25: Combat Service Support Equipment	<b>P-1 Line Item Number / Title:</b> 9530ML5301 / Items Less Than \$5M (Eng Spt)
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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> )	20	-	-	334	-	334	8	9	-	-	-	371
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	220.677	-	2.000	5.167	-	5.167	8.022	8.996	-	-	-	244.862
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	220.677	-	2.000	5.167	-	5.167	8.022	8.996	-	-	-	244.862
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>220.677</b>	<b>-</b>	<b>2.000</b>	<b>5.167</b>	<b>-</b>	<b>5.167</b>	<b>8.022</b>	<b>8.996</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>244.862</b>
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	11,033.850	-	-	15.470	-	15.470	1,002.750	999.556	-	-	-	660.005

**Description:**

The Family of Power Utility Kits (FoPUK) will provide Prime Power Soldiers the ability to maintain power to critical command and control communication nodes by supplying federally mandated equipment required to meet mission requirements and ensure Soldier safety. Modernized industry standard equipment, reduced redundancies, improved mobility to safely perform and logistically support contingency power operations worldwide, Commercial-off-the-Shelf (COTS)/Government-off-the-Shelf (GOTS) components. FoPUK consists of Modernized Lineman's Tool Kit (M-LTK), Service Kit Power Plant (SKPP), Electrical Personal Protective Equipment Kit (E-PPE), and Electrical Personal Equipment Test Equipment (E-PPE-TE). FoPUK Estimated Army Procurement Objective (APO): M-LTK 78; E-PPE Kit 253; SKPP 22; E-PPE-TE 1.

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

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	-	-	334	-	334	8	9	-	-
Total Obligation Authority	-	2.000	5.167	-	5.167	8.022	8.996	-	-
<b>Total:</b>									
<b>Secondary Distribution</b>									
Quantity	-	-	334	-	334	8	9	-	-
Total Obligation Authority	-	2.000	5.167	-	5.167	8.022	8.996	-	-

**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 03: Other Support Equipment / BSA 25:  
 Combat Service Support Equipment **P-1 Line Item Number / Title:**  
 9530ML5301 / Items Less Than \$5M (Eng Spt)

**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	ML5325 / ITEMS LESS THAN \$5.0M (ENG SPT EQ)	P-5a	A		20 / 220.677	- / -	- / 2.000	334 / 5.167	- / -	334 / 5.167
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>20 / 220.677</b>	<b>- / -</b>	<b>- / 2.000</b>	<b>334 / 5.167</b>	<b>- / -</b>	<b>334 / 5.167</b>

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

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

**Justification:**  
 FY20 Base Procurement funding in the amount of \$5.167 million will be provided for the Family of Power Utility Kits Program (FoPUK) to procure 78 Modernized Lineman's Tool Kit (M-LTK), 2 Service Kit Power Plant (SKPP), 253 Electrical Personal Protective Equipment Kit (E-PPE), and 1 Electrical Personal Equipment Test Equipment (E-PPE-TE). The procurement of items will provide the capability improvements over Legacy systems by modernizing, standardizing, consolidating, and enhancing FoPUK with commercial-off-the-shelf (COTS) and government-off-the-shelf (GOTS) components to perform contingency power operations worldwide. Modernization of obsolete equipment ensures Soldier safety, reduce tool maintenance by providing industry standard equipment, logistics' footprint and reduce redundancies. It will also improve Soldier mobility to safely perform contingency power operations and provide containerization for deployment or storage/security of items in kit.

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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 / 03 / 25		<b>P-1 Line Item Number / Title:</b> 9530ML5301 / Items Less Than \$5M (Eng Spt)
		<b>Item Number / Title [DODIC]:</b> ML5325 / ITEMS LESS THAN \$5.0M (ENG SPT EQ)

<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)	20	-	-	334	-	334
Gross/Weapon System Cost (\$ in Millions)	220.677	-	2.000	5.167	-	5.167
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	220.677	-	2.000	5.167	-	5.167
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>220.677</b>	<b>-</b>	<b>2.000</b>	<b>5.167</b>	<b>-</b>	<b>5.167</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)	11,033.850	-	-	15.470	-	15.470

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																		
1. Assault Boats	12.753	434	5.535	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2. Outboard Motors	4.511	92	0.415	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3. Carpenters Tool Kit (CTK)	13.555	494	6.696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4. Diving Equipment, Scuba A	41.379	29	1.200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5. Diving Equipment	1.227	277	0.340	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6. Dvg, Individual Swimmer Support Set	1.830	376	0.688	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7. Pneumatic Tool & Compressor Outfit	58.091	11	0.639	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hardware	393.034	522	205.164	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	220.677	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Flyaway Cost</i>	-	-	<b>220.677</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hardware Cost																		
Recurring Cost																		
SERVICE KIT POWER PLANT <sup>(†)</sup>	-	-	-	-	-	-	-	-	-	929.000	2	1.858	-	-	-	929.000	2	1.858
Electrical Personal Protective Equipment Kit <sup>(†)</sup>	-	-	-	-	-	-	-	-	-	3.506	253	0.887	-	-	-	3.506	253	0.887

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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 / 03 / 25	<b>P-1 Line Item Number / Title:</b> 9530ML5301 / Items Less Than \$5M (Eng Spt)	<b>Item Number / Title [DODIC]:</b> ML5325 / ITEMS LESS THAN \$5.0M (ENG SPT EQ)
<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)
Modernized Lineman's Tool Kit <sup>(t)</sup>	-	-	-	-	-	-	-	-	-	9.205	78	0.718	-	-	-	9.205	78	0.718
Electrical Personal Protective Equipment Test <sup>(t)</sup>	-	-	-	-	-	-	-	-	-	148.000	1	0.148	-	-	-	148.000	1	0.148
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	3.611	-	-	-	-	-	3.611
Non Recurring Cost																		
Fiber Reinforced Polymer matting kits	-	-	-	-	-	-	-	-	1.800	-	-	-	-	-	-	-	-	-
<i>Subtotal: Non Recurring Cost</i>	-	-	-	-	-	-	-	-	1.800	-	-	-	-	-	-	-	-	-
<i>Subtotal: Hardware Cost</i>	-	-	-	-	-	-	-	-	1.800	-	-	3.611	-	-	-	-	-	3.611
Support - Program Management Cost																		
Government Management	-	-	-	-	-	-	-	-	0.200	-	-	1.556	-	-	-	-	-	1.556
<i>Subtotal: Support - Program Management Cost</i>	-	-	-	-	-	-	-	-	0.200	-	-	1.556	-	-	-	-	-	1.556
<b>Gross/Weapon System Cost</b>	<b>11,033.850</b>	<b>20</b>	<b>220.677</b>	-	-	-	-	-	<b>2.000</b>	<b>15.470</b>	<b>334</b>	<b>5.167</b>	-	-	-	<b>15.470</b>	<b>334</b>	<b>5.167</b>

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	-	-	334	-	334
	Total Obligation Authority	-	2.000	5.167	-	5.167
<b>Total:</b>	Quantity	-	-	<b>334</b>	-	<b>334</b>
<b>Secondary Distribution</b>	Total Obligation Authority	-	<b>2.000</b>	<b>5.167</b>	-	<b>5.167</b>

<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 / 03 / 25			<b>P-1 Line Item Number / Title:</b> 9530ML5301 / Items Less Than \$5M (Eng Spt)				<b>Item Number / Title [DODIC]:</b> ML5325 / ITEMS LESS THAN \$5.0M (ENG SPT EQ)					

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
SERVICE KIT POWER PLANT		2020	PM MEP / FORT BELVOIR, VA	C / TBD	TACOM-Warren, MI	Jun 2020	Jan 2021	2	929.000	N		
Electrical Personal Protective Equipment Kit		2020	PM MEP / FORT BELVOIR, VA	C / TBD	TACOM-Warren, MI	Jun 2020	Jan 2021	253	3.506	N		
Modernized Lineman?s Tool Kit		2020	PM MEP / FORT BELVOIR, VA	C / TBD	TACOM-Warren, MI	Jun 2020	Jan 2021	78	9.205	N		
Electrical Personal Protective Equipment Test		2020	PM MEP / FORT BELVOIR, VA	C / TBD	TACOM-Warren, MI	Jun 2020	Jan 2021	1	148.000	N		

**Remarks:**  
Items to be procured are Commercial-off-the-Shelf (COTS)/Government-off-the-Shelf (GOTS) components.

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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 03: Other Support Equipment / BSA 30: Petroleum Equipment	<b>P-1 Line Item Number / Title:</b> 0725MB6400 / QUALITY SURVEILLANCE EQUIPMENT
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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> )	5	5	-	-	-	-	-	-	-	-	-	10
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	142.962	6.903	0.000	-	-	-	-	-	-	-	-	149.865
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	142.962	6.903	0.000	-	-	-	-	-	-	-	-	149.865
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>142.962</b>	<b>6.903</b>	<b>0.000</b>	-	-	-	-	-	-	-	-	<b>149.865</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> )	28,592.400	1,380.600	-	-	-	-	-	-	-	-	-	14,986.500

**Description:**

Quality Surveillance Equipment is a family of petroleum and water laboratories used to evaluate the quality of military fuels and palatable water for our soldiers.

The Petroleum Quality Analysis System Enhanced (PQAS-E) is a fully integrated fuel laboratory installed in an environmentally controlled International Organization for Standardization (ISO) style shelter mounted on a trailer with support equipment, supplies, and a tent. The mission of the PQAS-E consists of testing fuels received through normal supply channels, locally procured from civil sources, and captured enemy stocks. The PQAS-E is employed as the Army's single petroleum laboratory capable of performing all levels of quality surveillance tests throughout each echelon on the battlefield. The PQAS-E is capable of modified B-2 level testing in accordance with (IAW) Military Standard (MIL-STD) 3004 on kerosene based (e.g. Jet Propellant [JP] 5, JP-8, Jet A, Jet A-1) and diesel military mobility fuels. The shelter contains fuel test equipment (Automated Instrumentation System [AIS]), support equipment and supplies, an Environmental Control Unit (ECU), and an Auxiliary Power Unit (APU). System software provides an information database/expert system for the technician to consult in the interpretation of test results and in making recommendations for the disposition of fuels. The automated data acquisition features allow test data from instrumentation to be sent directly to the system software, which reduces data transcription errors and eliminates the need for hard-copy laboratory notebooks. The PQAS-E system is being built at Rock Island Arsenal. Petroleum Quality Analysis System Enhanced (PQAS-E) supports the Modular Brigades and enhances the Petroleum and Water Quartermaster (QM) War Fighting Capabilities. Quality surveillance of bulk fuel is critical to aviation and ground mobility equipment. The PQAS-E gives bulk petroleum quality surveillance capability down to brigade level in a flexible, responsive, mobile lab mounted on a 5-ton trailer. The PQAS-E is required for conducting quality tests on kerosene based and diesel fuels thus ensuring quality surveillance on the battlefield. This will help assure U.S. Armed Ground Forces' strategic responsiveness and its global force projection. The fuels that we put in our warfighting platforms must meet purity standards or it can cause equipment to be non-mission capable.

The Army Acquisition Objective (AAO) is 83 PQAS-E 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	2	-	-	-	-	-	-	-
	Total Obligation Authority	2.709	-	-	-	-	-	-	-
ANG	Quantity	3	-	-	-	-	-	-	-
	Total Obligation Authority	4.194	-	-	-	-	-	-	-
<b>Total:</b>	<b>Quantity</b>	<b>5</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 03: Other Support Equipment / BSA 30: Petroleum Equipment	<b>P-1 Line Item Number / Title:</b> 0725MB6400 / QUALITY SURVEILLANCE 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

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	6.903	-	-	-	-	-	-	-	-

**Justification:**

There is FY 2020 PB Request.

Petroleum Quality Analysis System Enhanced (PQAS-E) supports the Modular Brigades and enhances the Petroleum and Water Quartermaster (QM) War Fighting Capabilities. Quality surveillance of bulk fuel is critical to aviation and ground mobility equipment. The PQAS-E gives bulk petroleum quality surveillance capability down to brigade level in a flexible, responsive, mobile lab mounted on a 5-ton trailer. The PQAS-E is required for conducting quality tests on kerosene based and diesel fuels thus ensuring quality surveillance on the battlefield. This will help assure U.S. Armed Ground Forces' strategic responsiveness and its global force projection. The fuels that we put in our warfighting platforms must meet purity standards or it can cause equipment to be non-mission capable.

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 03: Other Support Equipment / BSA 30: Petroleum Equipment	<b>P-1 Line Item Number / Title:</b> 4700MA6000 / Distribution Systems, Petroleum & Water
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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> )	576	406	216	635	-	635	696	668	299	407	-	3,903
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	989.634	41.622	26.471	74.867	13.986	88.853	76.583	54.169	27.142	37.552	-	1,342.026
Less PY Advance Procurement ( <i>\$ in Millions</i> )	0.182	-	-	-	-	-	-	-	-	-	-	0.182
Net Procurement (P-1) ( <i>\$ in Millions</i> )	989.452	41.622	26.471	74.867	13.986	88.853	76.583	54.169	27.142	37.552	-	1,341.844
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	0.182	-	-	-	-	-	-	-	-	-	-	0.182
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>989.634</b>	<b>41.622</b>	<b>26.471</b>	<b>74.867</b>	<b>13.986</b>	<b>88.853</b>	<b>76.583</b>	<b>54.169</b>	<b>27.142</b>	<b>37.552</b>	<b>-</b>	<b>1,342.026</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> )	1,718.115	102.517	122.551	117.901	-	139.926	110.033	81.091	90.776	92.265	-	343.845

**Description:**

The Family of Petroleum and Water Distribution Systems supports the Army Equipment Modernization Strategy of 2025, along with the Army's mission to supply bulk fuel and water, at the operational and tactical levels, to all Department of Defense (DoD) forces in the various worldwide Joint Operations Area. The systems support aircraft refueling, ground vehicles, and other Army equipment. Distribution Systems are comprised of hoses, pumps, tanks, filter separators, fittings, couplings, and nozzles.

The Mobile Tactical Retail Refueling System (MTRRS) provides retail fuel distribution for echelons above brigade organizations. It consists of a 1,050 gallon tank, pump, and filter/separator mounted in a rack that is Family of Medium Tactical Vehicles (FMTV) transportable. The MTRRS can be operated while on the truck or on the ground. It will replace the aging Tank and Pump Unit and the Tank Unit Liquid Dispensing systems. The Army Acquisition Objective (AAO) is 2,464.

The Modular Fuel System (MFS) Tank Rack Module (TRM) is a 2,500 gallon mobile storage and distribution platform. It is configured in a 20 foot ISO frame with integrated bale bar and is Heavy Expanded Mobility Tactical Truck-Load Handling System (HEMTT-LHS), Palletized Load Handling System (PLS) and PLS Trailer transportable. The MFS-TRM has a Stand-Alone Retail Capability (S-ARC) with its integrated continuous use electric pump, filter separator and flow meter. It can be operated while truck or trailer mounted or on the ground. The MFS-TRM can also be coupled with the HEMTT Tanker to form a highly mobile 5,000 gallon distribution platform within Brigade Combat Teams. The MFS provides the ability to rapidly establish a fuel distribution and storage capability at any location regardless of the availability of construction equipment or material handling equipment. The AAO is 3,684 TRMs.

The Load Handling System (LHS) Compatible Water Tank Racks System (Hippo) is a 2,000 gallon potable water tank. It is configured in a 20 foot ISO frame with integrated bale bar and is HEMTT-LHS, PLS and PLS Trailer transportable. The Hippo can distribute to multiple locations or be placed on the ground/ off-loaded to establish a water supply point. It is outfitted with a water pump, hose reel, and filling station. It is used for bulk load and discharge, retail distribution, and bulk storage of potable water. The Hippo is replacing the Semi-trailer Mounted Fabric Tank and most Forward Area Water Point Supply System. The AAO is 3,239.

The Early Entry Fluid Distribution System (E2FDS) is a highly automated flexible conduit system that complements the Inland Petroleum Distribution System (IPDS) by providing up to 50 miles of early entry capability for petroleum and water throughput. It can throughput 850,000 gallons of petroleum or 650,000 gallons of non-potable water per day and is able to emplace/retrieve conduit at a rate of 25/10 miles per day respectively. The E2FDS consists of five major modules: automated pump stations, Employment and Retrieval System (ERS), 50 miles of flexible conduit and conduit support equipment, command and control, and a trace planning tool. The components of the E2FDS will be packaged in ISO (nine high stackable) 20-foot equivalent units (TEU) for deployment and are transportable via HEMTT-LHS, PLS and PLS Trailer. During the early phases of operations, the E2FDS reduces the requirement for line-haul petroleum semitrailers and relieves main supply route congestion. The E2FDS enables rapid setup of the

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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 03: Other Support Equipment / BSA 30: Petroleum Equipment	<b>P-1 Line Item Number / Title:</b> 4700MA6000 / Distribution Systems, Petroleum & Water
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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

conduit trace, and the automation and centralized control enable greater precision of pipeline operations with fewer personnel. Once the IPDS pipeline is emplaced, the E2FDS can be used to extend the pipeline trace or be moved to another location. The AAO is 13.

The Modular Fuel System (MFS) Pump Rack Module (PRM) is fuel pumping capability for use with TRM or Collapsible Fabric Storage Tanks to create a bulk fuel storage and distribution system. The MFS-PRM is configured in a 20 foot ISO frame with integrated bale bar and is HEMTT-LHS, PLS and PLS Trailer Transportable. It has a 600 gallon per minute pump, filter separator, and on board storage with sufficient hoses, fittings and nozzles for eight bulk or retail refueling points. The MFS-PRM and MFS-TRM provide the ability to rapidly establish a fuel distribution and storage capability at any location regardless of the availability of construction equipment or material handling equipment. The AAO is 25 PRMs.

The Expeditionary Water Packaging System (EWPS) is a completely containerized fully automated water packaging system that fills and caps one-liter bottles with potable water for individual Soldier consumption. The EWPS features end-to-end automated production (e.g. loading pre-forms, stretch blow molding of pre-forms into bottles, filling, capping, and labeling) within a closed, hygienic environment. It is capable of filling, at a minimum, 900 one-liter plastic bottles per hour. The EWPS is powered by multiple sources to include standard military or commercial generator sets. The finished bottles are palletized for shipment. The EWPS provides the following three main benefits: (1) reduces distribution footprint for bottled water and risks associated with line haul distribution; (2) provides inherent safety and health benefits over bulk systems through reduction of Soldier contamination at bulk system fill points; (3) minimizes the cost associated with procuring and transporting bottled water. The AAO is 30.

The Camel II is an 800 gallon hard wall stainless steel water tank mounted on a 5-Ton trailer. It includes retail dispensing hardware comprised of the hoses and fittings necessary to gravity dispense water. The Camel II also includes integrated freeze protection that can be powered by external sources. The Camel II will partially replace the M149 and M1112 (400 gallon) potable water trailers within Field Feeding Units with Containerized Kitchens (CKs). The increase from 400-gallons to 800-gallons in capacity will decrease the frequency of water refill requirements by reducing the number of resupplies required per day. The Camel II will provide a CK with a greater capacity for carrying one full day of supply (DOS) of potable water required, approximately 1.92 gallons/person/day (gpd), for field feeding (two Unitized Group Rations [UGRs] and one Meal, Ready to Eat [MRE] per day). Current and emerging doctrine dictates the need for a combat enabler that increases unit level storage and DOS capabilities on the battlefield. Camel II will interface with the MTV 5-ton Truck as the prime mover and is operationally compatible with existing and future water purification, transport, and distribution systems. The design of Camel II Increment One includes an allowance for the space and weight necessary for the add-on capability of Increment Two, which includes a modular unit capable of water chilling, circulation, pumping (self-load/unload), and power generation. The AAO is 488.

The Fuel System Supply Point (FSSP) is a family of systems which consists of three storage capacities: 120K, 300K, and 800K gallon systems. This system is a bulk fuel receiving, issuing, and storing facility consisting of a 600 Gallons per Minute (GPM) pump, 350 GPM pump, 350 GPM filter separator and collapsible fabric storage tanks. The tanks vary in size from 20,000 gallons to 210,000 gallons. The 120K FSSP has 6 ea 20K fuel bags and 2 ea 350 GPM pumps. The 300K FSSP has 6 ea 50K fuel bags and 2 ea 350 GPM Pumps. The 800K FSSP has 4 ea 210K fuel bags and 2 ea 600 GPM pumps. The AAO: FSSP 120K is 178 systems, FSSP 300K is 219 systems, and FSSP 800K is 58 systems.

Note: The Army is the executive agent for the Management of Land-Based Water Resources in support of Contingency Operations and has responsibility for all inland distribution of fuel and water to include support to other services. Distribution Systems support the Stryker Brigade Combat Teams (SBCTs), Brigade Combat Teams, Field Artillery, Maneuver Enhancement Brigades, and the Petroleum and Water Quartermaster (QM) modular force war fighting capabilities. These systems are the Army's primary means of distributing and issuing retail and bulk petroleum and water. The Army cannot fight without clean water and fuel. These systems enable the Army to achieve its Force 2025 vision by providing highly mobile and self-sustaining equipment to hostile theaters of operation. The ability to rapidly, efficiently, and safely distribute fuel on the battlefield is a critical combat enabler. Funding supports a balanced investment strategy for the Army's approved force structure and Army Force Generation (ARFORGEN) requirements to support Active, National Guard, and Reserve Components.

<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	198	152	310	-	310	354	401	119	88
	Total Obligation Authority	22.956	20.586	44.486	13.986	58.472	49.732	34.780	12.330	8.736
ANG	Quantity	155	54	226	-	226	279	193	99	155
	Total Obligation Authority	12.954	5.105	21.469	-	21.469	22.401	14.555	8.659	13.948

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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 03: Other Support Equipment / BSA 30: Petroleum Equipment					<b>P-1 Line Item Number / Title:</b> 4700MA6000 / Distribution Systems, Petroleum & Water				
<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
AR	Quantity	53	10	99	-	99	63	74	81	164
	Total Obligation Authority	5.712	0.780	8.912	-	8.912	4.450	4.834	6.153	14.868
<b>Total:</b> Secondary Distribution	<b>Quantity</b>	<b>406</b>	<b>216</b>	<b>635</b>	<b>-</b>	<b>635</b>	<b>696</b>	<b>668</b>	<b>299</b>	<b>407</b>
	<b>Total Obligation Authority</b>	<b>41.622</b>	<b>26.471</b>	<b>74.867</b>	<b>13.986</b>	<b>88.853</b>	<b>76.583</b>	<b>54.169</b>	<b>27.142</b>	<b>37.552</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 03: Other Support Equipment / BSA 30: Petroleum Equipment

**P-1 Line Item Number / Title:**  
4700MA6000 / Distribution Systems, Petroleum & Water

**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	M60300 / FUEL SYSTEM SUPPLY POINT		A		- / 382.668	- / -	2 / 1.770	- / -	- / -	- / -
P-5	R02600 / Modular Fuel System (MFS)	P-5a, P-21	A		349 / 227.566	176 / 9.897	131 / 10.186	482 / 39.434	- / -	482 / 39.434
P-5	R02670 / EXPEDITIONARY WATER PACKAGING SYSTEM (EWPS)		A		2 / 7.611	1 / 2.768	- / -	- / -	- / -	- / -
P-5	R02690 / EARLY ENTRY FLUID DISTRIBUTION SYSTEM (E2FDS)	P-5a, P-21	B		1 / 0.626	1 / 5.226	1 / 4.852	6 / 16.937	- / -	6 / 16.937
P-5	R38000 / Mobile Tactical Refueling System	P-5a, P-21	B		10 / 7.297	49 / 3.576	- / 0.000	82 / 8.674	- / 1.350	82 / 10.024
P-5	R38100 / HIPPO WATER DISTRIBUTION SYSTEM	P-5a, P-21	A		148 / 272.461	142 / 15.696	41 / 5.342	65 / 9.822	- / 12.636	65 / 22.458
P-5	R38101 / Unit Water Pod System (Camel)	P-5a	A		66 / 91.405	37 / 4.459	41 / 4.321	- / -	- / -	- / -
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>576 / 989.634</b>	<b>406 / 41.622</b>	<b>216 / 26.471</b>	<b>635 / 74.867</b>	<b>- / 13.986</b>	<b>635 / 88.853</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 \$74.867 million supports the procurement of 82 ea. Mobile Tactical Refueling System (MTRRS), 482 ea. Modular Fuel System (MFS) Tank Rack Module (TRM), 6 ea. Early Entry Fluid Distribution System (E2FDS), and an urgent buy for 65 ea. Load Handling System (LHS) Compatible Water Tank Racks System (Hippo). This funding also supports engineering changes; system engineering/program management; system test & evaluation; training; logistics products; support equipment; and fielding.

FY 2020 Overseas Contingency Operations (OCO) funding in the amount of \$13.986 million supports the urgent buy and fielding of 82 ea. Hippos for the European Deterrence Initiative (EDI). The FY 2020 OCO funding also supports the procurement and fielding of 25 ea. MTRRS systems for the EDI. MTRRS is replacing the Tank Pump Unit which has exceeded its useful life.

The Army is the executive agent for the Management of Land-Based Water Resources in support of Contingency Operations and has responsibility for all inland distribution of fuel and water to include support to other services. Distribution Systems support the Stryker Brigade Combat Teams (SBCTs), Brigade Combat Teams, Field Artillery, Maneuver Enhancement Brigades, and the Petroleum and Water Quartermaster (QM) modular force war fighting capabilities. These systems are the Army's primary means of distributing and issuing retail and bulk petroleum and water. The Army cannot fight without clean water and fuel. These systems enable the Army to achieve its Force 2025 vision by providing highly mobile and self-sustaining equipment to hostile theaters of operation. The ability to rapidly, efficiently, and safely distribute fuel on the battlefield is a critical combat enabler. Funding supports a balanced investment strategy for the Army's approved force structure and Army Force Generation (ARFORGEN) requirements to support Active, National Guard, and Reserve Components.

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 / 03 / 30	<b>P-1 Line Item Number / Title:</b> 4700MA6000 / Distribution Systems, Petroleum & Water	<b>Item Number / Title [DODIC]:</b> M60300 / FUEL SYSTEM SUPPLY POINT

<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)	-	-	2	-	-	-
Gross/Weapon System Cost (\$ in Millions)	382.668	-	1.770	-	-	-
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	382.668	-	1.770	-	-	-
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>382.668</b>	-	<b>1.770</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)	-	-	885.000	-	-	-

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																		
FSSP 300K	3,091.000	63	194.733	-	-	-	790.000	2	1.580	-	-	-	-	-	-	-	-	-
FSSP 120K	-	-	97.700	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FSSP 800K	-	-	66.100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
System Engineering/ Program Management	-	-	18.135	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fielding	-	-	6.000	-	-	-	-	-	0.190	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	<b>382.668</b>	-	-	-	-	-	<b>1.770</b>	-	-	-	-	-	-	-	-	-
<i>Subtotal: Flyaway Cost</i>	-	-	<b>382.668</b>	-	-	-	-	-	<b>1.770</b>	-	-	-	-	-	-	-	-	-
<b>Gross/Weapon System Cost</b>	-	-	<b>382.668</b>	-	-	-	<b>885.000</b>	<b>2</b>	<b>1.770</b>	-	-	-	-	-	-	-	-	-

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	-	2	-	-	-
	Total Obligation Authority	-	1.770	-	-	-
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	-	<b>2</b>	-	-	-
	<b>Total Obligation Authority</b>	-	<b>1.770</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 / 03 / 30	<b>P-1 Line Item Number / Title:</b> 4700MA6000 / Distribution Systems, Petroleum & Water	<b>Item Number / Title [DODIC]:</b> R02600 / Modular Fuel System (MFS)

<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 ( <i>Units in Each</i> )	349	176	131	482	-	482
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	227.566	9.897	10.186	39.434	-	39.434
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	227.566	9.897	10.186	39.434	-	39.434
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>227.566</b>	<b>9.897</b>	<b>10.186</b>	<b>39.434</b>	<b>-</b>	<b>39.434</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> )	652.052	56.233	77.756	81.813	-	81.813

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																		
Pump Rack Modules	588.000	1	0.588	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tank Rack Modules <sup>(†)</sup>	55.947	1,019	57.010	75.056	126	9.457	77.456	114	8.830	78.417	482	37.797	-	-	-	78.417	482	37.797
Engineering Changes	-	-	35.220	-	-	0.100	-	-	0.100	-	-	0.236	-	-	-	-	-	0.236
System Engineering/ Program Management	-	-	57.680	-	-	0.200	-	-	0.603	-	-	0.649	-	-	-	-	-	0.649
System Test & Evaluation, Production	-	-	36.950	-	-	0.020	-	-	0.250	-	-	0.203	-	-	-	-	-	0.203
Training	-	-	1.284	-	-	0.025	-	-	0.150	-	-	0.101	-	-	-	-	-	0.101
Data	-	-	2.806	-	-	-	-	-	0.150	-	-	0.035	-	-	-	-	-	0.035
Support Equipment	-	-	3.350	-	-	0.020	-	-	0.053	-	-	0.207	-	-	-	-	-	0.207
Fielding	-	-	32.678	-	-	0.075	-	-	0.050	-	-	0.206	-	-	-	-	-	0.206
<i>Subtotal: Recurring Cost</i>	-	-	227.566	-	-	9.897	-	-	10.186	-	-	39.434	-	-	-	-	-	39.434
<i>Subtotal: Flyaway Cost</i>	-	-	227.566	-	-	9.897	-	-	10.186	-	-	39.434	-	-	-	-	-	39.434
<b>Gross/Weapon System Cost</b>	<b>652.052</b>	<b>349</b>	<b>227.566</b>	<b>56.233</b>	<b>176</b>	<b>9.897</b>	<b>77.756</b>	<b>131</b>	<b>10.186</b>	<b>81.813</b>	<b>482</b>	<b>39.434</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>81.813</b>	<b>482</b>	<b>39.434</b>

**Remarks:**

The Cost Element detail of the P5 (Hardware) provides procurement quantities associated with FY 2018 and FY2019 Base requested funding. The quantities in the P5 Resource Summary header and Gross/Weapon System Cost totals for FY 2018 and FY2019 Base were not accurately portrayed during system input.

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 03 / 30	<b>P-1 Line Item Number / Title:</b> 4700MA6000 / Distribution Systems, Petroleum & Water	<b>Item Number / Title [DODIC]:</b> R02600 / Modular Fuel System (MFS)
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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	88	81	246	-	246
	Total Obligation Authority	4.486	6.284	20.131	-	20.131
ANG	Quantity	88	40	167	-	167
	Total Obligation Authority	5.411	3.122	13.670	-	13.670
AR	Quantity	-	10	69	-	69
	Total Obligation Authority	-	0.780	5.633	-	5.633
<b>Total:</b>	<b>Quantity</b>	<b>176</b>	<b>131</b>	<b>482</b>	<b>-</b>	<b>482</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>9.897</b>	<b>10.186</b>	<b>39.434</b>	<b>-</b>	<b>39.434</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 / 03 / 30	<b>P-1 Line Item Number / Title:</b> 4700MA6000 / Distribution Systems, Petroleum & Water	<b>Item Number / Title [DODIC]:</b> R02600 / Modular Fuel System (MFS)
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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
Tank Rack Modules <sup>(†)</sup>		2018	TBD / TBD	C / FFP	TACOM	Aug 2018	Feb 2019	126	75.056	N		
Tank Rack Modules <sup>(†)</sup>		2019	TBD / TBD	C / FFP	TACOM	Apr 2019	Oct 2019	114	77.456	N		
Tank Rack Modules <sup>(†)</sup>		2020	TBD / TBD	C / FFP	TACOM	Jan 2020	Jul 2020	482	78.417	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 / 03 / 30 **P-1 Line Item Number / Title:** 4700MA6000 / Distribution Systems, Petroleum & Water **Item Number / Title [DODIC]:** R02600 / Modular Fuel System (MFS)

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	
Tank Rack Modules																																
Prior Years Deliveries: 1019																																
1	2018	ARMY		126	126	0																							0			
1	2019	ARMY		114	0	114	15	15	15	20	19	15	15																0			
1	2020	ARMY		482	0	482				A	-	-	-	-	-	15	45	45	45	45	45	45	45	45	45	45	32	30	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 / 03 / 30				<b>P-1 Line Item Number / Title:</b> 4700MA6000 / Distribution Systems, Petroleum & Water				<b>Item Number / Title [DODIC]:</b> R02600 / Modular Fuel System (MFS)				
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	20	45	1	11	6	17	0	0	6	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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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 03 / 30	<b>P-1 Line Item Number / Title:</b> 4700MA6000 / Distribution Systems, Petroleum & Water	<b>Item Number / Title [DODIC]:</b> R02670 / EXPEDITIONARY WATER PACKAGING SYSTEM (EWPS)

<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)	2	1	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	7.611	2.768	-	-	-	-
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	7.611	2.768	-	-	-	-
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>7.611</b>	<b>2.768</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)	3,805.500	2,768.000	-	-	-	-

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 Recurring	1,400.000	4	5.600	1,275.000	2	2.550	-	-	-	-	-	-	-	-	-	-	-	-
System Engineering/Program Management	-	-	0.750	-	-	0.177	-	-	-	-	-	-	-	-	-	-	-	-
Training	-	-	0.120	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Data	-	-	0.180	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Support Equipment	-	-	0.485	-	-	0.026	-	-	-	-	-	-	-	-	-	-	-	-
Fielding	-	-	0.476	-	-	0.015	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	7.611	-	-	2.768	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Flyaway Cost</i>	-	-	7.611	-	-	2.768	-	-	-	-	-	-	-	-	-	-	-	-
<b>Gross/Weapon System Cost</b>	<b>3,805.500</b>	<b>2</b>	<b>7.611</b>	<b>2,768.000</b>	<b>1</b>	<b>2.768</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 1	-	-	-	-
	Total Obligation Authority 2.768	-	-	-	-
<b>Total: Secondary Distribution</b>	Quantity 1	-	-	-	-
	Total Obligation Authority 2.768	-	-	-	-

**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 / 03 / 30	<b>P-1 Line Item Number / Title:</b> 4700MA6000 / Distribution Systems, Petroleum & Water	<b>Item Number / Title [DODIC]:</b> R02690 / EARLY ENTRY FLUID DISTRIBUTION SYSTEM (E2FDS)

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : B	<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	1	6	-	6
Gross/Weapon System Cost (\$ in Millions)	0.626	5.226	4.852	16.937	-	16.937
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	0.626	5.226	4.852	16.937	-	16.937
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>0.626</b>	<b>5.226</b>	<b>4.852</b>	<b>16.937</b>	<b>-</b>	<b>16.937</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)	626.000	5,226.000	4,852.000	2,822.833	-	2,822.833

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>Flyaway Cost</b>																		
<b>Recurring Cost</b>																		
E2FDS System <sup>(†)</sup>	626.000	1	0.626	2,950.000	1	2.950	2,950.000	1	2.950	2,458.333	6	14.750	-	-	-	2,458.333	6	14.750
Engineering Changes	-	-	-	-	-	0.024	-	-	0.200	-	-	-	-	-	-	-	-	-
System engineering/ Program management	-	-	-	-	-	0.956	-	-	0.968	-	-	0.682	-	-	-	-	-	0.682
System Test & Evaluation, Production	-	-	-	-	-	0.450	-	-	0.055	-	-	0.280	-	-	-	-	-	0.280
Training	-	-	-	-	-	0.200	-	-	0.200	-	-	0.100	-	-	-	-	-	0.100
Data	-	-	-	-	-	0.200	-	-	0.075	-	-	0.050	-	-	-	-	-	0.050
Support Equipment	-	-	-	-	-	0.196	-	-	0.154	-	-	0.075	-	-	-	-	-	0.075
Fielding	-	-	-	-	-	0.250	-	-	0.250	-	-	1.000	-	-	-	-	-	1.000
<i>Subtotal: Recurring Cost</i>	-	-	0.626	-	-	5.226	-	-	4.852	-	-	16.937	-	-	-	-	-	16.937
<i>Subtotal: Flyaway Cost</i>	-	-	0.626	-	-	5.226	-	-	4.852	-	-	16.937	-	-	-	-	-	16.937
<b>Gross/Weapon System Cost</b>	<b>626.000</b>	<b>1</b>	<b>0.626</b>	<b>5,226.000</b>	<b>1</b>	<b>5.226</b>	<b>4,852.000</b>	<b>1</b>	<b>4.852</b>	<b>2,822.833</b>	<b>6</b>	<b>16.937</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>2,822.833</b>	<b>6</b>	<b>16.937</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 1	Quantity 1	Quantity 6	-	Quantity 6
	Total Obligation Authority 5.226	Total Obligation Authority 4.852	Total Obligation Authority 16.937	-	Total Obligation Authority 16.937
<b>Total:</b>	<b>Quantity 1</b>	<b>Quantity 1</b>	<b>Quantity 6</b>	<b>-</b>	<b>Quantity 6</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 / 03 / 30	<b>P-1 Line Item Number / Title:</b> 4700MA6000 / Distribution Systems, Petroleum & Water	<b>Item Number / Title [DODIC]:</b> R02690 / EARLY ENTRY FLUID DISTRIBUTION SYSTEM (E2FDS)

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : B	<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	5.226	4.852	16.937	-	16.937

(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 / 03 / 30			<b>P-1 Line Item Number / Title:</b> 4700MA6000 / Distribution Systems, Petroleum & Water				<b>Item Number / Title [DODIC]:</b> R02690 / EARLY ENTRY FLUID DISTRIBUTION SYSTEM (E2FDS)					

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
E2FDS System <sup>(†)</sup>		2018	DRS / White Plains, IL	C / FFP	TACOM	Aug 2019	Feb 2020	1	2,950.000	N		
E2FDS System <sup>(†)</sup>		2019	DRS / White Plains, IL	C / FFP	TACOM	Aug 2019	Feb 2020	1	2,950.000	N		
E2FDS System <sup>(†)</sup>		2020	DRS / White Plains, IL	C / FFP	TACOM	Apr 2020	Oct 2020	6	2,458.333	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														
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 03 / 30										<b>P-1 Line Item Number / Title:</b> 4700MA6000 / Distribution Systems, Petroleum & Water										<b>Item Number / Title [DODIC]:</b> R02690 / EARLY ENTRY FLUID DISTRIBUTION SYSTEM (E2FDS)									

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			
E2FDS System																																	
Prior Years Deliveries: 1																																	
	1	2018	ARMY	1	1	0																							0				
	1	2019	ARMY	1	1	0																							0				
	1	2020	ARMY	6	0	6	1	1	1	1	1	1																	0				
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P			

**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 / 03 / 30		<b>P-1 Line Item Number / Title:</b> 4700MA6000 / Distribution Systems, Petroleum & Water
		<b>Item Number / Title [DODIC]:</b> R02690 / EARLY ENTRY FLUID DISTRIBUTION SYSTEM (E2FDS)

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 - White Plains, IL	1	1	2	18	0	6	6	0	0	6	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 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 / 03 / 30		<b>P-1 Line Item Number / Title:</b> 4700MA6000 / Distribution Systems, Petroleum & Water
		<b>Item Number / Title [DODIC]:</b> R38000 / Mobile Tactical Refueling System

<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)		10	49	-	82	-	82
Gross/Weapon System Cost (\$ in Millions)		7.297	3.576	0.000	8.674	1.350	10.024
Less PY Advance Procurement (\$ in Millions)		-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)		7.297	3.576	0.000	8.674	1.350	10.024
Plus CY Advance Procurement (\$ in Millions)		-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>		<b>7.297</b>	<b>3.576</b>	<b>0.000</b>	<b>8.674</b>	<b>1.350</b>	<b>10.024</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)	729.700	72.980	-	105.780	-	122.244	

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																		
Mobile Tactical Refueling System <sup>(†)</sup>	52.100	10	0.521	52.061	49	2.551	-	-	-	52.049	82	4.268	52.040	25	1.301	52.047	107	5.569
Engineering Changes (ECPs)	-	-	1.211	-	-	0.250	-	-	-	-	-	0.227	-	-	-	-	-	0.227
System Engineering/ Program Management	-	-	0.800	-	-	0.550	-	-	-	-	-	0.770	-	-	-	-	-	0.770
System Test & Evaluation, Production	-	-	0.570	-	-	-	-	-	-	-	-	0.951	-	-	-	-	-	0.951
Training	-	-	0.005	-	-	0.050	-	-	-	-	-	0.170	-	-	-	-	-	0.170
Data	-	-	4.005	-	-	0.150	-	-	-	-	-	2.079	-	-	-	-	-	2.079
Support Equipment	-	-	0.160	-	-	0.025	-	-	-	-	-	0.050	-	-	-	-	-	0.050
Fielding	-	-	0.025	-	-	-	-	-	-	-	-	0.159	-	-	0.049	-	-	0.208
<i>Subtotal: Recurring Cost</i>	-	-	<i>7.297</i>	-	-	<i>3.576</i>	-	-	-	-	-	<i>8.674</i>	-	-	<i>1.350</i>	-	-	<i>10.024</i>
<i>Subtotal: Flyaway Cost</i>	-	-	<i>7.297</i>	-	-	<i>3.576</i>	-	-	-	-	-	<i>8.674</i>	-	-	<i>1.350</i>	-	-	<i>10.024</i>
<b>Gross/Weapon System Cost</b>	<b>729.700</b>	<b>10</b>	<b>7.297</b>	<b>72.980</b>	<b>49</b>	<b>3.576</b>	-	-	<b>0.000</b>	<b>105.780</b>	<b>82</b>	<b>8.674</b>	-	-	<b>1.350</b>	<b>122.244</b>	<b>82</b>	<b>10.024</b>

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	16	-	31	-	31

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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 / 03 / 30	<b>P-1 Line Item Number / Title:</b> 4700MA6000 / Distribution Systems, Petroleum & Water	<b>Item Number / Title [DODIC]:</b> R38000 / Mobile Tactical Refueling System

**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
	Total Obligation Authority	0.946	-	3.273	1.350	4.623
ANG	Quantity	19	-	26	-	26
	Total Obligation Authority	1.463	-	2.837	-	2.837
AR	Quantity	14	-	25	-	25
	Total Obligation Authority	1.167	-	2.564	-	2.564
<b>Total:</b>	<b>Quantity</b>	<b>49</b>	<b>-</b>	<b>82</b>	<b>-</b>	<b>82</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>3.576</b>	<b>0.000</b>	<b>8.674</b>	<b>1.350</b>	<b>10.024</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 / 03 / 30			<b>P-1 Line Item Number / Title:</b> 4700MA6000 / Distribution Systems, Petroleum & Water				<b>Item Number / Title [DODIC]:</b> R38000 / Mobile Tactical Refueling System				

<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>
Mobile Tactical Refueling System <sup>(†)</sup>		2018	TBD / TBD	C / FFP	TBD	Jun 2019	Oct 2019	49	52.061	N		
Mobile Tactical Refueling System <sup>(†)</sup>		2020	TBD / TBD	C / FFP	TBD	Jan 2020	May 2020	107	52.047	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												
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 03 / 30											<b>P-1 Line Item Number / Title:</b> 4700MA6000 / Distribution Systems, Petroleum & Water											<b>Item Number / Title [DODIC]:</b> R38000 / Mobile Tactical Refueling System													
<b>Cost Elements</b> <i>(Units in Each)</i>						<b>Fiscal Year 2021</b>														<b>Fiscal Year 2022</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 2020</b>	<b>BAL DUE AS OF 1 OCT</b>	<b>Calendar Year 2021</b>														<b>Calendar Year 2022</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>					
Mobile Tactical Refueling System																																			
Prior Years Deliveries: 10																																			
	1	2018	ARMY	49	49	0																							0						
	1	2020	ARMY	107	39	68	10	10	10	10	10	10	8																	0					
							<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>					

**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 / 03 / 30		<b>P-1 Line Item Number / Title:</b> 4700MA6000 / Distribution Systems, Petroleum & Water
		<b>Item Number / Title [DODIC]:</b> R38000 / Mobile Tactical Refueling 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	TBD - TBD	1	8	20	0	9	4	13	0	4	4	8

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

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



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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 03 / 30	<b>P-1 Line Item Number / Title:</b> 4700MA6000 / Distribution Systems, Petroleum & Water	<b>Item Number / Title [DODIC]:</b> R38100 / HIPPO WATER DISTRIBUTION SYSTEM

<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)	148	142	41	65	-	65
Gross/Weapon System Cost (\$ in Millions)	272.461	15.696	5.342	9.822	12.636	22.458
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	272.461	15.696	5.342	9.822	12.636	22.458
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>272.461</b>	<b>15.696</b>	<b>5.342</b>	<b>9.822</b>	<b>12.636</b>	<b>22.458</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)	1,840.953	110.535	130.293	151.108	-	345.508

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																		
HIPPO <sup>(†)</sup>	398.695	383	152.700	103.479	142	14.694	104.878	41	4.300	126.231	65	8.205	126.232	82	10.351	126.231	147	18.556
Engineering Changes	-	-	14.200	-	-	0.100	-	-	0.150	-	-	0.050	-	-	-	-	-	0.050
System Engineering/ Program Management	-	-	51.618	-	-	0.152	-	-	0.242	-	-	0.395	-	-	-	-	-	0.395
System Test & Evaluation, Production	-	-	20.400	-	-	0.150	-	-	0.250	-	-	0.152	-	-	-	-	-	0.152
Training	-	-	1.400	-	-	0.100	-	-	0.050	-	-	0.175	-	-	0.296	-	-	0.471
Data	-	-	1.550	-	-	0.050	-	-	0.050	-	-	0.085	-	-	-	-	-	0.085
Support Equipment	-	-	13.803	-	-	0.100	-	-	0.050	-	-	0.035	-	-	-	-	-	0.035
Fielding	-	-	16.790	-	-	0.350	-	-	0.250	-	-	0.725	-	-	1.989	-	-	2.714
<i>Subtotal: Recurring Cost</i>	-	-	272.461	-	-	15.696	-	-	5.342	-	-	9.822	-	-	12.636	-	-	22.458
<i>Subtotal: Flyaway Cost</i>	-	-	272.461	-	-	15.696	-	-	5.342	-	-	9.822	-	-	12.636	-	-	22.458
<b>Gross/Weapon System Cost</b>	<b>1,840.953</b>	<b>148</b>	<b>272.461</b>	<b>110.535</b>	<b>142</b>	<b>15.696</b>	<b>130.293</b>	<b>41</b>	<b>5.342</b>	<b>151.108</b>	<b>65</b>	<b>9.822</b>	<b>-</b>	<b>-</b>	<b>12.636</b>	<b>345.508</b>	<b>65</b>	<b>22.458</b>

**Remarks:**

The FY 2020 increase in unit cost is due to updated material pricing data used to inform the requirement. System issues prevented the correct population of quantities in the P5 Resource Summary header and Gross/Weapon System Cost totals for FY 2020 OCO. The Cost Element detail of the P5 (Hardware) provides planned procurement quantities associated with FY 2020 OCO requested funding.

**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 / 03 / 30	<b>P-1 Line Item Number / Title:</b> 4700MA6000 / Distribution Systems, Petroleum & Water	<b>Item Number / Title [DODIC]:</b> R38100 / HIPPO WATER DISTRIBUTION SYSTEM

<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>
Army	Quantity	75	41	27	-	27
	Total Obligation Authority	7.515	5.342	4.145	12.636	16.781
ANG	Quantity	28	-	33	-	33
	Total Obligation Authority	3.636	-	4.962	-	4.962
AR	Quantity	39	-	5	-	5
	Total Obligation Authority	4.545	-	0.715	-	0.715
<b>Total:</b>	<b>Quantity</b>	<b>142</b>	<b>41</b>	<b>65</b>	<b>-</b>	<b>65</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>15.696</b>	<b>5.342</b>	<b>9.822</b>	<b>12.636</b>	<b>22.458</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 / 03 / 30			<b>P-1 Line Item Number / Title:</b> 4700MA6000 / Distribution Systems, Petroleum & Water				<b>Item Number / Title [DODIC]:</b> R38100 / HIPPO WATER DISTRIBUTION 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
HIPPO <sup>(†)</sup>		2018	WEW Container Systems GmbH / RingstraBe 65, 57586 Weitefeld, Germany	C / FFP	TACOM	Feb 2018	Sep 2018	142	103.479	N		
HIPPO <sup>(†)</sup>		2019	TBD / TBD	C / FFP	TACOM	Aug 2019	Dec 2019	41	104.878	N		
HIPPO <sup>(†)</sup>		2020	TBD / TBD	C / FFP	TACOM	Feb 2020	Jun 2020	147	126.231	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														
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 03 / 30										<b>P-1 Line Item Number / Title:</b> 4700MA6000 / Distribution Systems, Petroleum & Water										<b>Item Number / Title [DODIC]:</b> R38100 / HIPPO WATER DISTRIBUTION SYSTEM									

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						
HIPPO																																				
Prior Years Deliveries: 383																																				
	2	2018	ARMY	142	142	0																												0		
	1	2019	ARMY	41	0	41	-	-	15	15	11																							0		
	1	2020	ARMY	147	0	147						A	-	-	-	-	12	12	12	12	12	12	12	12	12	12	12	13	13	13						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 / 03 / 30		<b>P-1 Line Item Number / Title:</b> 4700MA6000 / Distribution Systems, Petroleum & Water
		<b>Item Number / Title [DODIC]:</b> R38100 / HIPPO WATER DISTRIBUTION 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	TBD - TBD	10	20	40	18	18	4	22	0	0	4	4
2	WEW Container Systems GmbH - RingstraBe 65, 57586 Weitefeld, Germany	10	15	30	0	4	7	11	0	4	7	11

"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 / 03 / 30	<b>P-1 Line Item Number / Title:</b> 4700MA6000 / Distribution Systems, Petroleum & Water	<b>Item Number / Title [DODIC]:</b> R38101 / Unit Water Pod System (Camel)

<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)	66	37	41	-	-	-
Gross/Weapon System Cost (\$ in Millions)	91.405	4.459	4.321	-	-	-
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	91.405	4.459	4.321	-	-	-
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>91.405</b>	<b>4.459</b>	<b>4.321</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)	1,384.924	120.514	105.390	-	-	-

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>																		
Camel II <sup>(†)</sup>	69.000	410	28.290	93.784	37	3.470	93.878	41	3.849	-	-	-	-	-	-	-	-	-
Engineering Changes	-	-	9.180	-	-	0.178	-	-	0.030	-	-	-	-	-	-	-	-	-
System Engineering/ Program Management	-	-	10.550	-	-	0.356	-	-	0.206	-	-	-	-	-	-	-	-	-
System Test & Evaluation, Production	-	-	9.160	-	-	0.025	-	-	0.025	-	-	-	-	-	-	-	-	-
Training	-	-	7.500	-	-	0.150	-	-	-	-	-	-	-	-	-	-	-	-
Data	-	-	9.550	-	-	0.080	-	-	0.050	-	-	-	-	-	-	-	-	-
Support Equipment	-	-	7.175	-	-	0.100	-	-	0.050	-	-	-	-	-	-	-	-	-
Fielding	-	-	10.000	-	-	0.100	-	-	0.111	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	91.405	-	-	4.459	-	-	4.321	-	-	-	-	-	-	-	-	-
<i>Subtotal: Flyaway Cost</i>	-	-	91.405	-	-	4.459	-	-	4.321	-	-	-	-	-	-	-	-	-
<b>Gross/Weapon System Cost</b>	<b>1,384.924</b>	<b>66</b>	<b>91.405</b>	<b>120.514</b>	<b>37</b>	<b>4.459</b>	<b>105.390</b>	<b>41</b>	<b>4.321</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	17	27	-	-	-
	Total Obligation Authority	2.015	2.338	-	-	-
ANG	Quantity	20	14	-	-	-

**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 / 03 / 30	<b>P-1 Line Item Number / Title:</b> 4700MA6000 / Distribution Systems, Petroleum & Water	<b>Item Number / Title [DODIC]:</b> R38101 / Unit Water Pod System (Camel)

<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	2.444	1.983	-	-	-
<b>Total:</b>	<b>Quantity</b>	<b>37</b>	<b>41</b>	-	-	-
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>4.459</b>	<b>4.321</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 / 03 / 30			<b>P-1 Line Item Number / Title:</b> 4700MA6000 / Distribution Systems, Petroleum & Water					<b>Item Number / Title [DODIC]:</b> R38101 / Unit Water Pod System (Camel)				
<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>
Camel II		2018	Choctaw Defense Manufacturing / McAlester, OK	SS / FFP	McAlester, OK	Jan 2018	Nov 2018	37	93.784	Y		
Camel II		2019	Choctaw Defense Manufacturing / McAlester, OK	SS / FFP	McAlester, OK	Dec 2018	Oct 2019	41	93.878	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 03: Other Support Equipment / BSA 40: Medical Equipment	<b>P-1 Line Item Number / Title:</b> 7500MN1000 / Combat Support Medical
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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> )	5,484	4,058	3,217	3,845	-	3,845	3,036	3,375	3,267	4,297	-	30,579
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	946.582	95.533	102.765	68.225	2.735	70.960	36.564	42.674	33.691	29.750	-	1,358.519
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	946.582	95.533	102.765	68.225	2.735	70.960	36.564	42.674	33.691	29.750	-	1,358.519
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>946.582</b>	<b>95.533</b>	<b>102.765</b>	<b>68.225</b>	<b>2.735</b>	<b>70.960</b>	<b>36.564</b>	<b>42.674</b>	<b>33.691</b>	<b>29.750</b>	<b>-</b>	<b>1,358.519</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> )	172.608	23.542	31.944	17.744	-	18.455	12.043	12.644	10.313	6.923	-	44.427

**Description:**

Combat Support Medical (CSM) represents the equipping component of Army operational medical and health service support capabilities. The CSM program promotes, improves conserves, and maximizes mental and physical performance of Warfighters within the spectrum of military operations. CSM supports technologically advanced medical/surgical capabilities, medical materiel, and nonmedical equipment required in our Combat, Combat Support, and Combat Service Support force structure.

The Army medicine equipping strategy is fully integrated within Combined Arms Support Command (CASCOM) sustainment priorities: (a) Tactical Combat Casualty Care (TC3), (b) Forward Resuscitation and Surgery, (c) Early Entry Capability / Advanced Trauma Treatment, (d) Air and Ground Evacuation (e) Casualty Medical Information, (f) Hospitalization, (g) Medical Logistics, (i) Infectious Disease Prevention and Treatment.

CSM equipment sustains offensive, defensive, stability and support for Unified Land Operations; including Chemical, Biological, Radiological, Nuclear, and high yield Explosives (CBRNE) Consequence Management Response Force (CCMRF), and Defense Support to Civil Authorities (DCSA).

CSM converts, recapitalizes and provides life cycle management of medical equipment throughout the deployable force at all echelons of care (Soldier self-aid to Hospitalization).

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	3,442	2,700	3,265	-	3,265	1,823	2,241	2,078	2,442
	Total Obligation Authority	72.124	81.139	50.539	2.735	53.274	22.942	26.079	18.197	18.960
ANG	Quantity	152	292	440	-	440	677	645	716	1,473
	Total Obligation Authority	7.695	12.130	9.132	-	9.132	6.866	8.411	7.947	6.878
AR	Quantity	464	225	140	-	140	536	489	473	382
	Total Obligation Authority	15.714	9.496	8.554	-	8.554	6.756	8.184	7.547	3.912
<b>Total:</b>	<b>Quantity</b>	<b>4,058</b>	<b>3,217</b>	<b>3,845</b>	<b>-</b>	<b>3,845</b>	<b>3,036</b>	<b>3,375</b>	<b>3,267</b>	<b>4,297</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 03: Other Support Equipment / BSA 40: Medical Equipment	<b>P-1 Line Item Number / Title:</b> 7500MN1000 / Combat Support Medical
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Secondary Distribution	Total Obligation Authority	95.533	102.765	68.225	2.735	70.960	36.564	42.674	33.691	29.750

**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 03: Other Support Equipment / BSA 40: Medical Equipment **P-1 Line Item Number / Title:** 7500MN1000 / Combat Support Medical

**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	G13010 / MEDEVAC Misson Equipment Package (MEP)	P-5a			43 / 110.573	254 / 15.779	34 / 26.359	- / 1.109	- / -	- / 1.109
P-5	MB1100 / FIELD MEDICAL EQUIPMENT - Medical ASIOE	P-5a			5,441 / 836.009	3,804 / 79.754	3,183 / 76.406	3,845 / 67.116	- / 2.735	3,845 / 69.851
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>5,484 / 946.582</b>	<b>4,058 / 95.533</b>	<b>3,217 / 102.765</b>	<b>3,845 / 68.225</b>	<b>- / 2.735</b>	<b>3,845 / 70.960</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 20 Base procurement dollars in the amount of \$70.960 million supports medical materiel purchases reducing critical capability and capacity gaps in support of soldier lethality and readiness. CSM medical materiel supports the health of the force and acts as a force multiplier for all Soldiers in all Operational Environments (OE).  
  
 -FY 20 Base procurement dollars in the amount of \$69.851 million supports, procures, fields, incrementally modernizes and sustains medical field system (MFS) for the deployable force; supports medical device development and major end items & sets, kits & outfits (SKOs) selection (e.g., trauma, EMT, surgery, optical, lab, dental, vet); and partially funds major end items (e.g., imaging, image management, systems linked to DoD Electronic Medical Record). MFS execution attempts to balance available funding with requirements to develop, acquire, sustain, project, and modernize medical materiel.  
  
 -FY 20 Base procurement dollars in the amount of \$1.109 million supports completion of existing MEP projects (Medevac Mission Equipment Package (MEP) / SSN: G13010).

**UNCLASSIFIED**

<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		Date: March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 03 / 40	<b>P-1 Line Item Number / Title:</b> 7500MN1000 / Combat Support Medical	<b>Item Number / Title [DODIC]:</b> G13010 / MEDEVAC Misson Equipment Package (MEP)

<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)	43	254	34	-	-	-
Gross/Weapon System Cost (\$ in Millions)	110.573	15.779	26.359	1.109	-	1.109
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	110.573	15.779	26.359	1.109	-	1.109
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>110.573</b>	<b>15.779</b>	<b>26.359</b>	<b>1.109</b>	<b>-</b>	<b>1.109</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)	2,571.465	62.122	775.265	-	-	-

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																		
Medical Mission Sensor FLIR <sup>(†)</sup>	282.683	82	23.180	916.000	7	6.412	900.083	12	10.801	-	-	-	-	-	-	-	-	-
Interim Patient Handling System (IMMSS) <sup>(†)</sup>	1,106.241	79	87.393	669.071	14	9.367	707.182	22	15.558	-	-	-	-	-	-	-	-	-
Black Hawk Advanced Medevac Window (BAM Window)	-	-	-	-	-	-	-	-	-	24.644	45	1.109	-	-	-	24.644	45	1.109
<i>Subtotal: Recurring Cost</i>	-	-	110.573	-	-	15.779	-	-	26.359	-	-	1.109	-	-	-	-	-	1.109
<i>Subtotal: Flyaway Cost</i>	-	-	110.573	-	-	15.779	-	-	26.359	-	-	1.109	-	-	-	-	-	1.109
<b>Gross/Weapon System Cost</b>	<b>2,571.465</b>	<b>43</b>	<b>110.573</b>	<b>62.122</b>	<b>254</b>	<b>15.779</b>	<b>775.265</b>	<b>34</b>	<b>26.359</b>	<b>-</b>	<b>-</b>	<b>1.109</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>1.109</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	237	12	-	-	-
	Total Obligation Authority	9.591	16.174	0.333	-	0.333
ANG	Quantity	17	22	-	-	-
	Total Obligation Authority	6.188	10.185	0.665	-	0.665
AR	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 / 03 / 40	<b>P-1 Line Item Number / Title:</b> 7500MN1000 / Combat Support Medical	<b>Item Number / Title [DODIC]:</b> G13010 / MEDEVAC Misson Equipment Package (MEP)

**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	-	-	0.111	-	0.111
<b>Total:</b>	<b>Quantity</b>	<b>254</b>	<b>34</b>	-	-	-
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>15.779</b>	<b>26.359</b>	<b>1.109</b>	-	<b>1.109</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 / 03 / 40			<b>P-1 Line Item Number / Title:</b> 7500MN1000 / Combat Support Medical				<b>Item Number / Title [DODIC]:</b> G13010 / MEDEVAC Mission Equipment Package (MEP)				

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 Mission Sensor FLIR		2018	FLIR Systems, Inc. / Portland Oregon	SS / FFP	USACC, Redstone Arsenal, AL	Oct 2017	Apr 2018	7	916.000	N		
Interim Patient Handling System (IMMSS)		2018	Air Methods Corp / Denver, Colorado	SS / FFP	USACC, Redstone Arsenal, AL	Oct 2017	Jan 2018	14	669.071	N		

**Remarks:**  
 The Medical Evacuation (MEDEVAC) Mission Equipment Package (MEP) provides critical upgrades to legacy MEDEVAC helicopters to ensure the best medical capabilities are available to support the rapid evacuation of wounded Soldiers. The program consists of two subsystems installed on recapitalized legacy MEDEVAC UH-60A/L Black Hawk helicopters. These subsystems include the Interim MEDEVAC Mission Support System (IMMSS) patient handling system, and the Medical Mission Sensor (MMS) Forward Looking Infrared (FLIR). These aircraft provide the required operational capabilities for aeromedical evacuation, and are utilized throughout the MEDEVAC fleet. The Interim MEDEVAC Mission Support System (IMMSS) includes seat pallets, seats, interior components, and a litter lift system. Includes the Smart Window - This new window will replace the older bubble window on the cargo door, and the Internal Communications System (ICS) Relocation Kit - the ICS must be located further to the rear of the helicopter to accommodate the new interior design.  
 The MEDEVAC Mission Sensor (MMS) is a Forward Looking Infra-Red (FLIR) sensor that will be used as a patient location sensor. MMS is critical for the continuous visual capability during night and adverse weather conditions.

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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 / 03 / 40	<b>P-1 Line Item Number / Title:</b> 7500MN1000 / Combat Support Medical	<b>Item Number / Title [DODIC]:</b> MB1100 / FIELD MEDICAL EQUIPMENT - Medical ASIOE

<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> )	5,441	3,804	3,183	3,845	-	3,845
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	836.009	79.754	76.406	67.116	2.735	69.851
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	836.009	79.754	76.406	67.116	2.735	69.851
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>836.009</b>	<b>79.754</b>	<b>76.406</b>	<b>67.116</b>	<b>2.735</b>	<b>69.851</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> )	153.650	20.966	24.004	17.455	-	18.167

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>																		
Laboratory science Equipment <sup>(†)</sup>	40.922	1,044	42.723	28.000	233	6.524	23.416	296	6.931	109.000	96	10.464	115.000	1	0.115	109.062	97	10.579
Ambulatory Care Equipment <sup>(†)</sup>	16.863	7,870	132.712	20.385	1,560	31.801	27.000	1,735	46.845	15.000	3,325	49.875	100.000	5	0.500	15.128	3,330	50.375
Dental Equipment <sup>(†)</sup>	2.023	58,243	117.826	98.718	39	3.850	125.600	15	1.884	21.000	21	0.441	-	-	-	21.000	21	0.441
Ophthalmology/optometry Equipment	1,495.500	8	11.964	18.000	9	0.162	-	-	-	7.000	8	0.056	-	-	-	7.000	8	0.056
Surgical Equipment <sup>(†)</sup>	90.405	1,861	168.244	25.000	472	11.800	23.000	319	7.337	9.000	108	0.972	5.000	4	0.020	8.857	112	0.992
Nursing Equipment	136.944	639	87.507	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Veterinary Equipment <sup>(†)</sup>	123.481	158	19.510	121.000	23	2.783	22.000	2	0.044	38.500	4	0.154	50.000	12	0.600	47.125	16	0.754
Diagnostic Imaging Equipment <sup>(†)</sup>	1,711.031	130	222.434	41.000	85	3.485	53.000	35	1.855	32.000	35	1.120	750.000	2	1.500	70.811	37	2.620
Therapy/Treatment <sup>(†)</sup>	4.798	1,343	6.444	70.000	12	0.840	10.000	12	0.120	3.000	4	0.012	-	-	-	3.000	4	0.012
Sterilization	92.081	62	5.709	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Environmental (Chemical)	4.000	275	1.100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Environmental (Water) <sup>(†)</sup>	4.926	2,249	11.079	-	-	-	30.000	27	0.810	15.000	17	0.255	-	-	-	15.000	17	0.255



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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 / 03 / 40	<b>P-1 Line Item Number / Title:</b> 7500MN1000 / Combat Support Medical	<b>Item Number / Title [DODIC]:</b> MB1100 / FIELD MEDICAL EQUIPMENT - Medical ASIOE
<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)
TMDE (Test, Measurement, Diagnostic Eq) <sup>(†)</sup>	57.841	107	6.189	46.000	166	7.636	60.000	133	7.980	14.000	159	2.226	-	-	-	14.000	159	2.226
EVAC/AREA SPT	2.000	271	0.542	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HOSPITAL <sup>(†)</sup>	55.000	37	2.035	125.000	87	10.875	130.000	20	2.600	110.000	14	1.540	-	-	-	110.000	14	1.540
<i>Subtotal: Recurring Cost</i>	-	-	<i>836.016</i>	-	-	<i>79.756</i>	-	-	<i>76.406</i>	-	-	<i>67.115</i>	-	-	<i>2.735</i>	-	-	<i>69.850</i>
<i>Subtotal: Flyaway Cost</i>	-	-	<i>836.016</i>	-	-	<i>79.756</i>	-	-	<i>76.406</i>	-	-	<i>67.115</i>	-	-	<i>2.735</i>	-	-	<i>69.850</i>
<b>Gross/Weapon System Cost</b>	<b>153.650</b>	<b>5,441</b>	<b>836.009</b>	<b>20.966</b>	<b>3,804</b>	<b>79.754</b>	<b>24.004</b>	<b>3,183</b>	<b>76.406</b>	<b>17.455</b>	<b>3,845</b>	<b>67.116</b>	<b>-</b>	<b>-</b>	<b>2.735</b>	<b>18.167</b>	<b>3,845</b>	<b>69.851</b>

**Remarks:**  
test

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity		3,205	2,688	3,265	3,265
	Total Obligation Authority		62.533	64.965	50.206	52.941
ANG	Quantity		135	270	440	440
	Total Obligation Authority		1.507	1.945	8.467	8.467
AR	Quantity		464	225	140	140
	Total Obligation Authority		15.714	9.496	8.443	8.443
<b>Total: Secondary Distribution</b>	<b>Quantity</b>		<b>3,804</b>	<b>3,183</b>	<b>3,845</b>	<b>3,845</b>
	<b>Total Obligation Authority</b>		<b>79.754</b>	<b>76.406</b>	<b>67.116</b>	<b>69.851</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 / 03 / 40			<b>P-1 Line Item Number / Title:</b> 7500MN1000 / Combat Support Medical				<b>Item Number / Title [DODIC]:</b> MB1100 / FIELD MEDICAL EQUIPMENT - Medical ASIOE					

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
Laboratory science Equipment		2018	Various / Various	Various	various	Aug 2017	Jan 2018	233	28.000	Y		
Ambulatory Care Equipment		2018	Various / Various	Various	various	Aug 2017	Jan 2018	1,560	20.385	Y		
Dental Equipment		2018	Various / Various	Various	various	Aug 2017	Jan 2018	39	98.718	Y		
Surgical Equipment		2018	Various / Various	Various	various	Aug 2017	Jan 2018	472	25.000	Y		
Veterinary Equipment		2018	Various / Various	Various	various	Aug 2017	Jan 2018	23	121.000	Y		
Diagnostic Imaging Equipment		2018	Various / Various	Various	various	Aug 2017	Jan 2018	85	41.000	Y		
Therapy/Treatment		2018	Various / Various	Various	various	Aug 2017	Aug 2018	12	70.000	Y		
Environmental (Water)		2017	Various / Various	Various	various	Sep 2017	Sep 2017	167	4.000	N		
TMDE (Test, Measurement, Diagnostic Eq)		2018	Various / Various	Various	various	Nov 2017	Jan 2018	166	46.000	Y		
HOSPITAL		2018	Various / Various	Various	various	Nov 2017	Jan 2018	87	125.000	Y		

**Remarks:**  
Equipment is Commercial Off The Shelf (COTS) /Government Off the Shelf (GOTS), therefore is ordered on an as needed basis to manage program most effectively.

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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 03: Other Support Equipment / BSA 45: Maintenance Equipment	<b>P-1 Line Item Number / Title:</b> 0639G05301 / Mobile Maintenance Equipment 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>	109	81	76	151	-	151	141	119	-	-	-	677
Gross/Weapon System Cost <i>(\$ in Millions)</i>	375.404	34.898	34.479	55.053	-	55.053	47.987	44.007	-	-	-	591.828
Less PY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) <i>(\$ in Millions)</i>	375.404	34.898	34.479	55.053	-	55.053	47.987	44.007	-	-	-	591.828
Plus CY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority <i>(\$ in Millions)</i></b>	<b>375.404</b>	<b>34.898</b>	<b>34.479</b>	<b>55.053</b>	<b>-</b>	<b>55.053</b>	<b>47.987</b>	<b>44.007</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>591.828</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>	3,444.073	430.840	453.671	364.589	-	364.589	340.333	369.807	-	-	-	874.192

**Description:**

The Mobile Maintenance Equipment Systems (MMES) enables readiness of combat and combat support systems through a system of systems approach to provide two-level maintenance capability to the Warfighter. Two-level maintenance is critical to the operation and readiness of current and next generation combat vehicles. Eight inter-connected maintenance systems distributed throughout the Army at multiple levels and echelons provide a holistic repair capability in all environments. This approach meets the Army's two-level maintenance philosophy and supports the current force while also providing modular configurations to meet the specific needs of the Army maintainer in today's transforming environment. The MMES family of systems includes Metal Working and Machining Shop Set, Fire Suppression Refill System, Armament Repair Shop Set, Hydraulic Systems Test and Repair Unit, Shop Equipment Welding, Shop Equipment Contact Maintenance, Forward Repair System, and Standard Automotive Tool Set.

The Metal Working and Machining Shop Set (MWMSS) program is a Shelter Mounted Set that assembles and packages tool load configurations based on the 91E (Allied Trades) Military Occupational Specialty (MOS). The MWMSS assembles and packages a tool load configuration to replace multiple obsolete Line Item Numbers (LINs) without losing any capability while reducing the logistics footprint. MWMSS increases safety and supportability for Allied Trades Soldiers and delivers state of the art machining capabilities using two module types, Type I and Type II. Type I contains a Computer Numeric Controlled (CNC) Lathe, Mill Drill, Multi-Process Welding, Thermal Cutting equipment, Air-Arc Gouging, air compressor, Mobile Electric Power (MEP) generator for shop power, Environmental Control Unit (ECU), and an assortment of hand/air tools. Type II augments Type I and contains a CNC Milling Machine, Plasma table, additive manufacturing, ECU, and an assortment of hand/air tools. The MWMSS is transportable by standard ground (PLS/LHS), air (C-130), rail and sea assets. MWMSS is being produced organically by the Joint Manufacturing Technology Center in Rock Island, IL. Army Acquisition Objective (AAO) of MWMSS is 298 Type I and 181 Type II.

The Fire Suppression Refill System (FSRS) is a modular, flexible, standardized fire suppression refill station consisting of a transportable ISO 8x8x20 container with an integrated Environmental Control Unit (ECU). The FSRS is an integrated unit equipped for safe performance of refilling fire suppression bottles and systems. The FSRS consists of an enclosure containing the tools and equipment needed to fulfill the required refill tasks and a trailer for transportation. The FSRS provides the capability to refill the vast majority of fire suppression bottles and systems currently fielded. These systems include both man portable systems as well as the fire suppression systems that can be found in military vehicles. The FSRS operates in every Support Maintenance Company (SMC) and Field Maintenance Company (FMC), Ground Support Sections. The FSRS is deployed and employed in all geographical locations and environments where the U.S. Army operates. FSRS is being produced organically by the Joint Manufacturing Technology Center in Rock Island, IL. Army Acquisition Objective (AAO) of FSRS is 171 systems.

The Armament Repair Shop Set (ARSS) significantly improves on-site maintenance capability with increased proficiency and deployability. The ARSS provides a field/sustainment level maintenance and repair support platform for armament weapon systems to support units across the full spectrum of military operations. By providing on-system maintenance repairs to weapon systems and/or components as far forward as possible on the battlefield, ARSS enables major combat systems to quickly return to the fight, provides technological advancements and professional-grade tools with lifetime warranties, which will bring

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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 03: Other Support Equipment / BSA 45: Maintenance Equipment		<b>P-1 Line Item Number / Title:</b> 0639G05301 / Mobile Maintenance Equipment 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
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**Line Item MDAP/MAIS Code:** N/A

a savings to the Army for many years. The ARSS consolidates four Line Item Numbers (LINs) to one and equips our forces with the most current and accurate tools to complete the mission while performing maintenance on the latest technologically advanced weaponry from small arms to field artillery. The consolidation of the four LINs to one results in a reduction from four tactical vehicles required to transport the individual shop sets to just one tactical vehicle to transport the ARSS. In addition, the ARSS eliminates a 51% tool redundancy across the previous four armament shop sets while reducing 43% of the armament repair tools in the field. The ARSS is fielded to the Infantry Brigade Combat Teams (IBCTs), Heavy Brigade Combat Teams (HBCTs), Stryker Brigade Combat Teams (SBCTs), Support Maintenance Companies (SMCs), Component Repair Companies (CRCs), and Forward Support Companies (FSCs). ARSS is being produced organically by the Tobyhanna Army Depot, in Pennsylvania. Army Acquisition Objective (AAO) of ARSS is 995.

The Hydraulic Systems Test and Repair Unit (HSTRU) is a robust hydraulic repair system capable of supporting four trained ordnance/engineer Soldiers at one time to conduct maintenance operations. It provides the capability to fabricate industry standard crimp-style hydraulic replacement hoses of all sizes, types, and end configurations as required to restore the hydraulic systems on battle damaged or otherwise non-mission capable equipment. HSTRU also provides the ability to fabricate industry standard steel replacement hydraulic tubes used in brake lines and other high pressure applications and bends and flares these tubes as required to create a proper replacement item. The HSTRU includes an on-system diagnostic test meter that is used for troubleshooting hydraulic problems on the supported platforms. It is a trailer-mounted system with a weather tight enclosure that is configured for rapid setup for use at the point of need. It can be deployed forward on the battlefield for battle damage repair or operated in the motor pool. The HSTRU is highly transportable on or to the battlefield by light tactical vehicle towing, highway trucks, helicopter sling load, C-130 and larger fixed-wing aircraft, smaller and larger marine vessels, and rail. Approved Acquisition Objective (AAO) is 574.

Next Generation Shop Equipment Welding (NG SEW). The Next Generation Shop Equipment Welding Trailer (NG SEW) provides a full spectrum of welding capabilities throughout the battlefield, allowing repairs to be performed in all weather, climatic and light conditions. The NG SEW system is a trailer-mounted set of commercial off-the-shelf (COTS) components, which are assembled for the specific purpose of welding and repairing vehicles and equipment in the field. The NG SEW units provides the Army with rapidly deployable welding and maintenance capabilities to be used and operated in harsh environments, which are capable of battle damage repair. The system is an integrated unit, using custom cabinets to house and secure the system equipment. The equipment consists of all the major welding processes, including: Shielded Metal Arc Welding (SMAW), commonly referred to as Stick Welding; Gas Metal Arc Welding (GMAW), commonly referred to as Metal Inert Gas (MIG); Gas Tungsten Arc Welding (GTAW), commonly referred to as Tungsten Inert Gas (TIG); Flux Cored Arc Welding (FCAW); and Gas Welding with oxygen and acetylene. The NG SEW's metal cutting processes include: the angle grinder, reciprocating saw, hack saw, oxygen, acetylene, and plasma. The NG SEW is suitable for rapid deployment, employment, and re-deployment, with minimal preparation, and is able to operate in unimproved areas and all applicable environmental conditions. The NG SEW is suitable for towing by the Army's family of light medium tactical vehicles (FMTV). The NG SEW unit receives electrical power from a 15 kW Army Standard generator, and it powers the electrical equipment while in operational mode. Approved Acquisition Objective (AAO) is 591.

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	34	51	64	-	64	60	50	-	-
	Total Obligation Authority	14.202	22.699	22.658	-	22.658	19.895	18.277	-	-
ANG	Quantity	40	18	75	-	75	69	60	-	-
	Total Obligation Authority	17.527	8.197	27.685	-	27.685	24.001	22.402	-	-
AR	Quantity	7	7	12	-	12	12	9	-	-
	Total Obligation Authority	3.169	3.583	4.710	-	4.710	4.091	3.328	-	-
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	<b>81</b>	<b>76</b>	<b>151</b>	<b>-</b>	<b>151</b>	<b>141</b>	<b>119</b>	<b>-</b>	<b>-</b>
	<b>Total Obligation Authority</b>	<b>34.898</b>	<b>34.479</b>	<b>55.053</b>	<b>-</b>	<b>55.053</b>	<b>47.987</b>	<b>44.007</b>	<b>-</b>	<b>-</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 03: Other Support Equipment / BSA 45: Maintenance Equipment

**P-1 Line Item Number / Title:**  
0639G05301 / Mobile Maintenance Equipment 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	G05315 / METAL WORKING AND MACHING SHOP SET (MWMSS)	P-5a, P-21	A		34 / 41.600	26 / 10.520	30 / 12.577	35 / 15.660	- / -	35 / 15.660
P-5	G05320 / FIRE SUPPRESSION REFILL SYSTEM (FSRS)	P-5a, P-21			13 / 14.434	17 / 6.075	17 / 6.105	26 / 8.370	- / -	26 / 8.370
P-5	G05330 / ARMAMENT REPAIR SHOP SET (ARSS)	P-5a, P-21	A		34 / 41.771	26 / 15.517	23 / 13.430	56 / 22.829	- / -	56 / 22.829
P-5	G39200 / Hydraulic Systems Test and Repair Unit (HSTRU)		A		22 / 58.834	8 / 1.482	- / 0.000	- / -	- / -	- / -
P-5	M62700 / Shop Equipment, Welding (SEW)	P-5a, P-21			6 / 218.765	4 / 1.304	6 / 2.367	34 / 8.194	- / -	34 / 8.194
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>109 / 375.404</b>	<b>81 / 34.898</b>	<b>76 / 34.479</b>	<b>151 / 55.053</b>	<b>- / -</b>	<b>151 / 55.053</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 Mobile Maintenance Equipment Systems are critical maintenance multipliers for combat equipment that mobilizes mechanics and maintenance equipment to repair damaged light, medium, and heavy Combat and Combat Support systems in the Brigade Combat Teams (BCTs) and Combat Aviation Brigades (CABs) as close to the front lines as is safely possible. The MMES significantly increases the capability of forward maintenance units to conduct necessary battlefield repairs. With the MMES, systems and Soldiers do not have to wait for recovery vehicles to arrive and remove the system from the battlefield, thus reducing risk to the soldiers and equipment.

Fire Suppression Refill System (FSRS): FY 20 Base procurement dollars in the amount of \$8.370 million support 26 FSRS to be fielded to Armored Brigade Combat Teams and Stryker Brigade Combat Teams and Support Maintenance Companies (SMC).

Metal Working and Machining Shop Set (MWMSS): FY20 Base procurement dollars in the amount of \$15.660 million supports 35 MWMSS modules (18 Type I and 15 Type II) to be fielded to Active units. MWMSS represents a significant upgrade in technology and replaces several outdated LINS.

Armament Repair Shop Set (ARSS): FY20 Base procurement dollars in the amount of \$22.829 million support 56 ARSS to be fielded to the Infantry Brigade Combat Teams (IBCTs), Heavy Brigade Combat Teams (HBCTs), Stryker Brigade Combat Teams (SBCTs), Support Maintenance Companies (SMCs), Component Repair Companies (CRCs), and Forward Support Companies (FSCs). ARSS replaces six Line Item Numbers (LINS) and provides the capability for forward maintenance for multiple weapon systems.

Shop Equipment, Welding (SEW): FY20 Base procurement dollars in the amount of \$8.194 million will purchase 34 SEW to be fielded to the Infantry Brigade Combat Teams (IBCTs), Heavy Brigade Combat Teams (HBCTs), Stryker Brigade Combat Teams (SBCTs), Support Maintenance Companies (SMCs), Component Repair Companies (CRCs), and Forward Support Companies (FSCs).

In accordance with Section 1815 of the FY 2008 National Defense Authorization Act (P.L. 110-181), these item 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.

**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 / 03 / 45	<b>P-1 Line Item Number / Title:</b> 0639G05301 / Mobile Maintenance Equipment Systems	<b>Item Number / Title [DODIC]:</b> G05315 / METAL WORKING AND MACHING SHOP SET (MWMSS)

<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)	34	26	30	35	-	35
Gross/Weapon System Cost (\$ in Millions)	41.600	10.520	12.577	15.660	-	15.660
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	41.600	10.520	12.577	15.660	-	15.660
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>41.600</b>	<b>10.520</b>	<b>12.577</b>	<b>15.660</b>	<b>-</b>	<b>15.660</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)	1,223.529	404.615	419.233	447.429	-	447.429

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>																		
Engineering Support	-	-	1.541	-	-	0.169	-	-	0.043	-	-	0.139	-	-	-	-	-	0.139
Quality Assurance Support	-	-	1.548	-	-	0.083	-	-	0.100	-	-	0.144	-	-	-	-	-	0.144
Engineer Change Proposal	-	-	2.851	-	-	0.200	-	-	0.200	-	-	0.200	-	-	-	-	-	0.200
<b>Subtotal: Recurring Cost</b>	<b>-</b>	<b>-</b>	<b>5.940</b>	<b>-</b>	<b>-</b>	<b>0.452</b>	<b>-</b>	<b>-</b>	<b>0.343</b>	<b>-</b>	<b>-</b>	<b>0.483</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>0.483</b>
<b>Subtotal: Flyaway Cost</b>	<b>-</b>	<b>-</b>	<b>5.940</b>	<b>-</b>	<b>-</b>	<b>0.452</b>	<b>-</b>	<b>-</b>	<b>0.343</b>	<b>-</b>	<b>-</b>	<b>0.483</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>0.483</b>

<b>Hardware Cost</b>																		
<b>Recurring Cost</b>																		
Metal Working Machining Shop Set Type I <sup>(f)</sup>	370.000	39	14.430	379.000	14	5.306	378.000	15	5.670	385.000	19	7.315	-	-	-	385.000	19	7.315
Metal Working Machining Shop Set Type II <sup>(f)</sup>	341.667	39	13.325	270.000	12	3.240	269.000	15	4.035	311.000	16	4.976	-	-	-	311.000	16	4.976
<b>Subtotal: Recurring Cost</b>	<b>-</b>	<b>-</b>	<b>27.755</b>	<b>-</b>	<b>-</b>	<b>8.546</b>	<b>-</b>	<b>-</b>	<b>9.705</b>	<b>-</b>	<b>-</b>	<b>12.291</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>12.291</b>
<b>Subtotal: Hardware Cost</b>	<b>-</b>	<b>-</b>	<b>27.755</b>	<b>-</b>	<b>-</b>	<b>8.546</b>	<b>-</b>	<b>-</b>	<b>9.705</b>	<b>-</b>	<b>-</b>	<b>12.291</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>12.291</b>

<b>Package Fielding Cost</b>																		
<b>Recurring Cost</b>																		
Fielding Support	-	-	2.470	-	-	0.260	-	-	0.625	-	-	0.828	-	-	-	-	-	0.828

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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 / 03 / 45	<b>P-1 Line Item Number / Title:</b> 0639G05301 / Mobile Maintenance Equipment Systems	<b>Item Number / Title [DODIC]:</b> G05315 / METAL WORKING AND MACHING SHOP SET (MWMSS)
<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)
Transportation	-	-	0.743	-	-	0.072	-	-	0.090	-	-	0.090	-	-	-	-	-	0.090
Tech Manuals	-	-	1.247	-	-	0.352	-	-	0.795	-	-	1.000	-	-	-	-	-	1.000
<i>Subtotal: Recurring Cost</i>	-	-	4.460	-	-	0.684	-	-	1.510	-	-	1.918	-	-	-	-	-	1.918
<i>Subtotal: Package Fielding Cost</i>	-	-	4.460	-	-	0.684	-	-	1.510	-	-	1.918	-	-	-	-	-	1.918
<b>Logistics Cost</b>																		
<b>Recurring Cost</b>																		
Log support	-	-	-	-	-	-	-	-	-	-	-	0.132	-	-	-	-	-	0.132
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	0.132	-	-	-	-	-	0.132
<i>Subtotal: Logistics Cost</i>	-	-	-	-	-	-	-	-	-	-	-	0.132	-	-	-	-	-	0.132
<b>Support - Program Management Cost</b>																		
Government Management	-	-	3.445	-	-	0.838	-	-	1.019	-	-	0.836	-	-	-	-	-	0.836
<i>Subtotal: Support - Program Management Cost</i>	-	-	3.445	-	-	0.838	-	-	1.019	-	-	0.836	-	-	-	-	-	0.836
<b>Gross/Weapon System Cost</b>	1,223.529	34	41.600	404.615	26	10.520	419.233	30	12.577	447.429	35	15.660	-	-	-	447.429	35	15.660

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	10	20	13	-	13
	Total Obligation Authority	3.653	8.050	5.438	-	5.438
ANG	Quantity	14	8	19	-	19
	Total Obligation Authority	5.711	3.144	8.502	-	8.502
AR	Quantity	2	2	3	-	3
	Total Obligation Authority	1.156	1.383	1.720	-	1.720
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	<b>26</b>	<b>30</b>	<b>35</b>	<b>-</b>	<b>35</b>
	<b>Total Obligation Authority</b>	<b>10.520</b>	<b>12.577</b>	<b>15.660</b>	<b>-</b>	<b>15.660</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 / 03 / 45			<b>P-1 Line Item Number / Title:</b> 0639G05301 / Mobile Maintenance Equipment Systems				<b>Item Number / Title [DODIC]:</b> G05315 / METAL WORKING AND MACHING SHOP SET (MWMSS)				

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
Metal Working Machining Shop Set Type I <sup>(†)</sup>		2018	JMTC / Rock Island	MIPR	JMTC, Rock Island, IL	Nov 2017	Apr 2018	14	379.000	N		
Metal Working Machining Shop Set Type I <sup>(†)</sup>		2019	JMTC / Rock Island	MIPR	JMTC, Rock Island, IL	Nov 2018	Apr 2019	15	378.000	N		
Metal Working Machining Shop Set Type I <sup>(†)</sup>		2020	JMTC / Rock Island	MIPR	JMTC, Rock Island IL	Nov 2019	Apr 2020	19	385.000	N		
Metal Working Machining Shop Set Type II		2018	JMTC / Rock Island	MIPR	JMTC, Rock Island, IL	Nov 2017	Apr 2018	12	270.000	N		
Metal Working Machining Shop Set Type II		2019	JMTC / Rock Island	MIPR	JMTC, Rock Island, IL	Nov 2018	Apr 2019	15	269.000	N		
Metal Working Machining Shop Set Type II		2020	JMTC / Rock Island	MIPR	JMTC, Rock Island, IL	Nov 2019	Apr 2020	16	311.000	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														
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 03 / 45										<b>P-1 Line Item Number / Title:</b> 0639G05301 / Mobile Maintenance Equipment Systems										<b>Item Number / Title [DODIC]:</b> G05315 / METAL WORKING AND MACHING SHOP SET (MWMSS)									

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		
Metal Working Machining Shop Set Type I																																	
Prior Years Deliveries: 39																																	
1		2018	ARMY	14	0	14		A	-	-	-	-	-	-	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
1		2019	ARMY	15	0	15																											6
1		2020	ARMY	19	0	19																											19
								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	V	E	A	E	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 / 03 / 45										<b>P-1 Line Item Number / Title:</b> 0639G05301 / Mobile Maintenance Equipment Systems										<b>Item Number / Title [DODIC]:</b> G05315 / METAL WORKING AND MACHING SHOP SET (MWMSS)									

Cost Elements <i>(Units in Each)</i>						Fiscal Year 2020												Fiscal Year 2021												BALANCE							
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2019	BAL DUE AS OF 1 OCT	Calendar Year 2020												Calendar Year 2021																		
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G		S E P						
Metal Working Machining Shop Set Type I																																					
Prior Years Deliveries: 39																																					
1		2018	ARMY	14	14	0																															0
1		2019	ARMY	15	9	6	1	1	1	1	1	1																									0
1		2020	ARMY	19	0	19		A	-	-	-	-	-	2	2	2	2	2	2	2	1	1	1	1	1											0	
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P							

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<b>Exhibit P-21, Production Schedule:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 03 / 45		<b>P-1 Line Item Number / Title:</b> 0639G05301 / Mobile Maintenance Equipment Systems
		<b>Item Number / Title [DODIC]:</b> G05315 / METAL WORKING AND MACHING SHOP SET (MWMSS)

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	JMTC - Rock Island	1	10	15	0	2	8	10	0	2	5	7

**Remarks:**

Minimum rate is 1 module per month, either Type I or Type II

"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 / 03 / 45		<b>P-1 Line Item Number / Title:</b> 0639G05301 / Mobile Maintenance Equipment Systems
		<b>Item Number / Title [DODIC]:</b> G05320 / FIRE SUPPRESSION REFILL SYSTEM (FSRS)

<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)		13	17	17	26	-	26
Gross/Weapon System Cost (\$ in Millions)		14.434	6.075	6.105	8.370	-	8.370
Less PY Advance Procurement (\$ in Millions)		-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)		14.434	6.075	6.105	8.370	-	8.370
Plus CY Advance Procurement (\$ in Millions)		-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>		<b>14.434</b>	<b>6.075</b>	<b>6.105</b>	<b>8.370</b>	<b>-</b>	<b>8.370</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)		1,110.308	357.353	359.118	321.923	-	321.923

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																		
Engineering Change Proposals	-	-	0.070	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Transportation	-	-	0.238	-	-	0.048	-	-	0.043	-	-	0.043	-	-	-	-	-	0.043
Tech Manual	-	-	-	-	-	0.001	-	-	0.001	-	-	0.001	-	-	-	-	-	0.001
<i>Subtotal: Recurring Cost</i>	-	-	<i>0.308</i>	-	-	<i>0.049</i>	-	-	<i>0.044</i>	-	-	<i>0.044</i>	-	-	-	-	-	<i>0.044</i>
<i>Subtotal: Flyaway Cost</i>	-	-	<b>0.308</b>	-	-	<b>0.049</b>	-	-	<b>0.044</b>	-	-	<b>0.044</b>	-	-	-	-	-	<b>0.044</b>
Hardware Cost																		
Recurring Cost																		
Fire Suppression Refill System <sup>(†)</sup>	255.938	16	4.095	281.000	17	4.777	281.000	18	5.058	281.000	26	7.306	-	-	-	281.000	26	7.306
<i>Subtotal: Recurring Cost</i>	-	-	<i>4.095</i>	-	-	<i>4.777</i>	-	-	<i>5.058</i>	-	-	<i>7.306</i>	-	-	-	-	-	<i>7.306</i>
<i>Subtotal: Hardware Cost</i>	-	-	<b>4.095</b>	-	-	<b>4.777</b>	-	-	<b>5.058</b>	-	-	<b>7.306</b>	-	-	-	-	-	<b>7.306</b>
Support - Fielding Cost																		
Fielding	-	-	0.890	-	-	0.063	-	-	0.073	-	-	0.338	-	-	-	-	-	0.338
<i>Subtotal: Support - Fielding Cost</i>	-	-	<b>0.890</b>	-	-	<b>0.063</b>	-	-	<b>0.073</b>	-	-	<b>0.338</b>	-	-	-	-	-	<b>0.338</b>
Support - Logistics Cost																		
Integrated Logistics Support	-	-	-	-	-	-	-	-	-	-	-	0.132	-	-	-	-	-	0.132

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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 / 03 / 45	<b>P-1 Line Item Number / Title:</b> 0639G05301 / Mobile Maintenance Equipment Systems	<b>Item Number / Title [DODIC]:</b> G05320 / FIRE SUPPRESSION REFILL SYSTEM (FSRS)

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
<i>Subtotal: Support - Logistics Cost</i>	-	-	-	-	-	-	-	-	-	-	-	0.132	-	-	-	-	-	0.132
Support - Production Engineering Cost																		
Production Engineering	-	-	0.920	-	-	0.083	-	-	0.139	-	-	0.185	-	-	-	-	-	0.185
<i>Subtotal: Support - Production Engineering Cost</i>	-	-	0.920	-	-	0.083	-	-	0.139	-	-	0.185	-	-	-	-	-	0.185
Support - Program Management Cost																		
Government Management	-	-	7.441	-	-	1.020	-	-	0.743	-	-	0.317	-	-	-	-	-	0.317
<i>Subtotal: Support - Program Management Cost</i>	-	-	7.441	-	-	1.020	-	-	0.743	-	-	0.317	-	-	-	-	-	0.317
Support - Quality Assurance Cost																		
Quality Assurance	-	-	0.780	-	-	0.083	-	-	0.048	-	-	0.048	-	-	-	-	-	0.048
<i>Subtotal: Support - Quality Assurance Cost</i>	-	-	0.780	-	-	0.083	-	-	0.048	-	-	0.048	-	-	-	-	-	0.048
<b>Gross/Weapon System Cost</b>	1,110.308	13	14.434	357.353	17	6.075	359.118	17	6.105	321.923	26	8.370	-	-	-	321.923	26	8.370

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	9	11	9	-	9
	Total Obligation Authority	2.807	3.950	2.930	-	2.930
ANG	Quantity	7	4	14	-	14
	Total Obligation Authority	2.990	1.437	4.603	-	4.603
AR	Quantity	1	2	3	-	3
	Total Obligation Authority	0.278	0.718	0.837	-	0.837
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	<b>17</b>	<b>17</b>	<b>26</b>	<b>-</b>	<b>26</b>
	<b>Total Obligation Authority</b>	<b>6.075</b>	<b>6.105</b>	<b>8.370</b>	<b>-</b>	<b>8.370</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 / 03 / 45			<b>P-1 Line Item Number / Title:</b> 0639G05301 / Mobile Maintenance Equipment Systems				<b>Item Number / Title [DODIC]:</b> G05320 / FIRE SUPPRESSION REFILL SYSTEM (FSRS)					
<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>
Fire Suppression Refill System <sup>(†)</sup>		2018	JMTC - Integration / Rock Island Arsenal, IL	MIPR	Rock Island Arsenal, IL	Nov 2017	May 2018	17	281.000	N		
Fire Suppression Refill System <sup>(†)</sup>		2019	JMTC - Integration / Rock Island Arsenal, IL	MIPR	Rock Island Arsenal, IL	Nov 2018	May 2019	18	281.000	N		
Fire Suppression Refill System <sup>(†)</sup>		2020	JMTC - Integration / Rock Island Arsenal, IL	MIPR	Rock Island Arsenal, IL	Nov 2019	May 2020	26	281.000	N		

<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 / 03 / 45										<b>P-1 Line Item Number / Title:</b> 0639G05301 / Mobile Maintenance Equipment Systems										<b>Item Number / Title [DODIC]:</b> G05320 / FIRE SUPPRESSION REFILL SYSTEM (FSRS)									

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					
Fire Suppression Refill System																																			
Prior Years Deliveries: 16																																			
1		2018	ARMY	17	0	17		A	-	-	-	-	-	-	-	2	2	2	2	2	2	2	1	1	1	1	1			0					
1		2019	ARMY	18	0	18																	A	-	-	-	-	-	-	2	2	2	2	2	8
1		2020	ARMY	26	0	26																											26		
								O C T	N O V	D E C	J A N	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 / 03 / 45		<b>P-1 Line Item Number / Title:</b> 0639G05301 / Mobile Maintenance Equipment Systems
<b>Item Number / Title [DODIC]:</b> G05320 / FIRE SUPPRESSION REFILL SYSTEM (FSRS)		

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	JMTC - Integration - Rock Island Arsenal, IL	1	10	15	0	1	7	8	0	1	7	8

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

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

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 03 / 45	<b>P-1 Line Item Number / Title:</b> 0639G05301 / Mobile Maintenance Equipment Systems	<b>Item Number / Title [DODIC]:</b> G05330 / ARMAMENT REPAIR SHOP SET (ARSS)

<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)		34	26	23	56	-	56
Gross/Weapon System Cost (\$ in Millions)		41.771	15.517	13.430	22.829	-	22.829
Less PY Advance Procurement (\$ in Millions)		-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)		41.771	15.517	13.430	22.829	-	22.829
Plus CY Advance Procurement (\$ in Millions)		-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>		<b>41.771</b>	<b>15.517</b>	<b>13.430</b>	<b>22.829</b>	-	<b>22.829</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)		1,228.559	596.808	583.913	407.661	-	407.661

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																		
Engineering	-	-	0.370	-	-	-	-	-	-	-	-	0.139	-	-	-	-	-	0.139
Quality Assurance	-	-	0.160	-	-	0.041	-	-	0.048	-	-	0.048	-	-	-	-	-	0.048
Engineering Change Proposals	-	-	0.505	-	-	0.050	-	-	0.050	-	-	0.050	-	-	-	-	-	0.050
Transportation	-	-	0.188	-	-	0.075	-	-	0.068	-	-	0.068	-	-	-	-	-	0.068
<i>Subtotal: Recurring Cost</i>	-	-	<i>1.223</i>	-	-	<i>0.166</i>	-	-	<i>0.166</i>	-	-	<i>0.305</i>	-	-	-	-	-	<i>0.305</i>
<i>Subtotal: Flyaway Cost</i>	-	-	<i>1.223</i>	-	-	<i>0.166</i>	-	-	<i>0.166</i>	-	-	<i>0.305</i>	-	-	-	-	-	<i>0.305</i>
<b>Hardware Cost</b>																		
Recurring Cost																		
ARSS Hardware <sup>(†)</sup>	395.767	86	34.036	492.519	27	13.298	504.042	24	12.097	438.840	25	10.971	-	-	-	438.840	25	10.971
ARSS 2 Hardware <sup>(†)</sup>	-	-	-	-	-	-	-	-	-	296.548	31	9.193	-	-	-	296.548	31	9.193
<i>Subtotal: Recurring Cost</i>	-	-	<i>34.036</i>	-	-	<i>13.298</i>	-	-	<i>12.097</i>	-	-	<i>20.164</i>	-	-	-	-	-	<i>20.164</i>
<i>Subtotal: Hardware Cost</i>	-	-	<i>34.036</i>	-	-	<i>13.298</i>	-	-	<i>12.097</i>	-	-	<i>20.164</i>	-	-	-	-	-	<i>20.164</i>
<b>Package Fielding Cost</b>																		
Recurring Cost																		
Fielding Support	-	-	0.390	-	-	0.162	-	-	0.118	-	-	0.155	-	-	-	-	-	0.155
<i>Subtotal: Recurring Cost</i>	-	-	<i>0.390</i>	-	-	<i>0.162</i>	-	-	<i>0.118</i>	-	-	<i>0.155</i>	-	-	-	-	-	<i>0.155</i>
<i>Subtotal: Package Fielding Cost</i>	-	-	<i>0.390</i>	-	-	<i>0.162</i>	-	-	<i>0.118</i>	-	-	<i>0.155</i>	-	-	-	-	-	<i>0.155</i>

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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 / 03 / 45	<b>P-1 Line Item Number / Title:</b> 0639G05301 / Mobile Maintenance Equipment Systems	<b>Item Number / Title [DODIC]:</b> G05330 / ARMAMENT REPAIR SHOP SET (ARSS)
<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 - Logistics Cost</b>																		
Integrated Logistics Support	-	-	-	-	-	-	-	-	-	-	-	0.132	-	-	-	-	-	0.132
<i>Subtotal: Support - Logistics Cost</i>	-	-	-	-	-	-	-	-	-	-	-	0.132	-	-	-	-	-	0.132
<b>Support - Program Management Cost</b>																		
Government Management	-	-	6.122	-	-	1.891	-	-	1.049	-	-	2.073	-	-	-	-	-	2.073
<i>Subtotal: Support - Program Management Cost</i>	-	-	6.122	-	-	1.891	-	-	1.049	-	-	2.073	-	-	-	-	-	2.073
<b>Gross/Weapon System Cost</b>	<b>1,228.559</b>	<b>34</b>	<b>41.771</b>	<b>596.808</b>	<b>26</b>	<b>15.517</b>	<b>583.913</b>	<b>23</b>	<b>13.430</b>	<b>407.661</b>	<b>56</b>	<b>22.829</b>	-	-	-	<b>407.661</b>	<b>56</b>	<b>22.829</b>

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	12	16	25	-	25
	Total Obligation Authority	6.983	9.122	10.274	-	10.274
ANG	Quantity	12	5	26	-	26
	Total Obligation Authority	7.138	3.221	10.729	-	10.729
AR	Quantity	2	2	5	-	5
	Total Obligation Authority	1.396	1.087	1.826	-	1.826
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	<b>26</b>	<b>23</b>	<b>56</b>	-	<b>56</b>
	<b>Total Obligation Authority</b>	<b>15.517</b>	<b>13.430</b>	<b>22.829</b>	-	<b>22.829</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 / 03 / 45			<b>P-1 Line Item Number / Title:</b> 0639G05301 / Mobile Maintenance Equipment Systems				<b>Item Number / Title [DODIC]:</b> G05330 / ARMAMENT REPAIR SHOP SET (ARSS)				

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
ARSS Hardware <sup>(†)</sup>		2018	Tobyhanna Army Depot / Tobyhanna	MIPR	TOBYHANNA ARMY DEPOT, PA	Nov 2017	Feb 2018	27	492.519	N		
ARSS Hardware <sup>(†)</sup>		2019	Tobyhanna Army Depot / Tobyhanna	MIPR	TOBYHANNA ARMY DEPOT, PA	Nov 2018	Feb 2019	24	504.042	N		
ARSS Hardware <sup>(†)</sup>		2020	Tobyhanna Army Depot / Tobyhanna	MIPR	TOBYHANNA ARMY DEPOT, PA	Nov 2019	Feb 2020	25	438.840	N		
ARSS 2 Hardware <sup>(†)</sup>		2020	Tobyhanna Army Depot / Tobyhanna	MIPR	TOBYHANNA ARMY DEPOT, PA	Nov 2019	Feb 2020	31	296.548	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														
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 03 / 45										<b>P-1 Line Item Number / Title:</b> 0639G05301 / Mobile Maintenance Equipment Systems										<b>Item Number / Title [DODIC]:</b> G05330 / ARMAMENT REPAIR SHOP SET (ARSS)									

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					
ARSS Hardware																																			
Prior Years Deliveries: 86																																			
	1	2018	ARMY	27	0	27		A	-	-	-	3	3	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0
	1	2019	ARMY	24	0	24																													8
	1	2020	ARMY	25	0	25																													25
ARSS 2 Hardware																																			
	2	2020	ARMY	31	0	31																													31
								O C T	N O V	D E C	J A N	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 / 03 / 45										<b>P-1 Line Item Number / Title:</b> 0639G05301 / Mobile Maintenance Equipment Systems										<b>Item Number / Title [DODIC]:</b> G05330 / ARMAMENT REPAIR SHOP SET (ARSS)									

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					
ARSS Hardware																																			
Prior Years Deliveries: 86																																			
	1	2018	ARMY	27	27	0																												0	
	1	2019	ARMY	24	16	8	2	3	2	1																								0	
	1	2020	ARMY	25	0	25		A	-	-	-	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2		0	
ARSS 2 Hardware																																			
	2	2020	ARMY	31	0	31		A	-	-	-	3	3	3	3	3	3	3	3	2	2	2	2	2	2	2	2	2	2	2	2		0		
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					

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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 / 03 / 45		<b>P-1 Line Item Number / Title:</b> 0639G05301 / Mobile Maintenance Equipment Systems
<b>Item Number / Title [DODIC]:</b> G05330 / ARMAMENT REPAIR SHOP SET (ARSS)		

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	Tobyhanna Army Depot - Tobyhanna	1	10	18	0	2	5	7	0	2	5	7
2	Tobyhanna Army Depot - Tobyhanna	1	10	18	0	2	5	7	0	2	5	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).

**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 / 03 / 45	<b>P-1 Line Item Number / Title:</b> 0639G05301 / Mobile Maintenance Equipment Systems	<b>Item Number / Title [DODIC]:</b> G39200 / Hydraulic Systems Test and Repair Unit (HSTRU)

<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)				22	8	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)				58.834	1.482	0.000	-	-	-
Less PY Advance Procurement (\$ in Millions)				-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)				58.834	1.482	0.000	-	-	-
Plus CY Advance Procurement (\$ in Millions)				-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>				<b>58.834</b>	<b>1.482</b>	<b>0.000</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)				2,674.273	185.250	-	-	-	-

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

Cost Elements	Prior Years			FY 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																		
Engineering	-	-	3.280	-	-	0.041	-	-	-	-	-	-	-	-	-	-	-	-
Quality Assurance	-	-	2.060	-	-	0.041	-	-	-	-	-	-	-	-	-	-	-	-
Engineering Change Proposals	-	-	4.499	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Transportation	-	-	2.680	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tech Manuals	-	-	-	-	-	0.001	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	<b>12.519</b>	-	-	<b>0.083</b>	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Flyaway Cost</i>	-	-	<b>12.519</b>	-	-	<b>0.083</b>	-	-	-	-	-	-	-	-	-	-	-	-
Hardware Cost																		
Recurring Cost																		
Hydraulic Systems Test and Repair Unit	102.494	332	34.028	125.000	9	1.125	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	<b>34.028</b>	-	-	<b>1.125</b>	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Hardware Cost</i>	-	-	<b>34.028</b>	-	-	<b>1.125</b>	-	-	-	-	-	-	-	-	-	-	-	-
Package Fielding Cost																		
Recurring Cost																		
Fielding Support	-	-	4.709	-	-	0.063	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	<b>4.709</b>	-	-	<b>0.063</b>	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Package Fielding Cost</i>	-	-	<b>4.709</b>	-	-	<b>0.063</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 / 03 / 45	<b>P-1 Line Item Number / Title:</b> 0639G05301 / Mobile Maintenance Equipment Systems	<b>Item Number / Title [DODIC]:</b> G39200 / Hydraulic Systems Test and Repair Unit (HSTRU)
<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)
Support - Program Management Cost																		
Government Management	-	-	7.578	-	-	0.211	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - Program Management Cost</i>	-	-	<b>7.578</b>	-	-	<b>0.211</b>	-	-	-	-	-	-	-	-	-	-	-	-
<b>Gross/Weapon System Cost</b>	<b>2,674.273</b>	<b>22</b>	<b>58.834</b>	<b>185.250</b>	<b>8</b>	<b>1.482</b>	-	-	<b>0.000</b>	-	-	-	-	-	-	-	-	-

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	1	-	-	-	-
	Total Obligation Authority	0.133	-	-	-	-
ANG	Quantity	6	-	-	-	-
	Total Obligation Authority	1.127	-	-	-	-
AR	Quantity	1	-	-	-	-
	Total Obligation Authority	0.222	-	-	-	-
<b>Total:</b>	<b>Quantity</b>	<b>8</b>	-	-	-	-
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>1.482</b>	<b>0.000</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 / 03 / 45	<b>P-1 Line Item Number / Title:</b> 0639G05301 / Mobile Maintenance Equipment Systems	<b>Item Number / Title [DODIC]:</b> M62700 / Shop Equipment, Welding (SEW)

<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)		6	4	6	34	-	34
Gross/Weapon System Cost (\$ in Millions)		218.765	1.304	2.367	8.194	-	8.194
Less PY Advance Procurement (\$ in Millions)		-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)		218.765	1.304	2.367	8.194	-	8.194
Plus CY Advance Procurement (\$ in Millions)		-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>		<b>218.765</b>	<b>1.304</b>	<b>2.367</b>	<b>8.194</b>	<b>-</b>	<b>8.194</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)		36,460.833	326.000	394.500	241.000	-	241.000

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																		
Tech Manuals	-	-	-	-	-	0.001	-	-	0.001	-	-	0.002	-	-	-	-	-	0.002
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	0.001	-	-	0.001	-	-	0.002	-	-	-	-	-	0.002
<i>Subtotal: Flyaway Cost</i>	-	-	-	-	-	0.001	-	-	0.001	-	-	0.002	-	-	-	-	-	0.002
Hardware Cost																		
Recurring Cost																		
Shop Equipment Welding(†)	226.308	885	200.283	307.000	3	0.921	313.000	6	1.878	207.765	34	7.064	-	-	-	207.765	34	7.064
<i>Subtotal: Recurring Cost</i>	-	-	200.283	-	-	0.921	-	-	1.878	-	-	7.064	-	-	-	-	-	7.064
<i>Subtotal: Hardware Cost</i>	-	-	200.283	-	-	0.921	-	-	1.878	-	-	7.064	-	-	-	-	-	7.064
Package Fielding Cost																		
Recurring Cost																		
Fielding	-	-	1.500	-	-	0.031	-	-	0.073	-	-	0.338	-	-	-	-	-	0.338
Transportation	-	-	0.060	-	-	0.001	-	-	0.001	-	-	0.084	-	-	-	-	-	0.084
<i>Subtotal: Recurring Cost</i>	-	-	1.560	-	-	0.032	-	-	0.074	-	-	0.422	-	-	-	-	-	0.422
<i>Subtotal: Package Fielding Cost</i>	-	-	1.560	-	-	0.032	-	-	0.074	-	-	0.422	-	-	-	-	-	0.422
Support - Engineering Change Proposals Cost																		
Engineering Change Proposals	-	-	3.283	-	-	0.001	-	-	0.001	-	-	0.002	-	-	-	-	-	0.002

**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 / 03 / 45		<b>P-1 Line Item Number / Title:</b> 0639G05301 / Mobile Maintenance Equipment Systems
		<b>Item Number / Title [DODIC]:</b> M62700 / Shop Equipment, Welding (SEW)

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
<i>Subtotal: Support - Engineering Change Proposals Cost</i>	-	-	3.283	-	-	0.001	-	-	0.001	-	-	0.002	-	-	-	-	-	0.002
Support - Logistics Cost																		
Integrated Logistics Support	-	-	-	-	-	-	-	-	-	-	-	0.132	-	-	-	-	-	0.132
<i>Subtotal: Support - Logistics Cost</i>	-	-	-	-	-	-	-	-	-	-	-	0.132	-	-	-	-	-	0.132
Support - Production Engineering Cost																		
Production Engineering	-	-	0.087	-	-	0.083	-	-	0.085	-	-	0.093	-	-	-	-	-	0.093
<i>Subtotal: Support - Production Engineering Cost</i>	-	-	0.087	-	-	0.083	-	-	0.085	-	-	0.093	-	-	-	-	-	0.093
Support - Program Management Cost																		
Government Management	-	-	13.512	-	-	0.183	-	-	0.245	-	-	0.383	-	-	-	-	-	0.383
<i>Subtotal: Support - Program Management Cost</i>	-	-	13.512	-	-	0.183	-	-	0.245	-	-	0.383	-	-	-	-	-	0.383
Support - Quality Assurance Cost																		
Quality Assurance	-	-	0.040	-	-	0.083	-	-	0.083	-	-	0.096	-	-	-	-	-	0.096
<i>Subtotal: Support - Quality Assurance Cost</i>	-	-	0.040	-	-	0.083	-	-	0.083	-	-	0.096	-	-	-	-	-	0.096
<b>Gross/Weapon System Cost</b>	36,460.833	6	218.765	326.000	4	1.304	394.500	6	2.367	241.000	34	8.194	-	-	-	241.000	34	8.194

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	2	4	17	-	17
	Total Obligation Authority	0.626	1.577	4.016	-	4.016
ANG	Quantity	1	1	16	-	16
	Total Obligation Authority	0.561	0.395	3.851	-	3.851
AR	Quantity	1	1	1	-	1
	Total Obligation Authority	0.117	0.395	0.327	-	0.327
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	<b>4</b>	<b>6</b>	<b>34</b>	<b>-</b>	<b>34</b>
	<b>Total Obligation Authority</b>	<b>1.304</b>	<b>2.367</b>	<b>8.194</b>	<b>-</b>	<b>8.194</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 / 03 / 45			<b>P-1 Line Item Number / Title:</b> 0639G05301 / Mobile Maintenance Equipment Systems				<b>Item Number / Title [DODIC]:</b> M62700 / Shop Equipment, Welding (SEW)					

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
Shop Equipment Welding <sup>(t)</sup>		2018	JMTC / Rock Island, IL	MIPR	Rock Island, IL	Oct 2017	Apr 2018	3	307.000	N		
Shop Equipment Welding <sup>(t)</sup>		2019	JMTC / Rock Island, IL	MIPR	Rock Island, IL	Oct 2018	Apr 2019	6	313.000	N		
Shop Equipment Welding <sup>(t)</sup>		2020	JMTC / Rock Island, IL	MIPR	Rock Island, IL	Oct 2019	Apr 2020	34	207.765	N		

<sup>(t)</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 / 03 / 45										<b>P-1 Line Item Number / Title:</b> 0639G05301 / Mobile Maintenance Equipment Systems										<b>Item Number / Title [DODIC]:</b> M62700 / Shop Equipment, Welding (SEW)									

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			
Shop Equipment Welding																																	
Prior Years Deliveries: 885																																	
1		2018	ARMY	3	0	3	A	-	-	-	-	-	-	-	1	1	1													0			
1		2019	ARMY	6	0	6													A	-	-	-	-	-	-	1	1	1	1	1	1	0	
1		2020	ARMY	34	0	34																								34			
							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	V	E	A	E	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 / 03 / 45										<b>P-1 Line Item Number / Title:</b> 0639G05301 / Mobile Maintenance Equipment Systems										<b>Item Number / Title [DODIC]:</b> M62700 / Shop Equipment, Welding (SEW)									

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							
Shop Equipment Welding																																					
Prior Years Deliveries: 885																																					
1	2018	ARMY		3	3	0																															0
1	2019	ARMY		6	6	0																															0
1	2020	ARMY		34	0	34	A	-	-	-	-	-	-	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2	2						0	
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P							

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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 / 03 / 45		<b>P-1 Line Item Number / Title:</b> 0639G05301 / Mobile Maintenance Equipment Systems
		<b>Item Number / Title [DODIC]:</b> M62700 / Shop Equipment, Welding (SEW)

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	JMTC - Rock Island, IL	1	3	5	0	1	6	7	0	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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**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 03: Other Support Equipment / BSA 45: Maintenance Equipment	<b>P-1 Line Item Number / Title:</b> 9562ML5345 / Items Less Than \$5.0M (Maint Eq)
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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> )	587	749	610	638	-	638	253	262	-	-	-	3,099
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	120.548	2.728	5.253	5.608	-	5.608	5.391	4.930	-	-	-	144.458
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	120.548	2.728	5.253	5.608	-	5.608	5.391	4.930	-	-	-	144.458
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>120.548</b>	<b>2.728</b>	<b>5.253</b>	<b>5.608</b>	<b>-</b>	<b>5.608</b>	<b>5.391</b>	<b>4.930</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>144.458</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> )	205.363	3.642	8.611	8.790	-	8.790	21.308	18.817	-	-	-	46.614

**Description:**

Items Less Than \$5 Million (Maintenance Equipment): Acquire and field maintenance support equipment to support combat operations, such as the Load Bank System Tactical Electric Power (TEP), Refrigeration Tool Kit, Individual and Base, with improved, modernized, standardized, and centralized maintenance Sets, Kits, Outfits, and Tools (SKOT).

The Load Bank System Tactical Electric Power (TEP) is a Soldier-portable system required for performing diagnostics, repairs and post verification testing on all small and medium tactical generators of the Army's tactical fleet. The Load Bank System is a critical key maintenance enabler for the Tactical Electric Power (TEP) medium tactical generators (2 to 60 kw) which enable readiness of weapons systems. TEP generator sets provide power to critical life-saving operations such as field hospitals that provide medical support to combat wounded Soldiers, satellite and land communication systems to communicate with Soldiers in convoys and foot patrols, Tactical Operation Centers and various Soldier life support operations. This equipment allows Soldiers to properly and adequately maintain reliable systems that meet Soldier safety, supportability, and mobility requirements, thereby reducing the risk to the warfighter. The capability that Load Banks provide to load test generator sets is an essential function that Army maintenance units require to support combat and peacetime operations. Army Acquisition Objective (AAO) for Load Bank System Tactical Electric Power (TEP) is 358.

The Refrigeration Tool Kit (RTK) consists of two kits, the Individual Soldier kit and the Base kit. These kits provide the Military Occupational Specialty (MOS) 91C Utilities Equipment Repairer Soldiers all the tools and equipment required to test, maintain and repair every Environmental Control Unit (ECU) on and off the battlefield. Proper functioning ECU's are a critical component in Combat Vehicles and are essential to Command and Control units operating in varying climatic conditions. Proper functioning ECUs also facilitate hospital/medical activities such as laboratory operations, blood banks, aiding mortuary affairs, safe transportation and storage of perishable foods; providing environmentally-controlled conditions for Soldiers; Signal/Command and control equipment and humanitarian support, disaster relief and homeland security deployments. The RTK operates in all environments where United States Armed Forces deploy. The RTK provides field level maintenance for all Army equipment that requires an Environmental Control Unit (ECU). The RTK provides the capability to support maintenance operations as far forward as possible on the battlefield by providing on-system maintenance repairs to Army equipment and/or components, which allows major combat systems to return to the fight rapidly. RTK Individual kit Army Acquisition Objective (AAO) is 246 and Base kit is 34.



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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 03: Other Support Equipment / BSA 45: Maintenance Equipment	<b>P-1 Line Item Number / Title:</b> 9562ML5345 / Items Less Than \$5.0M (Maint Eq)
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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	G32101 / ITEMS LESS THAN \$5.0M (MAINT SUPP EQUIP)	P-5a			587 / 120.548	749 / 2.728	610 / 5.253	638 / 5.608	- / -	638 / 5.608
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>587 / 120.548</b>	<b>749 / 2.728</b>	<b>610 / 5.253</b>	<b>638 / 5.608</b>	<b>- / -</b>	<b>638 / 5.608</b>

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

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

**Justification:**  
 FY20 Base procurement dollars in the amount of \$1.878 million will procure 358 Load Bank System Tactical Electric Power (TEP), \$1.400 million will procure 246 Refrigeration Tool Kits (RTK) - Individual Soldier Kit, \$0.808 million will procure 34 RTK - Base Kit, and \$1.522 million is support cost for the systems mentioned.

The maintenance equipment is essential for units to properly maintain equipment, perform the mandatory maintenance operations and perform diagnostic testing which maintains the readiness of weapons systems. This equipment allows Soldiers to properly and adequately maintain vehicles and systems. Properly maintained systems perform at maximum capability, with improved safety and reduced risk to the warfighter. This equipment supports combat operations, Army Forces and unit Mission Essential Task List (METL) requirements. The Army requires reliable systems that support Soldier safety, supportability, and mobility requirements. SKOT systems require continuous review, revision, and upgrades to support Army requirements.

In accordance with Section 1815 of the FY 2008 National Defense Authorization Act (P.L. 110-181), these item 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 / 03 / 45	<b>P-1 Line Item Number / Title:</b> 9562ML5345 / Items Less Than \$5.0M (Maint Eq)	<b>Item Number / Title [DODIC]:</b> G32101 / ITEMS LESS THAN \$5.0M (MAINT SUPP EQUIP)

<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)	587	749	610	638	-	638
Gross/Weapon System Cost (\$ in Millions)	120.548	2.728	5.253	5.608	-	5.608
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	120.548	2.728	5.253	5.608	-	5.608
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>120.548</b>	<b>2.728</b>	<b>5.253</b>	<b>5.608</b>	<b>-</b>	<b>5.608</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)	205.363	3.642	8.611	8.790	-	8.790

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>																		
Air Compressors	5.425	365	1.980	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Spare Parts Storage Field Shop Set	9.064	78	0.707	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Radiator Test & Repair Shop Equip	21.000	1	0.021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Torch Outfit, Cut & Weld Org Maint Set	2.000	10	0.020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Standard Automotive Tool Set	415.000	227	94.205	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ammunition Tool Kit	32.000	114	3.648	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	<i>100.581</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Flyaway Cost</i>	-	-	<i>100.581</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Hardware Cost</b>																		
<b>Recurring Cost</b>																		
Load Banks <sup>(†)</sup>	5.090	332	1.690	4.728	202	0.955	1.202	282	0.339	5.249	358	1.879	-	-	-	5.249	358	1.879
Refrigeration Tool Kit - Type I <sup>(†)</sup>	-	-	-	21.714	7	0.152	8.679	53	0.460	5.695	246	1.401	-	-	-	5.695	246	1.401
Refrigeration Tool Kit - Type II <sup>(†)</sup>	-	-	-	27.000	3	0.081	5.750	24	0.138	23.765	34	0.808	-	-	-	23.765	34	0.808

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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 / 03 / 45	<b>P-1 Line Item Number / Title:</b> 9562ML5345 / Items Less Than \$5.0M (Maint Eq)	<b>Item Number / Title [DODIC]:</b> G32101 / ITEMS LESS THAN \$5.0M (MAINT SUPP EQUIP)

<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)	
Machinist Measuring Tool Set <sup>(t)</sup>	4.030	842	3.393	4.305	203	0.874	16.167	245	3.961	-	-	-	-	-	-	-	-	-	
<i>Subtotal: Recurring Cost</i>	-	-	5.083	-	-	2.062	-	-	4.898	-	-	4.088	-	-	-	-	-	4.088	
<i>Subtotal: Hardware Cost</i>	-	-	5.083	-	-	2.062	-	-	4.898	-	-	4.088	-	-	-	-	-	4.088	
Support - Fielding Cost																			
Fielding	-	-	1.653	-	-	0.315	-	-	0.141	-	-	0.711	-	-	-	-	-	0.711	
<i>Subtotal: Support - Fielding Cost</i>	-	-	1.653	-	-	0.315	-	-	0.141	-	-	0.711	-	-	-	-	-	0.711	
Support - Production Engineering Cost																			
Production Engineering	-	-	1.580	-	-	0.059	-	-	0.059	-	-	0.423	-	-	-	-	-	0.423	
<i>Subtotal: Support - Production Engineering Cost</i>	-	-	1.580	-	-	0.059	-	-	0.059	-	-	0.423	-	-	-	-	-	0.423	
Support - Program Management Cost																			
Government Management	-	-	11.570	-	-	0.233	-	-	0.096	-	-	0.345	-	-	-	-	-	0.345	
<i>Subtotal: Support - Program Management Cost</i>	-	-	11.570	-	-	0.233	-	-	0.096	-	-	0.345	-	-	-	-	-	0.345	
Support - Quality Assurance Cost																			
Quality Assurance	-	-	0.080	-	-	0.059	-	-	0.059	-	-	0.041	-	-	-	-	-	0.041	
<i>Subtotal: Support - Quality Assurance Cost</i>	-	-	0.080	-	-	0.059	-	-	0.059	-	-	0.041	-	-	-	-	-	0.041	
<b>Gross/Weapon System Cost</b>	<b>205.363</b>	<b>587</b>	<b>120.548</b>	<b>3.642</b>	<b>749</b>	<b>2.728</b>	<b>8.611</b>	<b>610</b>	<b>5.253</b>	<b>8.790</b>	<b>638</b>	<b>5.608</b>	-	-	-	-	<b>8.790</b>	<b>638</b>	<b>5.608</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 / 03 / 45			<b>P-1 Line Item Number / Title:</b> 9562ML5345 / Items Less Than \$5.0M (Maint Eq)				<b>Item Number / Title [DODIC]:</b> G32101 / ITEMS LESS THAN \$5.0M (MAINT SUPP EQUIP)				

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
Load Banks		2016	American Electrical Enterprise / Clinton, NY	C / FFP	TACOM, Warren, MI	Sep 2016	Dec 2016	166	4.910	N		
Load Banks		2017	American Electrical Enterprise / Clinton, NY	C / FFP	TACOM, Warren, MI	Sep 2017	Dec 2017	166	4.910	N		
Load Banks		2018	American Electrical Enterprise / Clinton, NY	SS / FFP	TACOM, Warren, MI	Sep 2018	Dec 2018	202	4.728	N		
Load Banks		2019	American Electrical Enterprise / Clinton, NY	SS / FFP	TACOM, Warren, MI	Jan 2019	Apr 2019	282	1.202	N		
Load Banks		2020	American Electrical Enterprise / Clinton, NY	SS / FFP	TACOM, Warren, MI	Dec 2019	Aug 2020	358	5.249	N		
Refrigeration Tool Kit - Type I		2018	TBS / TBS	SS / FFP	TACOM, Warren, MI	Sep 2018	Dec 2018	7	21.714	N		
Refrigeration Tool Kit - Type I		2019	TBS / TBS	SS / FFP	TACOM, Warren, MI	Jan 2019	Apr 2019	53	8.679	N		
Refrigeration Tool Kit - Type I		2020	TBS / TBS	SS / FFP	TACOM, Warren, MI	Dec 2019	Aug 2020	246	5.695	N		
Refrigeration Tool Kit - Type II		2018	TBS / TBS	SS / FFP	TACOM, Warren, MI	Sep 2018	Dec 2018	3	27.000	N		
Refrigeration Tool Kit - Type II		2019	TBS / TBS	SS / FFP	TACOM, Warren, MI	Jan 2019	Apr 2019	24	5.750	N		
Refrigeration Tool Kit - Type II		2020	TBS / TBS	SS / FFP	TACOM, Warren, MI	Dec 2019	Aug 2020	34	23.765	N		
Machinist Measuring Tool Set		2016	I. B. MILWAUKEE / West Allis, WI	SS / FFP	TACOM, Warren, MI	Sep 2016	Dec 2016	258	5.000	N		
Machinist Measuring Tool Set		2017	I. B. MILWAUKEE / West Allis, WI	SS / FFP	TACOM, Warren, MI	Sep 2017	Dec 2017	421	5.000	N		
Machinist Measuring Tool Set		2018	I. B. MILWAUKEE / West Allis, WI	SS / FFP	TACOM, Warren, MI	Sep 2018	Dec 2018	203	4.305	N		
Machinist Measuring Tool Set		2019	I. B. MILWAUKEE / West Allis, WI	SS / FFP	TACOM, Warren, MI	Jan 2019	Apr 2019	245	16.167	N		

**Remarks:**  
These items are being procured as Commercial-off-the-Shelf (COTS) Systems.

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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 03: Other Support Equipment / BSA 50: Construction Equipment	<b>P-1 Line Item Number / Title:</b> 0375R03800 / Grader, Road Mtzd, Hvy, 6X4 (CCE)
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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> )	245	2	-	-	-	-	-	-	-	-	-	247
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	331.400	0.989	-	-	-	-	5.412	-	-	-	-	337.801
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	331.400	0.989	-	-	-	-	5.412	-	-	-	-	337.801
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>331.400</b>	<b>0.989</b>	-	-	-	-	<b>5.412</b>	-	-	-	-	<b>337.801</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> )	1,352.653	494.500	-	-	-	-	-	-	-	-	-	1,367.615

**Description:**

The 120M Heavy Grader enables the Horizontal and Vertical Construction Companies, Engineer Support Companies, Clearance Companies, Asphalt Teams and Quarry Platoons with the capability necessary to conduct engineer missions including grading, shaping, bank sloping, ditching, scarifying, general construction and maintenance of roads and airfields. Self-deployable, the Grader is a critical enabler in the construction, maintenance and repair of roads, airfields, hardstands, drainage and site preparation for basecamps, pipeline installation and river crossings. The Grader is diesel-engine driven, pneumatic tired, with articulated frame steering. It is equipped with a power shift transmission, fully enclosed cab, hydraulically operated blade. The Grader program includes the Type I and the Type IA Air Droppable variant. The Grader is a commercial off the shelf (COTS) program that is considered a Critical Dual Use (CDU) system enabling and supporting Defense Support to Civil Authorities (DSCA) operations. The Army Acquisition Objective (AAO) to 881 (861 Type I & 20 Type IA); with 44 Construction Equipment Virtual Trainers (CEVT). Construction Equipment Virtual Trainers (CEVT) - The CEVT are commercial off the shelf virtual training devices with software modifications for military unique tasks. These simulators enable the United States Army Engineer School with the capability to more effectively train Engineer Military Occupational Skill (MOS), while reducing maintenance of actual equipment and fuel costs during traditional training. These simulators provide the Engineer Warfighter with a multitude of training scenarios and continuous hands on training on a variety of construction equipment and in various simulated conditions. Use of CEVT increases skills and competency in the operation of equipment.

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	-	-	-	-	-	-	-	-
Total Obligation Authority	0.989	-	-	-	-	5.412	-	-	-
<b>Total:</b>									
<b>Secondary Distribution</b>									
Quantity	<b>2</b>	-	-	-	-	-	-	-	-
Total Obligation Authority	<b>0.989</b>	-	-	-	-	<b>5.412</b>	-	-	-

**Justification:**

This program has no FY 2020 PB Request.

IAW 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-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 03: Other Support Equipment / BSA 50: Construction Equipment		<b>P-1 Line Item Number / Title:</b> 0375R03800 / Grader, Road Mtzd, Hvy, 6X4 (CCE)
<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		

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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 03: Other Support Equipment / BSA 50: Construction Equipment	<b>P-1 Line Item Number / Title:</b> 0822RA0100 / Scrapers, Earthmoving
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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> )	39	15	10	-	1	1	1	-	-	-	-	66
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	282.544	11.180	7.961	-	4.669	4.669	4.951	0.250	2.450	-	-	314.005
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	282.544	11.180	7.961	-	4.669	4.669	4.951	0.250	2.450	-	-	314.005
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>282.544</b>	<b>11.180</b>	<b>7.961</b>	-	<b>4.669</b>	<b>4.669</b>	<b>4.951</b>	<b>0.250</b>	<b>2.450</b>	-	-	<b>314.005</b>

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

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	7,244.718	745.333	796.100	-	4,669.000	4,669.000	4,951.000	-	-	-	-	4,757.652

**Description:**

The Heavy Scraper enables the Engineer Support, Horizontal Construction and Vertical Construction Companies with the earthmoving capability necessary to construct, maintain and repair airfields, runways, taxiways, and parking aprons, main supply routes, logistical facilities, roads, helipads, motor pools, railroads and ports of entry/debarkation and enhance force infrastructure protection across a range of military operations. It is a self-propelled and articulated framed steering vehicle with an open bowl, two axles, a single diesel engine and pneumatic tires. The 14-18 Cubic Yard, Earthmoving Heavy Scraper has the ability to self-load at a reduced production capacity. It provides a hauling and dumping capability to perform efficient tasks in support of earthmoving projects. The 14-18 Cubic Yard, Earthmoving Heavy Scraper is a commercial off the shelf (COTS) program that provides Army Engineers with essential equipment to perform their road and airfield construction and site preparation missions. The Army Acquisition Objective (AAO) is 666; with 200 Armor Kits, and 33 Construction Equipment Virtual Trainers (CEVT). The CEVT are commercial off the shelf virtual training devices with software modifications for military unique tasks. These simulators enable the United States Army Engineer School with the capability to more effectively train Engineer Military Occupational Skill (MOS), while reducing maintenance of actual equipment and fuel costs during traditional training. These simulators provide the Engineer Warfighter with a multitude of training scenarios and continuous hands on training on a variety of construction equipment and in various simulated conditions. Use of CEVT increases skills and competency in the operation of equipment.

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	-	0	1	1	1	-	-
	Total Obligation Authority	2.980	-	0.000	4.669	4.669	4.951	0.250	2.450
AR	Quantity	11	10	-	-	-	-	-	-
	Total Obligation Authority	8.200	7.961	-	-	-	-	-	-
<b>Total:</b>	<b>Quantity</b>	<b>15</b>	<b>10</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>-</b>	<b>-</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>11.180</b>	<b>7.961</b>	<b>-</b>	<b>4.669</b>	<b>4.669</b>	<b>4.951</b>	<b>0.250</b>	<b>2.450</b>

**Justification:**

FY 2020 OCO procurement dollars in the amount of \$0.759 million procures 1 Heavy Scraper with armor kit and funds all associated fielding and program management support costs. The procurement replaces one system sourced to support Operation Freedom Sentinel.

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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 03: Other Support Equipment / BSA 50: Construction Equipment		<b>P-1 Line Item Number / Title:</b> 0822RA0100 / Scrapers, Earthmoving
<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
<b>Line Item MDAP/MAIS Code:</b> N/A		
<p>FY 2020 OCO procurement dollars in the amount of \$3.910 million procures 5 Heavy Scrapers with STTE and funds all associated fielding and program management support costs in support of European Deterrence Initiative. System issues prevented the correct population of quantities in the P40.</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 03: Other Support Equipment / BSA 50: Construction Equipment

**P-1 Line Item Number / Title:**  
4100R04500 / Loaders

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

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

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	1	1	1	-	-	2	-	4
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	249.720	-	-	-	0.380	0.380	4.906	-	-	0.510	-	255.516
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	249.720	-	-	-	0.380	0.380	4.906	-	-	0.510	-	255.516
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>249.720</b>	-	-	-	<b>0.380</b>	<b>0.380</b>	<b>4.906</b>	-	-	<b>0.510</b>	-	<b>255.516</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> )	-	-	-	-	380.000	380.000	4,906.000	-	-	255.000	-	63,879.000

**Description:**

Loader, Scoop, 2.5 Cubic Yard Type II is a commercial off-the-shelf loader with minor military modifications. The Light Type II Loader is a general purpose scoop loader which is diesel engine driven, four wheel drive, with an articling frame steering. The loader is equipped with a multi-use four-in-one clam shell bucket and a forklift attachment. It also has the capability to accept a Crew Protection Kit in the form of a replaceable armor C-Kit cab for contingency operations. The Light Type II Loader is fielded to Light Brigade Combat Teams, Concrete Teams, Engineer Support Companies, and the Army training base. The Army Acquisition Objective (AAO) for Light Type II Loader is 286, with 35 Construction Equipment Virtual Trainers (CEVT). The CEVT are commercial off the shelf virtual training devices with software modifications for military unique tasks. These simulators enable the United States Army Engineer School with the capability to more effectively train Engineer Military Occupational Skill (MOS), while reducing maintenance of actual equipment and fuel costs during traditional training. These simulators provide the Engineer Warfighter with a multitude of training scenarios and continuous hands on training on a variety of construction equipment and in various simulated conditions. Use of CEVT increases skills and competency in the operation of equipment.

Loader Scoop, 4.5 and 5.0 Cubic Yard Heavy Type I/II are commercial off-the-shelf loaders with minor military modifications. The Type I Loader is used for quarry operations and the Type II is used for general construction missions. Each is equipped with a quick couple system for use with a forklift and sweeper attachments. Both loaders are diesel engine driven, four wheel drive, with an articling frame steering. The Heavy Type I/II Loaders have the capability to accept a Crew Protection Kit in the form of a replaceable armor C-Kit cab for contingency operations. The Loaders are fielded to Horizontal Construction Companies, Asphalt and Quarry Teams, Equipment Support Teams, and the Army training base. The AAO for Heavy Loaders is 241.

This program is considered a Critical Dual Use (CDU) system enabling and supporting Defense Support to Civil Authorities (DSCA) operations.

IAW 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.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army									
Quantity	-	-	0	1	1	1	-	-	2
Total Obligation Authority	-	-	0.000	0.380	0.380	4.906	-	-	0.510
<b>Total:</b>									
Quantity	-	-	0	1	1	1	-	-	2

**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 03: Other Support Equipment / BSA 50: Construction Equipment	<b>P-1 Line Item Number / Title:</b> 4100R04500 / Loaders
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
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**Line Item MDAP/MAIS Code:** N/A

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Secondary Distribution	Total Obligation Authority	-	-	-	0.380	0.380	4.906	-	-	0.510

**Justification:**  
 FY2020 OCO procurement dollars in the amount of \$0.380 million supports the procurement and fielding of 1 each Heavy Type II Loader.

**\*\*Note:** This program will be a new start program in FY 2020.\*\*

**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 03: Other Support Equipment / BSA 50: Construction Equipment	<b>P-1 Line Item Number / Title:</b> 4428X01500 / Hydraulic Excavator
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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> )	-	5	2	-	-	-	-	5	-	-	-	12
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	119.310	3.850	1.355	0.500	-	0.500	5.192	3.400	-	-	-	133.607
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	119.310	3.850	1.355	0.500	-	0.500	5.192	3.400	-	-	-	133.607
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>119.310</b>	<b>3.850</b>	<b>1.355</b>	<b>0.500</b>	<b>-</b>	<b>0.500</b>	<b>5.192</b>	<b>3.400</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>133.607</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> )	-	770.000	677.500	-	-	-	-	680.000	-	-	-	11,133.917

**Description:**

The HYEX Type I enables Combat Engineer units with the capabilities necessary to efficiently fulfill Joint Engineer Mission requirements across all phases of Joint Military Operations and conduct Joint Functions of (1) Movement and Maneuver: Combat Roads and Trails, Gap Crossing, Lines of Communications and/or Supply Routes, Vegetation Removal in Support of IEDD Intermediate Staging Bases, Barriers and Obstacles, Breaching and Clearing Operations; (2) Protection: Hardening; Field Fortification Support; (3) Sustainment: Base Camp Development, Construction and Repair of Infrastructure and Facilities. The HYEX Type I enables U.S. Army Engineers with the capabilities to perform precision excavation, land clearing, and lifting and loading various materials and aggregates into dump trucks, concrete mobile mixers, hoppers, and aggregate bins in an expeditious manner. These capabilities also include supporting and operating GP Bucket, Rock Bucket, Hydraulic Hammer, Hydraulic Plate Compactor, Barrier Grapple, Crush-all, and Vegetation Removal Tool. A Commercial-Off-The-Shelf (COTS), the HYEX Type I has a Crew Protection Kit, Rifle Mount, NATO Receptacle, JP-8 Fuel Compatibility, and CARC paint. The HYEX is fielded to Horizontal Construction Companies, VERT Companies, Multi-Role Bridge Companies, and the TRADOC training base. The CEVT are commercial off the shelf virtual training devices with software modifications for military unique tasks. These simulators enable the United States Army Engineer School with the capability to more effectively train Engineer Military Occupational Skill (MOS), while reducing maintenance of actual equipment and fuel costs during traditional training. These simulators provide the Engineer Warfighter with a multitude of training scenarios and continuous hands on training on a variety of construction equipment and in various simulated conditions. Use of CEVT increases skills and competency in the operation of equipment. The HYEX Type I Army Acquisition Objective (AAO) is 465; with 35 Construction Equipment Virtual Trainers (CEVT). The minimum monthly sustaining rate is 1, economic rate is 5, and maximum rate is 8 per month.

Capabilities of HYEX are as follows for each platform:

Horizontal Construction Company, TOE 05417R000: Provides personnel and equipment to perform Engineering tasks such as clearing and grubbing operations; haul, grade, shape, compact, cut and fill material; emplace culverts; remove snow/ice; construct drainage structures; conduct burrow pit operations; provide dust control operations; construct basecamps, air landing platforms, Forward Area Rearming and refueling Points (FARPS), supply routes, roads, control points, fire bases, tank ditches, Ammunition Supply Points (ASPCs), and field hospital platforms; prepare river crossing sites; and support port repair due to Hydraulic Excavator (HYEX).

Vertical Construction Company, TOE 05418R000: Provides personnel and equipment to perform Engineering tasks such as constructing basecamps, internment facilities; and constructs, repairs, maintains vertical infrastructures.

Engineer Support Company, TOEs 05419R000/100: Provides personnel and equipment to conduct engineering missions including Rapid Runway Repair (RRR), initial basecamp construction, non-explosive obstacle breaching, non-explosive area clearing, constructing tactical Unmanned Aerial Vehicle (UAV) airfields, helicopter Landing Zones (HLZs), and Assault Landing Zones (ALZs) to Division/Corps and Maneuver BCT.

**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 03: Other Support Equipment / BSA 50: Construction Equipment	<b>P-1 Line Item Number / Title:</b> 4428X01500 / Hydraulic Excavator
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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

Multirole Bridge Company, TOE 05473R000: Provides personnel and equipment to transport, assemble, disassemble, retrieve, and maintain all standard U.S. Army bridging systems, (HYEX conducts dredge operations to emplace bridging assets), and to provide transportation of Palletized Loading System (PLS) configured cargo.

	<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	5	2	-	-	-	-	5	-	-
	Total Obligation Authority	3.850	1.355	0.500	-	0.500	5.192	3.400	-	-
<b>Total:</b>	<b>Quantity</b>	<b>5</b>	<b>2</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>5</b>	<b>-</b>	<b>-</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>3.850</b>	<b>1.355</b>	<b>0.500</b>	<b>-</b>	<b>0.500</b>	<b>5.192</b>	<b>3.400</b>	<b>-</b>	<b>-</b>

**Justification:**  
 FY20 Base procurement dollars in the amount of \$0.500 million procures support of the Hydraulic Excavator Type I (HYEX-I) vehicle.

Note: This program is considered a Critical Dual Use (CDU) system.

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 03: Other Support Equipment / BSA 50: Construction Equipment	<b>P-1 Line Item Number / Title:</b> 4700M05800 / Tractor, Full Tracked
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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> )	11	-	-	8	14	22	14	-	-	-	-	47
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	610.045	-	-	4.835	8.225	13.060	12.945	-	-	-	-	636.050
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	610.045	-	-	4.835	8.225	13.060	12.945	-	-	-	-	636.050
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>610.045</b>	<b>-</b>	<b>-</b>	<b>4.835</b>	<b>8.225</b>	<b>13.060</b>	<b>12.945</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>636.050</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> )	55,458.636	-	-	604.375	587.500	593.636	924.643	-	-	-	-	13,532.979

**Description:**

The T-5 Light Type I Dozers with winch enables Engineer Support Companies, Stryker Brigade Combat Teams and Armored Brigade Combat Teams with the capabilities necessary to effectively conduct horizontal and vertical construction tasks with emphasis on rapid airfield repair and military facilities to establish and maintain the infrastructure required to conduct and sustain activities across the range of military operations. These capabilities include clearing, grubbing, stripping, dozing, rough grading, cutting and filling, loosening of materiel prior to excavation, reducing obstacles and towing in support of general engineering tasks. The T-5 Light Type I Dozers with ripper enables Engineer Support Companies, Stryker Brigade Combat Teams and Armored Brigade Combat Teams with the capabilities necessary to conduct horizontal and vertical construction tasks with emphasis on rapid airfield repair, military facilities to establish and maintain the infrastructure required to conduct and sustain activities across the range of military operations. These capabilities include clearing, grubbing, stripping, dozing, rough grading, cutting and filling, loosening of materiel prior to excavation, reducing obstacles and towing in support of general engineering tasks. The T-9 Medium Type II Dozers winch enables Combat Engineer, Quartermaster and Transportation Companies with the capabilities necessary to construct and maintain the infrastructure required to freely conduct and sustain activities across the range of military operations, including breaching operations, port opening operations and emplacement of standard and nonstandard Army bridging systems for wet and dry gap crossings. These capabilities include operator armor protection, creating obstacles, shaping the terrain and repairing lines of communication resulting in increased mobility, maneuverability, deployability and sustainability. The T-9 Medium Type II Dozers with ripper enables Engineer and Vertical Construction Companies with the capabilities necessary to conduct horizontal and vertical construction tasks to establish and maintain the infrastructure required to freely conduct and sustain activities across the range of military operations, including breaching operations and emplacement of standard and nonstandard Army bridging systems for wet and dry gap crossings. These capabilities include operator armor protection, creating obstacles, shaping the terrain and repairing lines of communication resulting in increased mobility, maneuverability, deployability and sustainability. The CEVT are commercial off the shelf virtual training devices with software modifications for military unique tasks. These simulators enable the United States Army Engineer School with the capability to more effectively train Engineer Military Occupational Skill (MOS), while reducing maintenance of actual equipment and fuel costs during traditional training. These simulators provide the Engineer Warfighter with a multitude of training scenarios and continuous hands on training on a variety of construction equipment and in various simulated conditions. The Army Acquisition Objective (AAO) is 1,601 (T-9: 1,297 and T-5: 304); with an Armor Kit requirement of 366 ( T-9: 318 and T-5: 48) and 33 Construction Equipment Virtual Trainers (CEVT).

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	14	20	14	-	-	-
Total Obligation Authority	-	-	3.627	8.225	11.852	12.945	-	-	-
ANG									
Quantity	-	-	1	-	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 03: Other Support Equipment / BSA 50: Construction Equipment	<b>P-1 Line Item Number / Title:</b> 4700M05800 / Tractor, Full Tracked
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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	-	-	0.604	-	0.604	-	-	-	-
AR	Quantity	-	-	1	-	1	-	-	-	-
	Total Obligation Authority	-	-	0.604	-	0.604	-	-	-	-
<b>Total:</b>	<b>Quantity</b>	-	-	<b>8</b>	<b>14</b>	<b>22</b>	<b>14</b>	-	-	-
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	-	-	<b>4.835</b>	<b>8.225</b>	<b>13.060</b>	<b>12.945</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 03: Other Support Equipment / BSA 50: Construction Equipment

**P-1 Line Item Number / Title:**  
4700M05800 / Tractor, Full Tracked

**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	M06100 / TRACTOR FULL TRACKED, MED T-9	P-5a	A		11 / 610.045	- / -	- / -	8 / 4.835	14 / 8.225	22 / 13.060
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>11 / 610.045</b>	<b>- / -</b>	<b>- / -</b>	<b>8 / 4.835</b>	<b>14 / 8.225</b>	<b>22 / 13.060</b>

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

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

**Justification:**  
 FY20 Base Procurement dollars in the amount of \$4.835 million will be used to procure 8 Tractor, fully Tracked vehicles and fund support costs.  
 FY20 OCO (Operation Freedom Sentinel) Procurement dollars in the amount of \$8.225 million will be used to procure 14 Tractor, fully Tracked vehicles and fund all support costs.  
 Note: This program will be a new start program in FY20. This program is considered a Critical Dual Use (CDU) system.  
 In accordance with Section 1815 of the FY 2008 National Defense Authorization Act (P.L. 110-81), this item is necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities.

**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 / 03 / 50	<b>P-1 Line Item Number / Title:</b> 4700M05800 / Tractor, Full Tracked	<b>Item Number / Title [DODIC]:</b> M06100 / TRACTOR FULL TRACKED, MED T-9

<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)	11	-	-	8	14	22
Gross/Weapon System Cost (\$ in Millions)	610.045	-	-	4.835	8.225	13.060
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	610.045	-	-	4.835	8.225	13.060
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>610.045</b>	<b>-</b>	<b>-</b>	<b>4.835</b>	<b>8.225</b>	<b>13.060</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)	55,458.636	-	-	604.375	587.500	593.636

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

Cost Elements	Prior Years			FY 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 <sup>(†)</sup>	88.435	1,535	135.748	-	-	-	-	-	-	545.000	8	4.360	545.000	14	7.630	545.000	22	11.990
System Engineering/ Program Management	-	-	68.000	-	-	-	-	-	-	-	-	0.145	-	-	0.247	-	-	0.392
Training	-	-	102.088	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Data	-	-	120.000	-	-	-	-	-	-	-	-	0.010	-	-	0.010	-	-	0.020
Fielding	-	-	184.209	-	-	-	-	-	-	-	-	0.080	-	-	0.128	-	-	0.208
Support Equipment	-	-	-	-	-	-	-	-	-	-	-	0.240	-	-	0.210	-	-	0.450
<i>Subtotal: Recurring Cost</i>	-	-	610.045	-	-	-	-	-	-	-	-	4.835	-	-	8.225	-	-	13.060
<i>Subtotal: Flyaway Cost</i>	-	-	610.045	-	-	-	-	-	-	-	-	4.835	-	-	8.225	-	-	13.060
<b>Gross/Weapon System Cost</b>	<b>55,458.636</b>	<b>11</b>	<b>610.045</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>604.375</b>	<b>8</b>	<b>4.835</b>	<b>587.500</b>	<b>14</b>	<b>8.225</b>	<b>593.636</b>	<b>22</b>	<b>13.060</b>

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	-	-	6	14	20
	Total Obligation Authority	-	-	3.627	8.225	11.852
ANG	Quantity	-	-	1	-	1
	Total Obligation Authority	-	-	0.604	-	0.604
AR	Quantity	-	-	1	-	1



**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 / 03 / 50	<b>P-1 Line Item Number / Title:</b> 4700M05800 / Tractor, Full Tracked	<b>Item Number / Title [DODIC]:</b> M06100 / TRACTOR FULL TRACKED, MED T-9

**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
	Total Obligation Authority	-	-	0.604	-	0.604
<b>Total:</b>	<b>Quantity</b>	-	-	8	14	22
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	-	-	4.835	8.225	13.060

(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 / 03 / 50			<b>P-1 Line Item Number / Title:</b> 4700M05800 / Tractor, Full Tracked				<b>Item Number / Title [DODIC]:</b> M06100 / TRACTOR FULL TRACKED, MED T-9				

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		2020	Caterpillar / Peoria IL	SS / FFP	Philadelphia, PA	Jan 2020	Jul 2020	22	545.000	N		

**Remarks:**  
This is a commercial off the shelf (COTS) program. This program will be utilizing the DLA HEPP contract until follow - on contract is in place.

**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 03: Other Support Equipment / BSA 50: Construction Equipment	<b>P-1 Line Item Number / Title:</b> 4734R06701 / All Terrain Cranes
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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	4	8	14	-	14	31	42	34	-	-	142
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	92.254	8.935	13.031	23.936	-	23.936	55.947	81.703	77.344	7.272	-	360.422
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	92.254	8.935	13.031	23.936	-	23.936	55.947	81.703	77.344	7.272	-	360.422
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>92.254</b>	<b>8.935</b>	<b>13.031</b>	<b>23.936</b>	<b>-</b>	<b>23.936</b>	<b>55.947</b>	<b>81.703</b>	<b>77.344</b>	<b>7.272</b>	<b>-</b>	<b>360.422</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> )	10,250.444	2,233.750	1,628.875	1,709.714	-	1,709.714	1,804.742	1,945.310	2,274.824	-	-	2,538.183

**Description:**

The All Terrain Cranes program enables Multi Role Bridge Companies (MRBC) with the capabilities necessary to assemble, disassemble and maintain the Line of Communication Bridge (LOCB) for wet and dry gap crossings. The T2HC is the largest mobile crane in the Army inventory with a lift capability of 60 tons enabling Clearance Companies to lift battle damaged Buffalos. The T2HC enables Engineer Construction and Engineer Vertical Companies with the capabilities to support overhead lift, container moving, pile driving, emplacing protective barriers, concrete displacement and other construction tasks. These capabilities also include supporting and operating a clamshell bucket, pile driver, concrete bucket, and grapple. The ATC Army Acquisition Objective (AAO) is 214 Type II Heavy Crane 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	2	3	6	-	6	9	17	-
	Total Obligation Authority	4.467	5.543	10.258	-	10.258	16.242	33.070	7.200
ANG	Quantity	1	2	5	-	5	14	16	21
	Total Obligation Authority	2.234	2.910	8.549	-	8.549	25.267	31.125	42.969
AR	Quantity	1	3	3	-	3	8	9	13
	Total Obligation Authority	2.234	4.578	5.129	-	5.129	14.438	17.508	27.175
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	<b>4</b>	<b>8</b>	<b>14</b>	<b>-</b>	<b>14</b>	<b>31</b>	<b>42</b>	<b>34</b>
	<b>Total Obligation Authority</b>	<b>8.935</b>	<b>13.031</b>	<b>23.936</b>	<b>-</b>	<b>23.936</b>	<b>55.947</b>	<b>81.703</b>	<b>77.344</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 03: Other Support Equipment / BSA 50: Construction Equipment

**P-1 Line Item Number / Title:**  
4734R06701 / All Terrain Cranes

**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	R06701 / All Terrain Cranes	P-5a			9 / 92.254	4 / 8.935	8 / 13.031	14 / 23.936	- / -	14 / 23.936
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>9 / 92.254</b>	<b>4 / 8.935</b>	<b>8 / 13.031</b>	<b>14 / 23.936</b>	<b>- / -</b>	<b>14 / 23.936</b>

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

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

**Justification:**  
 FY20 Base procurement dollars in the amount of \$23.936 million procures 14 All Terrain Cranes (ATC) Type II systems and funds and support costs.  
 Note: The ATC Type II system is considered a Critical Dual Use (CDU) system, enabling and supporting Defense Support to Civil Authorities (DSCA) operations (i.e. Disaster Relief).  
 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 / 03 / 50	<b>P-1 Line Item Number / Title:</b> 4734R06701 / All Terrain Cranes	<b>Item Number / Title [DODIC]:</b> R06701 / All Terrain Cranes

<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)	9	4	8	14	-	14
Gross/Weapon System Cost (\$ in Millions)	92.254	8.935	13.031	23.936	-	23.936
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	92.254	8.935	13.031	23.936	-	23.936
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>92.254</b>	<b>8.935</b>	<b>13.031</b>	<b>23.936</b>	<b>-</b>	<b>23.936</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)	10,250.444	2,233.750	1,628.875	1,709.714	-	1,709.714

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 ALL TERRAIN CRANE TYPE II <sup>(†)</sup>	2,989.556	9	26.906	1,366.250	4	5.465	1,424.125	8	11.393	1,487.857	14	20.830	-	-	-	1,487.857	14	20.830
Hardware MOTCO Crane	51,294.000	1	51.294	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
System Engineering/ Program Management	-	-	5.140	-	-	0.822	-	-	0.391	-	-	0.762	-	-	-	-	-	0.762
System Test and Evaluation, Production	-	-	2.541	-	-	0.590	-	-	-	-	-	0.100	-	-	-	-	-	0.100
Data	-	-	4.507	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fielding	-	-	1.866	-	-	2.058	-	-	1.247	-	-	2.094	-	-	-	-	-	2.094
Engineering Changes	-	-	-	-	-	-	-	-	-	-	-	0.150	-	-	-	-	-	0.150
<i>Subtotal: Recurring Cost</i>	-	-	92.254	-	-	8.935	-	-	13.031	-	-	23.936	-	-	-	-	-	23.936
<i>Subtotal: Flyaway Cost</i>	-	-	92.254	-	-	8.935	-	-	13.031	-	-	23.936	-	-	-	-	-	23.936
<b>Gross/Weapon System Cost</b>	<b>10,250.444</b>	<b>9</b>	<b>92.254</b>	<b>2,233.750</b>	<b>4</b>	<b>8.935</b>	<b>1,628.875</b>	<b>8</b>	<b>13.031</b>	<b>1,709.714</b>	<b>14</b>	<b>23.936</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>1,709.714</b>	<b>14</b>	<b>23.936</b>

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	2	3	6	-	6
	Total Obligation Authority	4.467	5.543	10.258	-	10.258
ANG	Quantity	1	2	5	-	5

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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 / 03 / 50	<b>P-1 Line Item Number / Title:</b> 4734R06701 / All Terrain Cranes	<b>Item Number / Title [DODIC]:</b> R06701 / All Terrain Cranes
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<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>
Total Obligation Authority	2.234	2.910	8.549	-	8.549
AR					
Quantity	1	3	3	-	3
Total Obligation Authority	2.234	4.578	5.129	-	5.129
<b>Total: Secondary Distribution</b>					
Quantity	4	8	14	-	14
Total Obligation Authority	8.935	13.031	23.936	-	23.936

(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 / 03 / 50	<b>P-1 Line Item Number / Title:</b> 4734R06701 / All Terrain Cranes	<b>Item Number / Title [DODIC]:</b> R06701 / All Terrain Cranes
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Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty <i>(Each)</i>	Unit Cost <i>(\$ K)</i>	Specs Avail Now?	Date Revision Available	RFP Issue Date
HARDWARE ALL TERRAIN CRANE TYPE II		2018	Grove US, LLC / Shady Grove, PA	C / FFP	WARREN, MI	Mar 2018	Aug 2019	4	1,366.250	N		
HARDWARE ALL TERRAIN CRANE TYPE II		2019	Grove US, LLC / Shady Grove, PA	Option / FFP	WARREN, MI	Feb 2019	Jan 2020	8	1,424.125	N		
HARDWARE ALL TERRAIN CRANE TYPE II		2020	Grove US, LLC / Shady Grove, PA	Option / FFP	WARREN, MI	Feb 2020	Jan 2021	14	1,487.857	N		

**Remarks:**  
The All Terrain Cranes is a Commercial-off-the-Shelf (COTS) system.

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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 03: Other Support Equipment / BSA 50: Construction Equipment	<b>P-1 Line Item Number / Title:</b> 7495R05901 / High Mobility Engineer Excavator (HMEE)
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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> )	45	164	130	50	6	56	38	22	-	-	-	455
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	320.026	75.831	71.748	27.188	3.000	30.188	19.381	11.199	-	-	-	528.373
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	320.026	75.831	71.748	27.188	3.000	30.188	19.381	11.199	-	-	-	528.373
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>320.026</b>	<b>75.831</b>	<b>71.748</b>	<b>27.188</b>	<b>3.000</b>	<b>30.188</b>	<b>19.381</b>	<b>11.199</b>	-	-	-	<b>528.373</b>

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

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	7,111.689	462.384	551.908	543.760	500.000	539.071	510.026	509.045	-	-	-	1,161.259

**Description:**

The High Mobility Engineer Excavator Type I (HMEE-I) is a non-developmental item (NDI). The HMEE enables Airborne, Construction and Combat Engineer units with the capabilities necessary to conduct light earthmoving, loading and excavation throughout the area of operations in support of airfield and road repair/construction, preparation of bridge sites, base camp/facility sustainment to executing survivability and major construction tasks. Self-deployable, the HMEE is used to repair Line of Communications resulting in increased force mobility, maneuverability, deployability and sustainability. The HMEE is the host platform for the Route Clearance Interrogation System (RCIS) enabling the remote detection and limited IED neutralization along routes. It is capable of traveling up to 60 mph on primary roads, 25 mph on secondary roads, and maintains pace with the Army's current and future combat systems. The intent is for HMEE I to incorporate Electrical Over Hydraulic upgrades through Engineering Change Proposals (ECPs) which would require a revision to the Interactive Technical Manual (IETM). The minimum monthly sustaining rate for the HMEE-I is 6 systems per month. The High Mobility Engineer Excavator (Airborne) (HMEE (A)) is an armored, slightly modified HMEE-I that is air-droppable from a C-17 aircraft. The HMEE (A) provides the same excavation and high travel speed (60 mph) capabilities as the HMEE I. The HMEE (A) will be fielded to Engineer Support Companies and Infantry Brigade Combat Teams (IBCTs) in Airborne units.

The High Mobility Engineer Excavator Type III (HMEE-III) is a Backhoe Loader (BHL) which is a Commercial Off-the-Shelf (COTS) backhoe loader with minor military modifications. The BHL provides the capability to execute general construction missions in the areas of road building, airfield construction, repair and improve road systems, trails and bridges. The BHL also has the capability to accept a Crew Protection Kit in the form of a replaceable armored cab for contingency operations. The BHL is capable of driving up to 25 MPH on improved roads and 7 MPH off-road. The BHL is transported in the air via C-130, C-5, or C-17 aircraft, or across the highway with M916/M870 and M915/M172 truck/trailer combination organic to the unit. The BHL is fielded to Horizontal and Vertical Construction Companies, the Army training base, and other Non-Engineer Units.

The Army Acquisition Objective is: 1,990 (HMEE-I: 1,308/HMEE-III: 682).

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	35	73	6	6	12	22	5	-	-
	Total Obligation Authority	17.624	39.739	7.036	3.000	10.036	11.137	3.413	-	-
ANG	Quantity	64	29	24	-	24	9	9	-	-
	Total Obligation Authority	29.104	16.262	13.282	-	13.282	4.580	4.122	-	-



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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 03: Other Support Equipment / BSA 50: Construction Equipment	<b>P-1 Line Item Number / Title:</b> 7495R05901 / High Mobility Engineer Excavator (HMEE)
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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
AR	Quantity	65	28	20	-	20	7	8	-	-
	Total Obligation Authority	29.103	15.747	6.870	-	6.870	3.664	3.664	-	-
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	<b>164</b>	<b>130</b>	<b>50</b>	<b>6</b>	<b>56</b>	<b>38</b>	<b>22</b>	<b>-</b>	<b>-</b>
	<b>Total Obligation Authority</b>	<b>75.831</b>	<b>71.748</b>	<b>27.188</b>	<b>3.000</b>	<b>30.188</b>	<b>19.381</b>	<b>11.199</b>	<b>-</b>	<b>-</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 03: Other Support Equipment / BSA 50: Construction Equipment

**P-1 Line Item Number / Title:**  
7495R05901 / High Mobility Engineer Excavator (HMEE)

**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	R05900 / High Mobility Engineer Excavator (HMEE) Type I	P-5a, P-21	B		45 / 320.026	164 / 75.831	130 / 71.748	50 / 27.188	6 / 3.000	56 / 30.188
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>45 / 320.026</b>	<b>164 / 75.831</b>	<b>130 / 71.748</b>	<b>50 / 27.188</b>	<b>6 / 3.000</b>	<b>56 / 30.188</b>

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

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

**Justification:**  
 FY20 Base procurement dollars in the amount of \$27.188 million will procure 50 HMEE-I unarmored vehicles, programmatic system support, and incorporate Engineering Change Proposals for HMEE I and Electrical Over Hydraulic upgrades.  
 FY20 OCO procurement dollars in the amount of \$3.000 million will procure 5 HMEE-I armored vehicles to replace vehicles sourced from APS for Operation Freedom's Sentinel and incorporate Engineering Change Proposals for HMEE I and Electrical Over Hydraulic upgrades. The purchase of armored vehicles replaces theater-specific equipment and has an increased unit cost over the unarmored vehicle. System issues prevented the correct population of quantities in the P40.  
 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 / 03 / 50	<b>P-1 Line Item Number / Title:</b> 7495R05901 / High Mobility Engineer Excavator (HMEE)	<b>Item Number / Title [DODIC]:</b> R05900 / High Mobility Engineer Excavator (HMEE) Type I

<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)	45	164	130	50	6	56
Gross/Weapon System Cost (\$ in Millions)	320.026	75.831	71.748	27.188	3.000	30.188
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	320.026	75.831	71.748	27.188	3.000	30.188
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>320.026</b>	<b>75.831</b>	<b>71.748</b>	<b>27.188</b>	<b>3.000</b>	<b>30.188</b>

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

Initial Spares (\$ in Millions)	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	7,111.689	462.384	551.908	543.760	500.000	539.071

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 - HMEE (I) System	2,519.282	103	259.486	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hardware - Armor Kits (Crew Protection Kits)	-	-	-	-	-	0.364	-	-	2.850	-	-	-	-	-	0.475	-	-	0.475
Support Equipment - Special Tools	26.461	178	4.710	-	-	4.240	-	-	1.097	-	-	0.675	-	-	-	-	-	0.675
Engineering Changes	-	-	1.367	-	-	-	-	-	4.432	-	-	1.700	-	-	0.090	-	-	1.790
Data: TM Development Validation Verification	-	-	-	-	-	-	-	-	1.950	-	-	1.050	-	-	-	-	-	1.050
System Engineering/ Program Management	-	-	9.822	-	-	2.144	-	-	4.580	-	-	0.673	-	-	-	-	-	0.673
Fielding	-	-	27.683	-	-	4.646	-	-	2.559	-	-	2.740	-	-	0.400	-	-	3.140
<b>Subtotal: Recurring Cost</b>	<b>-</b>	<b>-</b>	<b>303.068</b>	<b>-</b>	<b>-</b>	<b>11.394</b>	<b>-</b>	<b>-</b>	<b>17.468</b>	<b>-</b>	<b>-</b>	<b>6.838</b>	<b>-</b>	<b>-</b>	<b>0.965</b>	<b>-</b>	<b>-</b>	<b>7.803</b>
<b>Subtotal: Flyaway Cost</b>	<b>-</b>	<b>-</b>	<b>303.068</b>	<b>-</b>	<b>-</b>	<b>11.394</b>	<b>-</b>	<b>-</b>	<b>17.468</b>	<b>-</b>	<b>-</b>	<b>6.838</b>	<b>-</b>	<b>-</b>	<b>0.965</b>	<b>-</b>	<b>-</b>	<b>7.803</b>
Hardware Cost																		
Recurring Cost																		
Hardware - HMEE (I) Un-armored System (A Kit) <sup>(1)</sup>	376.844	45	16.958	392.909	164	64.437	407.000	110	44.770	407.000	50	20.350	407.000	5	2.035	407.000	55	22.385

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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 / 03 / 50	<b>P-1 Line Item Number / Title:</b> 7495R05901 / High Mobility Engineer Excavator (HMEE)	<b>Item Number / Title [DODIC]:</b> R05900 / High Mobility Engineer Excavator (HMEE) Type I
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : B		<b>MDAP/MAIS Code:</b>

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

Cost Elements	Prior Years			FY 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 - HMEE (I) Armored System (B Kit) <sup>(t)</sup>	-	-	-	-	-	-	500.526	19	9.510	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	16.958	-	-	64.437	-	-	54.280	-	-	20.350	-	-	2.035	-	-	22.385
<i>Subtotal: Hardware Cost</i>	-	-	16.958	-	-	64.437	-	-	54.280	-	-	20.350	-	-	2.035	-	-	22.385
<b>Gross/Weapon System Cost</b>	<b>7,111.689</b>	<b>45</b>	<b>320.026</b>	<b>462.384</b>	<b>164</b>	<b>75.831</b>	<b>551.908</b>	<b>130</b>	<b>71.748</b>	<b>543.760</b>	<b>50</b>	<b>27.188</b>	<b>500.000</b>	<b>6</b>	<b>3.000</b>	<b>539.071</b>	<b>56</b>	<b>30.188</b>

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	35	73	6	6	12
	Total Obligation Authority	17.624	39.739	7.036	3.000	10.036
ANG	Quantity	64	29	24	-	24
	Total Obligation Authority	29.104	16.262	13.282	-	13.282
AR	Quantity	65	28	20	-	20
	Total Obligation Authority	29.103	15.747	6.870	-	6.870
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	<b>164</b>	<b>130</b>	<b>50</b>	<b>6</b>	<b>56</b>
	<b>Total Obligation Authority</b>	<b>75.831</b>	<b>71.748</b>	<b>27.188</b>	<b>3.000</b>	<b>30.188</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 / 03 / 50			<b>P-1 Line Item Number / Title:</b> 7495R05901 / High Mobility Engineer Excavator (HMEE)				<b>Item Number / Title [DODIC]:</b> R05900 / High Mobility Engineer Excavator (HMEE) Type I					

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
Hardware - HMEE (I) Un-armored System (A Kit) <sup>(†)</sup>		2018	JCB / Pooler, GA	C / FFP	TACOM	Feb 2018	Aug 2018	164	392.909	N		
Hardware - HMEE (I) Un-armored System (A Kit) <sup>(†)</sup>		2019	JCB / Pooler, GA	C / FFP	TACOM	Aug 2019	Oct 2019	110	407.000	N		
Hardware - HMEE (I) Un-armored System (A Kit) <sup>(†)</sup>		2020	TBD / TBD	C / FFP	TACOM	Jan 2020	Jul 2020	55	407.000	N		
Hardware - HMEE (I) Armored System (B Kit)		2019	TBD / TBD	C / FFP	TACOM	Aug 2019	Feb 2020	19	500.526	N		

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

**Remarks:**

System issues prevented the correct population of quantities in the P5 Resource Summary header and Gross/Weapon System Cost totals for FY 2020 OCO. The Cost Element detail of the P5 (Hardware) provides planned procurement quantities associated with FY 2020 OCO requested funding.





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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 / 03 / 50		<b>P-1 Line Item Number / Title:</b> 7495R05901 / High Mobility Engineer Excavator (HMEE)
		<b>Item Number / Title [DODIC]:</b> R05900 / High Mobility Engineer Excavator (HMEE) Type I

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	6	10	12	0	4	14	18	0	4	9	13
2	JCB - Pooler, GA	6	10	12	0	6	9	15	0	4	9	13

**Remarks:**  
 Database is structured to suppress cost elements under \$5 million dollars. P5a cost element "Hardware - HMEE (I) Armored System (B Kit)" is not included in P-21 production schedule because the cost is under \$5 million. The production schedule is not showing that FY19 funded armored systems (Qty 50) are scheduled to deliver quantity 6 each per month beginning January 2020 through August 2020 and 2 each in September 2020. FY20 funded armored systems are scheduled to deliver quantity 6 each in September 2021.

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

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



**UNCLASSIFIED**

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

**Appropriation / Budget Activity / Budget Sub Activity:**  
2035A: Other Procurement, Army / BA 03: Other Support Equipment / BSA 50: Construction Equipment

**P-1 Line Item Number / Title:**  
9090R07001 / Enhanced Rapid Airfield Construction Capap

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

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

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	76	1	2	-	-	-	-	-	-	-	-	79
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	16.144	2.563	8.480	-	-	-	-	-	-	-	-	27.187
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	16.144	2.563	8.480	-	-	-	-	-	-	-	-	27.187
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>16.144</b>	<b>2.563</b>	<b>8.480</b>	-	-	-	-	-	-	-	-	<b>27.187</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> )	212.421	2,563.000	4,240.000	-	-	-	-	-	-	-	-	344.139

**Description:**

The Engineer Rapid Airfield Construction Capabilities (ERACC) consists of four (4) independent products that enhance the joint commander's capability for Enable Theater Access (ETA) operations. ERACC provides the joint commander the capability enhancement to rapidly construct new airfields, runways and to upgrade existing facilities to meet joint task force needs. This expands operating capacities of Aerial ports Embarkation/Debarcation (APOE/APOD). ERACC Type I, Type II, Type III and Type IV are commercial off the shelf (COTS) programs. Joint U.S. Forces will employ ERACC types (I-IV) individually or as a combined mission based on engineer requirements.

ERACC Type I, Site Selection and Assessment. This capability package is a software centric capability used to rapidly assess potential sites for airfield operations. This capability provides geospatial information, site analysis, terrain visualization, airfield performance predictions, constructability estimations, on-site material characterization, and site design capabilities. The fielding of the ERACC Type I software will be to users of the ENFIRE engineer reconnaissance system as part of the ENFIRE 7.0 software baseline, and will be included in all subsequent baselines. The users include construction engineer platoon leaders, engineer liaison teams, facilities managers, and contracting personnel within Engineer organizations for construction project management, reconnaissance, facilities and inventory management, Tele-engineering, site layout, rudimentary surveying, mapping, and associated reporting. The ERACC Type I system is a software application on the ENFIRE system. The Army Acquisition Objective (AAO) for the Type I is 41 and will be procured by Product Director Combat Terrain Information Systems (PD CTIS).

ERACC Type II, Enhanced Earthmoving. This system is a Grade Control System that includes a global positioning system (GPS) and laser leveling system that is installed on a dozer, grader, scraper and Deployable Universal Combat Earthmover (DEUCE). The ERACC Type II enables Combat Engineer units with the capability to efficiently fulfill Joint Engineer Mission requirements across all phases of Joint Military Operations and conduct Joint Functions and Joint Forcible Entry Operations. U.S. Army Engineers employ the ERACC II in direct support of Joint Functions of (1) Movement and Maneuver: Combat Roads and Trails, Gap Crossing, Lines of Communications and/or Supply Routes, Intermediate Staging Bases and (2) Sustainment: Base Camp Development, Construction and Repair of Infrastructure and Facilities. U.S. Army Engineers employ ERACC Type II in direct support of Joint Forcible Entry Operations of (1) Forcible Entry Phase III Stabilization of the Lodgment: Repair, Rehabilitation, Expansion, and Upkeep of Runways, Aprons, Taxiways, and Parking areas to support continuous Air-Landing operations and (2) Forcible Entry Phase IV Introduction of Follow-on Forces: Ports of Debarcation are maintained to maximize and sustain throughput for follow-on forces. A commercial Grade Control System that is cross-functional and fully interoperable on Dozers, Graders, Motorized Scrapers, and the Deployable Universal Combat Earthmover (DEUCE), the ERACC Type II improves construction productivity by essentially eliminating operator error, increasing earthmoving efficiency and reducing project completion times. The ERACC Type II imports site design data produced by the survey and design team; stores and provides a 3-D display for equipment operators; tracks machine location, and provides cut & fill information for the operator without the use of grade stakes. The AAO for the Type II 342 will be procured by PM Combat Engineer/Material Handling Equipment (CE/MHE).

**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 03: Other Support Equipment / BSA 50: Construction Equipment	<b>P-1 Line Item Number / Title:</b> 9090R07001 / Enhanced Rapid Airfield Construction Capap
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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

ERACC Type III, Mobile Technical Engineer Lab (MTEL) is an integration of commercially available non-developmental items. MTEL effort is a C130 airplane Low Velocity Air Droppable (LVAD)/CH-47 helicopter sling transportable package enhancing a modularly designed capability to rapidly open new airfields and runways, and/or upgrade existing facilities to meet joint task force needs. The MTEL provides a soil test and survey capability utilizing a utility vehicle. This allows the ERACC Team to quickly understand the composition of the soil to determine feasibility for construction of an airfield. The MTEL can also be used for recon and scouting once the lab package is removed. The fielding of the MTEL will be within Engineer Support Company and Engineer Support Teams. The ERACC Type III AAO is 86 and will be procured by PM CE/MHE.

ERACC Type IV, Soil Stabilization. This system is essential to mix soil stabilization products with soil to produce desired stabilized base layers suitable for aircraft traffic operations. This system supports rapid construction and or expansion of airfield operation capacities. It will also be employed during the construction/upgrading of helipads as a means to prevent brownout conditions from occurring during helicopter landing and takeoff operations. The machine is equipped with an onboard automated liquid distribution system that matches the desired liquid polymer application rate to the machines ground speed. It has the capability to continuously operate for a period of 10 hours. The Soil Reclaimer Stabilizer will be fielded to the Rapidly Deployable Earthmoving-Light (RDE-L) Platoon within the Engineer Support Company (ESC), Engineer Survey and Design Sections, Engineer Geospatial Cells, Forward Engineer Support Teams, and Technical Engineer Sections. The ERACC Type IV AAO is 31 and will be procured by PM CE/MHE.

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	2	-	-	-	-	-	-	-
	Total Obligation Authority	2.563	8.480	-	-	-	-	-	-	-
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	<b>1</b>	<b>2</b>	-	-	-	-	-	-	-
	<b>Total Obligation Authority</b>	<b>2.563</b>	<b>8.480</b>	-	-	-	-	-	-	-

**Justification:**  
 This program has no FY 2020 PB 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 components 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 03: Other Support Equipment / BSA 50: Construction Equipment	<b>P-1 Line Item Number / Title:</b> 9120M05500 / Const Equip ESP
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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> )	69	111	188	163	15	178	89	-	3	8	-	646
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	389.575	19.032	33.760	34.790	3.870	38.660	25.119	0.544	3.000	3.000	-	512.690
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	389.575	19.032	33.760	34.790	3.870	38.660	25.119	0.544	3.000	3.000	-	512.690
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>389.575</b>	<b>19.032</b>	<b>33.760</b>	<b>34.790</b>	<b>3.870</b>	<b>38.660</b>	<b>25.119</b>	<b>0.544</b>	<b>3.000</b>	<b>3.000</b>	<b>-</b>	<b>512.690</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> )	5,646.014	171.459	179.574	213.436	258.000	217.191	282.236	-	1,000.000	375.000	-	793.638

**Description:**

The Service Life Extension Program (SLEP) enables the Army to gain additional useful life on vehicle systems and meet operational readiness by rebuilding the vehicles and returning the vehicles to like new condition (zero miles/zero hours). The SLEP allows the Army to maintain Combat Engineer and Material Handling Equipment critical capability to build/repair roads, airfields, and other infrastructure within a theater of operations. The SLEP is considered commercial off the shelf (COTS). The systems below currently fall under SLEP.

The DEUCE is a rubber-tracked dozer used in clearing, leveling, and excavation operations. It is C-130 airplane transportable and can be dropped by parachute at low velocity. It can travel at speeds up to 30 miles per hour (MPH) eliminating the typical construction equipment requirement of trailers and additional haul assets. The DEUCE rubber tracks allow construction, loading, and off-loading on airfields and paved roads without damage. No replacement solution provides these capabilities at this time. The SLEP Approved Acquisition Objective (AAO) for DEUCE is 214 systems.

The Dual Steel Wheel Roller (DSWR) is a self-propelled vehicle consisting of two steel drums, a diesel engine, and a hydrostatic drive. It is a commercial system used to compact bituminous material in paving operations. The SLEP AAO for DSWR is 30 systems.

The High Speed Compactor (HSC) is equipped with articulated steering, a dozer blade, a diesel engine, and has segmented impact pads on each of the four drums. It is capable of compacting various soil types in forward or reverse at speeds up to 12 MPH. The SLEP AAO for HSC is 152 systems.

The Vibratory Rollers Type I, Type II, and Type III are self-propelled single drum rollers equipped with vibratory action, and are used to level and compact all soil types. The combined AAO for Vibratory Rollers Type I and Type III is 88. The AAO for Vibratory Rollers Type II is 394.

The Hydraulic Excavator (HYEX) Type I, II and III is a commercial item of construction equipment with minor military modifications. It is a diesel-driven, self-propelled, track mounted, hydraulically controlled system equipped with a hydraulic quick disconnect coupler for use with a wide variety of attachments. The SLEP AAO for HYEX Type I is 189 systems.

The Scraper (613C) is a non-sectionalized/sectionalized scraper used by Engineer Support Companies for earthmoving maintenance and construction of roads and airfields. The sectionalized scraper can be sectionalized into two sections for transport by helicopter. The SLEP AAO for Scraper (613C) is 121 systems.

**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 03: Other Support Equipment / BSA 50: Construction Equipment	<b>P-1 Line Item Number / Title:</b> 9120M05500 / Const Equip ESP
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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

The 7.5T Crane is used primarily in light cargo handling units where mobility is required. It is capable of safe operation in explosive environments at Ammunition and Petroleum, Oil, and Lubricant supply points and can be used by ordnance companies, petroleum platoons and maintenance battalions. The SLEP AAO for 7.5T Crane SLEP is 242 systems and is only to fulfill PEO Aviation requirements.

The High Mobility Engineer Excavator (HMEE) is a non-developmental, military unique vehicle that can travel up to 60 mph on primary roads, and up to 25 mph on secondary roads. The high mobility of the HMEE I is part of the Rapid Tactical Earthmoving force and is used for clearing rubble and debris from routes and airfields; constructing airstrips, providing survivability positions for critical assets like C2, radar and logistics, improving ford sites, supporting limited CS & CSS missions in the forward area of theater. The SLEP AAO for HMEE is 429 systems.

The D-7G Medium Dozer is a full tracked tractor with medium pull bar and a winch or ripper. The dozers perform earth moving operations and supports building and maintaining roads, airfields and shelters. The SLEP AAO for D-7G Medium Dozer is 114 Systems.

The Grader is The Grader enables the Horizontal and Vertical Construction Companies, Engineer Support Companies, Clearance Companies, Asphalt Teams and Quarry Platoons with the capability necessary to conduct engineer missions including grading, shaping, bank sloping, ditching, scarifying, general construction and maintenance of roads and airfields. Self-deployable, the Grader is a critical enabler in the construction, maintenance and repair of roads, airfields, hardstands, drainage and site preparation for basecamps, pipeline installation and river crossings. The SLEP GRADER AAO is 2 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	42	29	33	15	48	28	-	3	8
	Total Obligation Authority	7.201	5.207	7.043	3.870	10.913	7.603	0.544	3.000	3.000
ANG	Quantity	35	102	75	-	75	35	-	-	-
	Total Obligation Authority	6.001	18.317	16.008	-	16.008	10.050	-	-	-
AR	Quantity	34	57	55	-	55	26	-	-	-
	Total Obligation Authority	5.830	10.236	11.739	-	11.739	7.466	-	-	-
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	<b>111</b>	<b>188</b>	<b>163</b>	<b>15</b>	<b>178</b>	<b>89</b>	<b>-</b>	<b>3</b>	<b>8</b>
	<b>Total Obligation Authority</b>	<b>19.032</b>	<b>33.760</b>	<b>34.790</b>	<b>3.870</b>	<b>38.660</b>	<b>25.119</b>	<b>0.544</b>	<b>3.000</b>	<b>3.000</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 03: Other Support Equipment / BSA 50: Construction Equipment	<b>P-1 Line Item Number / Title:</b> 9120M05500 / Const Equip ESP
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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	M05500 / Const Equip ESP	P-5a	A		69 / 389.575	111 / 19.032	188 / 33.760	163 / 34.790	15 / 3.870	178 / 38.660
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>69 / 389.575</b>	<b>111 / 19.032</b>	<b>188 / 33.760</b>	<b>163 / 34.790</b>	<b>15 / 3.870</b>	<b>178 / 38.660</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 \$34.790 million provides refurbishment of approximately 163 vehicles to include High Speed Compactors, Vibratory Rollers I/III and II, and the 7.5 Ton Crane.  
 FY 2020 OCO dollars in the amount of \$3.870 million provides refurbishment of 14 High Speed Compactors in support of Operation Freedom Sentinel. System issues prevented the correct population of quantities in the P40.  
 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 / 03 / 50						<b>P-1 Line Item Number / Title:</b> 9120M05500 / Const Equip ESP					<b>Item Number / Title [DODIC]:</b> M05500 / Const Equip ESP				
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A						<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)				69		111		188		163		15		178	
Gross/Weapon System Cost (\$ in Millions)				389.575		19.032		33.760		34.790		3.870		38.660	
Less PY Advance Procurement (\$ in Millions)				-		-		-		-		-		-	
Net Procurement (P-1) (\$ in Millions)				389.575		19.032		33.760		34.790		3.870		38.660	
Plus CY Advance Procurement (\$ in Millions)				-		-		-		-		-		-	
<b>Total Obligation Authority (\$ in Millions)</b>				<b>389.575</b>		<b>19.032</b>		<b>33.760</b>		<b>34.790</b>		<b>3.870</b>		<b>38.660</b>	
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>															
Initial Spares (\$ in Millions)				-		-		-		-		-		-	
Gross/Weapon System Unit Cost (\$ in Thousands)				5,646.014		171.459		179.574		213.436		258.000		217.191	

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																		
Engineering Changes	-	-	10.664	-	-	-	-	-	0.100	-	-	0.100	-	-	0.100	-	-	0.200
System Engineering/Program Management	-	-	15.000	-	-	0.988	-	-	1.563	-	-	1.044	-	-	0.116	-	-	1.160
Data	-	-	17.150	-	-	-	-	-	0.500	-	-	0.500	-	-	0.500	-	-	1.000
Fielding	-	-	19.507	-	-	0.910	-	-	4.598	-	-	7.852	-	-	0.700	-	-	8.552
<i>Subtotal: Recurring Cost</i>	-	-	<b>62.321</b>	-	-	<b>1.898</b>	-	-	<b>6.761</b>	-	-	<b>9.496</b>	-	-	<b>1.416</b>	-	-	<b>10.912</b>
<i>Subtotal: Flyaway Cost</i>	-	-	<b>62.321</b>	-	-	<b>1.898</b>	-	-	<b>6.761</b>	-	-	<b>9.496</b>	-	-	<b>1.416</b>	-	-	<b>10.912</b>
Hardware Cost																		
Recurring Cost																		
High Speed Compactor <sup>(†)</sup>	175.290	31	5.434	174.000	2	0.348	175.289	38	6.661	175.289	45	7.888	175.286	14	2.454	175.288	59	10.342
Vibratory Roller I/III <sup>(†)</sup>	113.600	20	2.272	-	-	0.149	113.630	46	5.227	113.615	13	1.477	-	-	-	113.615	13	1.477
Vibratory Roller II <sup>(†)</sup>	140.333	27	3.789	142.635	104	14.834	140.344	90	12.631	140.341	85	11.929	-	-	-	140.341	85	11.929
7.5 T Crane <sup>(†)</sup>	-	-	-	-	-	-	499.000	3	1.497	200.000	20	4.000	-	-	-	200.000	20	4.000
Dual Steel Wheel Roller <sup>(†)</sup>	140.500	14	1.967	-	-	-	140.429	7	0.983	-	-	-	-	-	-	-	-	-
DEUCE	314.000	188	59.032	360.600	5	1.803	-	-	-	-	-	-	-	-	-	-	-	-
Grader	240.000	442	106.080	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Scraper	300.000	454	136.200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tractor, Full-Track	260.000	48	12.480	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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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 / 03 / 50	<b>P-1 Line Item Number / Title:</b> 9120M05500 / Const Equip ESP	<b>Item Number / Title [DODIC]:</b> M05500 / Const Equip ESP
<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>	-	-	327.254	-	-	17.134	-	-	26.999	-	-	25.294	-	-	2.454	-	-	27.748
<i>Subtotal: Hardware Cost</i>	-	-	327.254	-	-	17.134	-	-	26.999	-	-	25.294	-	-	2.454	-	-	27.748
<b>Gross/Weapon System Cost</b>	5,646.014	69	389.575	171.459	111	19.032	179.574	188	33.760	213.436	163	34.790	258.000	15	3.870	217.191	178	38.660

**Remarks:**

The unit cost of the 7.5T crane in FY 2019 represented the cost of pilot assets for the effort. Pilot assets require the establishment of SLEP procedures and identification and replacement of obsolete parts.

The unit cost of each inducted SLEP asset is variable and dependent on the condition of the base vehicle.

\*\*\*Items are Cots, no P-21 required.\*\*\*

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	42	29	33	15	48
	Total Obligation Authority	7.201	5.207	7.043	3.870	10.913
ANG	Quantity	35	102	75	-	75
	Total Obligation Authority	6.001	18.317	16.008	-	16.008
AR	Quantity	34	57	55	-	55
	Total Obligation Authority	5.830	10.236	11.739	-	11.739
<b>Total:</b>	<b>Quantity</b>	<b>111</b>	<b>188</b>	<b>163</b>	<b>15</b>	<b>178</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>19.032</b>	<b>33.760</b>	<b>34.790</b>	<b>3.870</b>	<b>38.660</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 / 03 / 50	<b>P-1 Line Item Number / Title:</b> 9120M05500 / Const Equip ESP	<b>Item Number / Title [DODIC]:</b> M05500 / Const Equip ESP
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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
High Speed Compactor		2019	Caterpillar / Peoria, IL	Option / FFP	Warren, MI	Feb 2019	Aug 2019	38	175.289	N		
High Speed Compactor		2020	TBD / TBD	C / FFP	TBD	Feb 2020	Aug 2020	59	175.288	N		
Vibratory Roller I/III		2019	Caterpillar / Peoria, IL	Option / FFP	Warren, MI	Feb 2019	Aug 2019	46	113.630	N		
Vibratory Roller I/III		2020	TBD / TBD	C / FFP	TBD	Feb 2020	Aug 2020	13	113.615	N		
Vibratory Roller II		2019	Caterpillar / Peoria, IL	Option / FFP	Warren, MI	Feb 2019	Aug 2019	90	140.344	N		
Vibratory Roller II		2020	TBD / TBD	C / FFP	TBD	Feb 2020	Aug 2020	85	140.341	N		
7.5 T Crane		2019	TBD / TBD	C / TBD	TBD	Feb 2019	Feb 2020	3	499.000	N		
7.5 T Crane		2020	TBD / TBD	C / TBD	TBD	Feb 2020	Feb 2021	20	200.000	N		
Dual Steel Wheel Roller		2019	Caterpillar / Peoria, IL	Option / FFP	Warren, MI	Jan 2019	Jan 2020	7	140.429	N		

**Remarks:**  
This is a Commercial-Off-the-Shelf (COTS) Program.



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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 03: Other Support Equipment / BSA 50:  
Construction Equipment

**P-1 Line Item Number / Title:**  
9462ML5350 / Items Less Than \$5.0M (Const Equip)

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

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

Resource Summary	Prior Years	FY 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	24	28	30	-	30	-	-	-	-	-	87
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	137.737	6.899	6.103	4.381	0.350	4.731	-	1.410	1.410	1.424	-	159.714
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	137.737	6.899	6.103	4.381	0.350	4.731	-	1.410	1.410	1.424	-	159.714
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>137.737</b>	<b>6.899</b>	<b>6.103</b>	<b>4.381</b>	<b>0.350</b>	<b>4.731</b>	-	<b>1.410</b>	<b>1.410</b>	<b>1.424</b>	-	<b>159.714</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> )	27,547.400	287.458	217.964	146.033	-	157.700	-	-	-	-	-	1,835.793

**Description:**

The Construction Equipment (CE) Items less than \$5.0M supports various Programs of Record (POR) where the acquisition cost for each line item is below \$5.0 million. These programs provide the enhanced capabilities to the current force enabling them to execute their expeditionary mission to include:

- Route Remediation is mission that is supported by multiple programs that provides combat engineer units the capability to quickly repair damaged or lay new routes. Route Remediation PORs consists of:
  - Portable Asphalt Patcher (PAP) - The PAP enables the Engineer Asphalt Team with the capability necessary for rapid route remediation and preventing IED emplacement in potholes. A highly mobile, self-contained, spray-injection asphalt patcher built on an M1077 flat rack, the PAP mixes aggregate with asphalt emulsion and dispenses the mixture into a repair area for a patch that is traffic ready within 20 minutes. Army Acquisition Objective (AAO) is 7 systems.
  - Self-Propelled Concrete Saw (SPCS) - The SPCS enables Engineer Support Companies (Asphalt Teams, Concrete Sections, and Engineer Utilities Detachments) with the capability necessary to conduct rapid route remediation and rapid runway repair by quickly and effectively cutting out a damaged area of road or runway during the repair process and paving construction projects. The SPCS includes a heavy duty water supply hose with couplings capable of interfacing and operating with the Engineer Mission Module-Water Distributor (EMM-WD) to allow for cooling of the saw blade during use. AAO is 62 systems.
  - Portable Concrete Mixer (PCM) is a 2 cubic yard capacity trailer mounted independently powered volumetric concrete mixer that supports the rapid route repair mission. AAO is 268 systems.
  - Machine Powered Mowing System (MPMS) - An attachment mounted on the Heavy Type II Loader, the MPMS enables Horizontal Construction Platoons with the capability necessary to: (1) improve humanitarian conditions through the use of the ditching attachment to create improved water drainage paths and (2) clear routes and conduct improvised explosive device detection missions through the removal of ground cover, foliage, grass, weeds, and underbrush to prevent adversaries from placing improvised explosive devices near roadsides. AAO is 66 systems.
- Water Well Drill System (WWDS) - The WWDS enables Well Drilling Teams within Army National Guard units with the capability necessary to drill and cast two complete water well holes up to 2000ft. deep. The system enables the construction of new wells and repair of existing wells providing improved hygiene and sanitation for camps, facilities and local populations and providing the ability before, during and after combat operations to effect institutional and infrastructural improvements to strengthen selected urban subsystems identified as essential to the continued functioning of the urban system. WWDS is capable of installing casings, screens, pump and developing wells to provide water at the well head. WWDS can transport up to 2500 gallons of potable water and is capable of sustaining 24-hour operations. AAO is 8 systems.
- Family of Utility Service Equipment (FUSE) - The FUSE is a commercial-off-the-shelf (COTS) system that provides Prime Power units the ability to generate and distribute prime electrical power in support of the warfighter support operations. System consists of four parts: 1) Aerial Lift Truck 2) Derrick Digger Truck 3) Pole/Reel Trailer 4) Cable Trailer. AAO is 25 systems.

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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 03: Other Support Equipment / BSA 50: Construction Equipment		<b>P-1 Line Item Number / Title:</b> 9462ML5350 / Items Less Than \$5.0M (Const Equip)
<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
Army	Quantity	-	-	2	-	2	-	-	-	-
	Total Obligation Authority	-	-	0.177	0.350	0.527	-	1.410	1.410	1.424
ANG	Quantity	16	27	12	-	12	-	-	-	-
	Total Obligation Authority	4.400	4.630	1.727	-	1.727	-	-	-	-
AR	Quantity	8	1	16	-	16	-	-	-	-
	Total Obligation Authority	2.499	1.473	2.477	-	2.477	-	-	-	-
<b>Total:</b>	<b>Quantity</b>	<b>24</b>	<b>28</b>	<b>30</b>	<b>-</b>	<b>30</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>6.899</b>	<b>6.103</b>	<b>4.381</b>	<b>0.350</b>	<b>4.731</b>	<b>-</b>	<b>1.410</b>	<b>1.410</b>	<b>1.424</b>

**Justification:**  
 FY 2020 Base procurement dollars in the amount of \$4.381 million supports the procurement of 30 Route Remediation systems. Funding activities also include Engineering Change Proposals (ECPs), Technical Manuals, Support Equipment, Fielding, Training, and Program Management Support costs.

FY 2020 OCO procurement dollars in the amount of \$.350 million supports the procurement of 2 Route remediation systems in support of European Deterrence Initiative.

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 03: Other Support Equipment / BSA 55: Rail Float Containerization Equipment	<b>P-1 Line Item Number / Title:</b> 3569M11101 / Army Watercraft Esp
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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	1	-	4	-	4	6	13	13	8	-	47
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	65.141	20.110	8.508	35.194	-	35.194	40.953	36.646	33.957	30.541	-	271.050
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	65.141	20.110	8.508	35.194	-	35.194	40.953	36.646	33.957	30.541	-	271.050
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>65.141</b>	<b>20.110</b>	<b>8.508</b>	<b>35.194</b>	<b>-</b>	<b>35.194</b>	<b>40.953</b>	<b>36.646</b>	<b>33.957</b>	<b>30.541</b>	<b>-</b>	<b>271.050</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> )	32,570.500	20,110.000	-	8,798.500	-	8,798.500	6,825.500	2,818.923	2,612.077	3,817.625	-	5,767.021

**Description:**

The Army Watercraft Extended Service Program (ESP) budget line funds the Service Life Extension Programs (SLEP) and Modernized Integrated Bridge System (MIBS) efforts across the Army Watercraft Systems portfolio. SLEP and MIBS efforts will significantly improve fleet age, operational readiness, configuration control and overall fleet management issues that challenge the fleet today.

The watercraft fleet performs a Title 10 mission and provides the Army Combatant Commander with a waterborne transportation capability to deliver tracked and wheeled vehicles, containers, and personnel as a ship to shore or shore to shore connector. Watercraft bridges the gap between strategic sealift and sustains lethality in littoral areas or where mature ports and road networks are unavailable.

Army Watercraft funding supports initiatives to enhance the seaworthiness, safety, and survivability while increasing the lethality, tactical mobility, and operational capability of the Army Mariner. Vessel lethality/ Escalation of Force measures have increasingly become an area of vital concern to the Combatant Commanders (CCDR) given the requirement to preserve "freedom of the seas" access in all areas of the world, particularly the littorals, to support maneuver operations in all Areas of Responsibility.

The Army Watercraft ESP line funds the SLEP of the globally dispersed fleet of Landing Craft Utility 2000 (LCU-2000) vessels and will serve to extend the current Economic Useful Life (EUL) of the platform by a minimum of 10 years; bridging the gap until a replacement vessel is approved and procured. The LCU-2000 provides intra-theater movement of combat vehicles, equipment, and sustainment cargo, to include containerized, break-bulk, and roll-on roll-off (RO/RO) cargo, to improved and/or degraded ports, bare and austere beaches, and inland water terminals. The vessel is ideally suited for the discharge and back load of sea lift; the shallow draft, bow ramp, and associated systems providing for beaching and extraction. The vessel supports Joint Logistics Over the Shore (JLOTS), seaport opening, and delivers combat configured elements or sustainment cargo during all phases of the campaign. The LCU-2000 was fielded from 1990-1993 and was designed and built specifically to the objective of a 25 year EUL. While new capability is not being added, some capabilities will be improved and modernized through the application of Engineering Change Proposals (ECPs), such as engine repower, power generation, force protection, and habitability. The LCU-2000 Technical Manuals and provisioning data effort covers development, re-write and publishing of the critical repower requirement along with all other subsystems affected by SLEP.

The Army Watercraft ESP line also funds the SLEP of the Modular Causeway System (MCS), specifically the Modular Warping Tug (MWT) and Causeway Ferry (CF). The MWT/CF SLEP will extend the EUL of the MWT and CF by a minimum of 10 years; bridging the gap until a replacement system is approved and procured. The MCS is a critical force enabler for the Combatant Command. It allows them to improve throughput when executing JLOTS and other littoral or coastal movements of equipment, and supplies. Specifically, the MWT is used to assist in the assembly, movement, and positioning of MCS and the CF is used to transfer containers from containerships directly to the beach.

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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 03: Other Support Equipment / BSA 55: Rail Float Containerization Equipment	<b>P-1 Line Item Number / Title:</b> 3569M11101 / Army Watercraft Esp
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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 Army Watercraft ESP line also funds the Modernized Integrated Bridge System (MIBS) and pilot house configuration efforts which serve to maintain the ability to communicate, navigate, and maintain interoperability worldwide in both a joint and commercial maritime environment. Mission command and commercial navigation technology is continuously evolving to counter today's rapidly growing cyber security threat. In order to maintain the safety of vessel and crew operations, these technologies must be modernized and refreshed every three to five years. While new capability is not being added, MIBS will update the existing vessel capabilities through modernization and technology refreshes. Specifically, MIBS is being applied to the Heavy Lift vessel classes; Logistics Support Vessel (LSV) and LCU-2000.

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

	<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	1	-	4	-	4	6	13	13	8
	Total Obligation Authority	20.110	8.508	35.194	-	35.194	40.953	36.646	33.957	30.541
<b>Total:</b>	<b>Quantity</b>	<b>1</b>	<b>-</b>	<b>4</b>	<b>-</b>	<b>4</b>	<b>6</b>	<b>13</b>	<b>13</b>	<b>8</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>20.110</b>	<b>8.508</b>	<b>35.194</b>	<b>-</b>	<b>35.194</b>	<b>40.953</b>	<b>36.646</b>	<b>33.957</b>	<b>30.541</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 03: Other Support Equipment / BSA 55: Rail  
Float Containerization Equipment

**P-1 Line Item Number / Title:**  
3569M11101 / Army Watercraft Esp

**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	M11101 / Army Watercraft Esp	P-5a, P-21			2 / 65.141	1 / 20.110	- / 8.508	4 / 35.194	- / -	4 / 35.194
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>2 / 65.141</b>	<b>1 / 20.110</b>	<b>- / 8.508</b>	<b>4 / 35.194</b>	<b>- / -</b>	<b>4 / 35.194</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 \$19.787 million supports a quantity of 2 vessels for the Landing Craft Utility 2000 (LCU-2000) and program management/matrix support for the fiscal year. The LCU-2000 SLEP modification package will make improvements to all engines, power generators and the application of Engineering Change Proposals (ECPs) which focus on modernization and technology insertion and these efforts are not covered under the Modification of In-Service Equipment (OPA 3 Mods) program. The LCU-2000 Technical Manuals and provisioning data effort covers development, re-write and publishing of the critical repower requirement along with all other subsystems affected by SLEP. Program management/matrix support includes the program management, logistics and system engineering oversight required to manage the program and provide contractor oversight.

FY 2020 Base procurement dollars in the amount of \$7.020 million supports the launch of logistics product development to include production support analysis, provisioning, and technical manual development for the Modular Causeway System (MCS) Service Life Extension Programs (SLEP). The Modular Causeway System (MCS) SLEP production will resolve engine, electrical, and deck winch sustainment issues in the Modular Warring Tug (MWT) through modification during OCCM. The MCS SLEP technical manual development and production will leverage the Technical Data Package (TDP).

FY 2020 Base procurement dollars in the amount of \$6.107 million supports the quantity of 2 Modernized Integrated Bridge Systems (MIBS) effort for the LCU-2000 and completion of Technical Manual efforts and procurement of spares to support fielding. This modernized integrated bridge system (MIBS) effort provides the LCU-2000 the critical ability to communicate, navigate, and maintain situational awareness worldwide in both a joint as well as commercial maritime environment. Multi-domain system and equipment are integrated to display required navigation at all operator positions to support seamless, efficient and safe operations for any mission.

FY 2020 Base procurement dollars in the amount of \$2.280 million supports initiating the Modernized Integrated Bridge Systems (MIBS) effort for the LSV. The Modernized Integrated Bridge Systems (MIBS) effort provides the LSV the critical ability to communicate, navigate, and maintain situational awareness worldwide in both a joint as well as commercial maritime environment. Multi-domain system and equipment are integrated to display required navigation at all operator positions to support seamless, efficient and safe operations for any mission.

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 / 03 / 55		<b>P-1 Line Item Number / Title:</b> 3569M11101 / Army Watercraft Esp
		<b>Item Number / Title [DODIC]:</b> M11101 / Army Watercraft Esp

<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	1	-	4	-	4
Gross/Weapon System Cost (\$ in Millions)	65.141	20.110	8.508	35.194	-	35.194
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	65.141	20.110	8.508	35.194	-	35.194
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>65.141</b>	<b>20.110</b>	<b>8.508</b>	<b>35.194</b>	<b>-</b>	<b>35.194</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)	32,570.500	20,110.000	-	8,798.500	-	8,798.500

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)
Flyaway Cost																		
Recurring Cost																		
SLEP Vessels (LCU-2000) <sup>(†)</sup>	24,685.000	2	49.370	17,155.000	1	17.155	-	-	-	7,875.000	2	15.750	-	-	-	7,875.000	2	15.750
Program Management/Matrix Support	-	-	7.994	-	-	2.110	-	-	2.221	-	-	2.176	-	-	-	-	-	2.176
New Equipment Training (NET)	-	-	1.060	-	-	0.545	-	-	0.549	-	-	0.761	-	-	-	-	-	0.761
LCU Technical Manuals and Spares	-	-	6.717	-	-	0.300	-	-	1.358	-	-	1.100	-	-	-	-	-	1.100
MCS Logistics	-	-	-	-	-	-	-	-	-	-	-	7.020	-	-	-	-	-	7.020
MIBS Engineering (LCU-2000)	-	-	-	-	-	-	-	-	4.380	-	-	-	-	-	-	-	-	-
MIBS Vessels (LCU-2000) <sup>(†)</sup>	-	-	-	-	-	-	-	-	-	560.000	2	1.120	-	-	-	560.000	2	1.120
MIBS Engineering (LSV)	-	-	-	-	-	-	-	-	-	-	-	2.280	-	-	-	-	-	2.280
MIBS Logistics (LCU-2000)	-	-	-	-	-	-	-	-	-	-	-	4.987	-	-	-	-	-	4.987
<i>Subtotal: Recurring Cost</i>	-	-	65.141	-	-	20.110	-	-	8.508	-	-	35.194	-	-	-	-	-	35.194
<i>Subtotal: Flyaway Cost</i>	-	-	65.141	-	-	20.110	-	-	8.508	-	-	35.194	-	-	-	-	-	35.194
<b>Gross/Weapon System Cost</b>	<b>32,570.500</b>	<b>2</b>	<b>65.141</b>	<b>20,110.000</b>	<b>1</b>	<b>20.110</b>	<b>-</b>	<b>-</b>	<b>8.508</b>	<b>8,798.500</b>	<b>4</b>	<b>35.194</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>8,798.500</b>	<b>4</b>	<b>35.194</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 / 03 / 55	<b>P-1 Line Item Number / Title:</b> 3569M11101 / Army Watercraft Esp	<b>Item Number / Title [DODIC]:</b> M11101 / Army Watercraft Esp
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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	-	4	-	4
	Total Obligation Authority	20.110	8.508	35.194	-	35.194
<b>Total:</b>	<b>Quantity</b>	<b>1</b>	<b>-</b>	<b>4</b>	<b>-</b>	<b>4</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>20.110</b>	<b>8.508</b>	<b>35.194</b>	<b>-</b>	<b>35.194</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
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<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 03 / 55	<b>P-1 Line Item Number / Title:</b> 3569M11101 / Army Watercraft Esp	<b>Item Number / Title [DODIC]:</b> M11101 / Army Watercraft Esp
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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
SLEP Vessels (LCU-2000) <sup>(†)</sup>		2020	TBD 2 2020 / TBD	C / FFP	WARREN, MI	Jan 2020	Jun 2020	2	7,875.000	N		
MIBS Vessels (LCU-2000)		2020	TBD 2 2020 / TBD	C / FFP	WARREN, MI	Nov 2019	Mar 2020	2	560.000	N		

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

**Remarks:**

FY19 funds are applied to LCU MIBS Engineering, Program Management Support/Matrix Support, LCU SLEP Phase I, New Equipment Training (NET), and LCU SLEP Technical Manuals. FY20 funds are applied to Phase II of The Landing Craft Utility 2000 (LCU-2000) Service Life Extension Program (SLEP) which begins 2QFY20. The LCU-2000 SLEP program is conducted in two phases with Phase I consist of 2 Low Rate Initial Production (LRIP) vessels, and 2 option vessels. LCU-2000 SLEP Phase I which began in FY16 l results in the application of several Engineering Change Proposals (ECP), completion of the LCU 2000 SLEP Technical Data Package (TDP), completion of New Equipment Training (NET), completion of LCU 2000 SLEP test and evaluation, and development of an authenticated Technical Manual (TM). SLEP activities will modernize the Main Propulsion, Bow Thruster, and Ships Service and Emergency Diesel Generator engines; upgrade Force Protection Equipment (new gun mounts and ballistic protection), and upgrade various engineering systems (e.g. Air Conditioning System). The LCU-2000 Phase II will consist of Full Rate Production (FRP) of LCU-2000 vessels starting in FY20.



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

**Appropriation / Budget Activity / Budget Sub Activity:** 2035A / 03 / 55 **P-1 Line Item Number / Title:** 3569M11101 / Army Watercraft Esp **Item Number / Title [DODIC]:** M11101 / Army Watercraft Esp

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
SLEP Vessels (LCU-2000)																															
Prior Years Deliveries: 2																															
1		2020	ARMY	2	0	2				A	-	-	-	-	-	1	-	1												0	
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	

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<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 / 03 / 55	<b>P-1 Line Item Number / Title:</b> 3569M11101 / Army Watercraft Esp	<b>Item Number / Title [DODIC]:</b> M11101 / Army Watercraft Esp
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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	TBD 2 2020 - TBD	1	1	1	0	4	5	9	0	6	5	11

**Remarks:**  
Service Life Extension Program (SLEP) modifications are completed at commercial shipyards.

P-21 Schedule only includes SLEP Vessel (LCU-2000), the MIBS (LCU 2000) effort does not reach the threshold for reporting within this form.

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

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

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

**Appropriation / Budget Activity / Budget Sub Activity:**  
2035A: Other Procurement, Army / BA 03: Other Support Equipment / BSA 55: Rail  
Float Containerization Equipment

**P-1 Line Item Number / Title:**  
8211R01001 / Maneuver Support Vessel (MSV)

**ID Code** (A=Service Ready, B=Not Service Ready): **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0604804A

**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	4	5	-	13
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	-	-	-	14.185	-	14.185	76.657	73.014	91.816	128.236	-	383.908
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	-	-	-	14.185	-	14.185	76.657	73.014	91.816	128.236	-	383.908
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	-	-	-	<b>14.185</b>	-	<b>14.185</b>	<b>76.657</b>	<b>73.014</b>	<b>91.816</b>	<b>128.236</b>	-	<b>383.908</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> )	-	-	-	-	-	-	38,328.500	36,507.000	22,954.000	25,647.200	-	29,531.385

**Description:**

The Maneuver Support Vessel (Light) (MSV(L)) is a multifunctional waterborne mobility platform, which displaces the current Landing Craft Mechanized-8 (LCM-8). The MSV(L) provides the ability to conduct lift operations of combat loaded personnel and equipment in austere anti-access/area denial (A2/AD) environments, with increased speed, payload, and maneuver capability in shallow coastal waters, rivers, in narrow inland waterways in support of dispersed force elements, austere environments and/or where mature ports and road networks are unavailable. The MSV(L) program commences at Milestone B with entry into the Engineering and Manufacturing Development (EMD) phase, followed by Milestone C and entry into Low Rate Initial Production (LRIP) and Full Rate Production (FRP) phases.

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	4	5
	Total Obligation Authority	-	-	14.185	-	14.185	76.657	73.014	91.816	128.236
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	-	-	-	-	-	<b>2</b>	<b>2</b>	<b>4</b>	<b>5</b>
	<b>Total Obligation Authority</b>	-	-	<b>14.185</b>	-	<b>14.185</b>	<b>76.657</b>	<b>73.014</b>	<b>91.816</b>	<b>128.236</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 03: Other Support Equipment / BSA 55: Rail Float Containerization Equipment **P-1 Line Item Number / Title:** 8211R01001 / Maneuver Support Vessel (MSV)

**ID Code** (A=Service Ready, B=Not Service Ready): **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0604804A

**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	R03050 / Maneuver Support Vessel (Light) (MSV-L)				- / -	- / -	- / -	- / 14.185	- / -	- / 14.185
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				- / -	- / -	- / -	- / 14.185	- / -	- / 14.185

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

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

**Justification:**  
 As referenced in the MSV(L) Capability Development Document dated 11 October 2016, MSV(L) simulators and training will be incorporated into the Maritime Integrated Training Systems (MITS) to ensure operator training is realistic and representative. FY2020 Base procurement dollars in the amount of \$14.185 million will be used toward the development and upgrade of simulators, digital equipment devices, and engines. The mission supports MSV(L) operator/maintainer training prior to Army Mariner utilizing the MSV(L) vessel during contractor prototype Extended Acceptance Trials, Low-Rate Initial Production (LRIP), Fixed Rate Production (FRP), and First Unit Equipped (FUE). \*\*Funds in this budget line are a new start.\*\*

"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 / 03 / 55	<b>P-1 Line Item Number / Title:</b> 8211R01001 / Maneuver Support Vessel (MSV)	<b>Item Number / Title [DODIC]:</b> R03050 / Maneuver Support Vessel (Light) (MSV-L)

<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>	-	-	-	14.185	-	14.185
Less PY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-
Net Procurement (P-1) <i>(\$ in Millions)</i>	-	-	-	14.185	-	14.185
Plus CY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-
<b>Total Obligation Authority</b> <i>(\$ in Millions)</i>	-	-	-	<b>14.185</b>	-	<b>14.185</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 - Training Cost																		
Equipment	-	-	-	-	-	-	-	-	-	-	-	14.185	-	-	-	-	-	14.185
<i>Subtotal: Support - Training Cost</i>	-	-	-	-	-	-	-	-	-	-	-	<b>14.185</b>	-	-	-	-	-	<b>14.185</b>
<b>Gross/Weapon System Cost</b>	-	-	-	-	-	-	-	-	-	-	-	<b>14.185</b>	-	-	-	-	-	<b>14.185</b>

**Remarks:**

As stated in the P40 Justification Section, OPA funding for FY20 will be used toward the creation and upgrade of the MSV(L) at the Maritime Intermodal Training Systems (MITS), and Pilohouse simulator located at Maritime Intermodal Training Department (MITD), Fort Eustis, VA.

<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	-	-	14.185	-	14.185
<b>Total: Secondary Distribution</b>					
Quantity	-	-	-	-	-
Total Obligation Authority	-	-	14.185	-	14.185

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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 03: Other Support Equipment / BSA 55: Rail **P-1 Line Item Number / Title:**  
 9552ML5355 / Items Less Than \$5.0M (Float/Rail)  
 Float Containerization Equipment

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

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

Resource Summary	Prior Years	FY 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> )	173.493	2.877	8.385	6.920	-	6.920	1.846	-	-	-	-	193.521
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	173.493	2.877	8.385	6.920	-	6.920	1.846	-	-	-	-	193.521
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>173.493</b>	<b>2.877</b>	<b>8.385</b>	<b>6.920</b>	<b>-</b>	<b>6.920</b>	<b>1.846</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>193.521</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 funds two separate programs. One program supports Float and the other program supports Rail.

The Float program funds hardware and material in support of Army Watercraft Systems. The watercraft fleet performs a Title 10 mission and provides the Army Combatant Commander with a waterborne transportation capability to deliver tracked and wheeled vehicles, containers, and personnel as a ship to shore or shore to shore connector. Watercraft bridges the gap between strategic sealift and sustains lethality in littoral areas or where mature ports and road networks are unavailable.

The principle capabilities of Army Watercraft Systems are 1) movement/maneuver and distribution of combat equipment and sustainment material; 2) access to degraded and/or austere ports; 3) seaport operations, to include docking/undocking, firefighting, towing and rescue; 4) ship to shore access to "no port" areas such as austere and remote, bare beaches; and 5) heavy lift in support of damaged seaport and/or vessel repair and salvage; and 6) watercraft security operations.

Army Watercraft Systems are categorized under Landing Craft, Towing and Terminal Operations, Ship-to-Shore Enablers and Watercraft Operations Support. Landing Craft consist of Logistic Support Vessels (LSV), Landing Craft Utility 2000 (LCU-2000), Landing Craft Mechanized 8 (LCM-8) MOD 1, and LCM-8 MOD 2 (Watercraft Operations Support). Towing and Terminal Operations consist of Large Tug 800 (LT-800), Small Tug 900 (ST-900), and Barge Derrick Crane 115-ton (BD-115). Ship-to-Shore Enablers consist of Modular Causeway Systems (MCS) [each MCS includes Roll-On/Roll-Off Discharge Facilities (RRDF), Modular Warping Tugs (MWT), Causeway Ferry (CF), Floating Causeway (FC)]. Landing Craft discharge combat equipment or troops to austere beaches, undeveloped coastlines and operate in a non-permissive environment. Towing and Terminal Operations and Ship-to-Shore Enablers support ocean and port/harbor towing/salvage operations. Both are critical in denied/degraded ports, Joint Logistics Over-the-Shore (JLOTS) operations, and operations throughout the littorals. Rescue Boats with outboard engines to meet Safety-of-Life at Sea (SOLAS) requirements for the Watercraft LSV, LCU-2000, LT-800 and MCS fleet, including cranes, cradles, and davit assemblies (support assemblies). Security Patrol Boats intercept and divert vessels that have strayed outside the public channel into restricted waters.

For the Rail program, railroad equipment consists of locomotives, rolling stock, railway passenger cars, track maintenance equipment, etc., used to support Army ammunition plants, Army Materiel Command (AMC) depots, Installation Management Command (IMCOM), Forces Command (FORSCOM) and Training and Doctrine Command (TRADOC) installations in peacetime, training and mobilization missions. This Railway Equipment is procured for the replacement of logistically unsupportable assets where current items are in some cases already unserviceable and in other cases, either unsafe or not cleared for use under the Federal Railroad Administration (FRA). Funding has been provided to procure shop equipment and tools to assist in the Army's move of its railroad locomotive overhaul facility, the Defense Generator & Rail Center from Hill, AFB, UT to Anniston, AL.

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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 03: Other Support Equipment / BSA 55: Rail  
 Float Containerization Equipment

**P-1 Line Item Number / Title:**  
 9552ML5355 / Items Less Than \$5.0M (Float/Rail)

**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

Locomotive procurement consists of commercial off-the-shelf GENSET switcher locomotives in direct support of the Army Rail Modernization Program. The program mandates systematic replacement of an aging fleet, that for the respective installations are becoming increasingly more costly to maintain. The GENSET Locomotives are industry proven, state of the art technology that will position the Army to meet current EPA air quality restrictions, and future fuel economy mandates.

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

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	2.877	8.385	6.920	-	6.920	1.846	-	-	-
<b>Total:</b>	<b>Quantity</b>	-	-	-	-	-	-	-	-	-
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>2.877</b>	<b>8.385</b>	<b>6.920</b>	-	<b>6.920</b>	<b>1.846</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 03: Other Support Equipment / BSA 55: Rail  
**P-1 Line Item Number / Title:** 9552ML5355 / Items Less Than \$5.0M (Float/Rail)  
 Float Containerization Equipment

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

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

Exhibits Schedule					Prior Years	FY 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	MA8900 / ITEMS LESS THAN \$5.0M (FLOAT/RAIL)	P-5a			- / 173.493	- / 2.877	- / 8.385	- / 6.920	- / -	- / 6.920
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 173.493</b>	<b>- / 2.877</b>	<b>- / 8.385</b>	<b>- / 6.920</b>	<b>- / -</b>	<b>- / 6.920</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 \$5.500 million procures 11 Security Patrol Boats in support of watercraft security operations at Military Ocean Terminal Sunny Point (MOTSU) & Military Ocean Terminal Concord (MOTCO). The lifecycle replacement of the requested watercraft is mission essential at MOTSU and MOTCO as both provide containerized ammunition surface transshipment in support of COCOM Commanders worldwide. The watercraft fleet provides restricted waterway enforcement of critical assets and personnel, IAW 33 CFR. The sensitivity of the installations security department mission equipment is crucial to minimizing the risk of mission failure during cargo operations. Ensuring adequate watercraft equipment is vital to readiness and security efforts.

FY 2020 Base procurement dollars in the amount of \$1.420 million supports Army Watercraft Systems for material and/or hardware for modifications to maintain readiness, correct safety discrepancies, increase interoperability, maintain useful life, improve supportability, increase efficiency, meet new and changing statutory and regulatory requirements. FY 2020 Base procurement dollars also support Program Management Support which includes Program Management Matrix support and System Engineering oversight required to manage the program and provide contractor oversight. Matrix salaries, benefits, travel, personnel training and other government costs are included for retaining a professional acquisition workforce.



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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 / 03 / 55	<b>P-1 Line Item Number / Title:</b> 9552ML5355 / Items Less Than \$5.0M (Float/Rail)	<b>Item Number / Title [DODIC]:</b> MA8900 / ITEMS LESS THAN \$5.0M (FLOAT/RAIL)

<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)	173.493	2.877	8.385	6.920	-	6.920
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	173.493	2.877	8.385	6.920	-	6.920
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>173.493</b>	<b>2.877</b>	<b>8.385</b>	<b>6.920</b>	<b>-</b>	<b>6.920</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																		
AWS Material / Hardware	-	-	173.493	-	-	2.595	-	-	7.545	-	-	1.222	-	-	-	-	-	1.222
Program Management	-	-	-	-	-	0.282	-	-	0.840	-	-	0.198	-	-	-	-	-	0.198
<i>Subtotal: Recurring Cost</i>	-	-	<i>173.493</i>	-	-	<i>2.877</i>	-	-	<i>8.385</i>	-	-	<i>1.420</i>	-	-	-	-	-	<i>1.420</i>
<i>Subtotal: Flyaway Cost</i>	-	-	<i>173.493</i>	-	-	<i>2.877</i>	-	-	<i>8.385</i>	-	-	<i>1.420</i>	-	-	-	-	-	<i>1.420</i>
Hardware Cost																		
Non Recurring Cost																		
Security Patrol Boats <sup>(1)</sup>	-	-	-	-	-	-	-	-	-	500.000	11	5.500	-	-	-	500.000	11	5.500
<i>Subtotal: Non Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	<i>5.500</i>	-	-	-	-	-	<i>5.500</i>
<i>Subtotal: Hardware Cost</i>	-	-	-	-	-	-	-	-	-	-	-	<i>5.500</i>	-	-	-	-	-	<i>5.500</i>
<b>Gross/Weapon System Cost</b>	-	-	<b>173.493</b>	-	-	<b>2.877</b>	-	-	<b>8.385</b>	-	-	<b>6.920</b>	-	-	-	-	-	<b>6.920</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	2.877	8.385	6.920	-	6.920
<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 / 03 / 55	<b>P-1 Line Item Number / Title:</b> 9552ML5355 / Items Less Than \$5.0M (Float/Rail)	<b>Item Number / Title [DODIC]:</b> MA8900 / ITEMS LESS THAN \$5.0M (FLOAT/RAIL)

<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	2.877	8.385	6.920	-	6.920

(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 / 03 / 55			<b>P-1 Line Item Number / Title:</b> 9552ML5355 / Items Less Than \$5.0M (Float/Rail)				<b>Item Number / Title [DODIC]:</b> MA8900 / ITEMS LESS THAN \$5.0M (FLOAT/RAIL)					
<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>
Security Patrol Boats		2020	TBD / TBD	C / FFP	Rock Island, IL	Jan 2020	Apr 2020	11	500.000	Y		

**Remarks:**  
Items to be procured are Commercial-off-the-Shelf (COTS)/Government-off-the-Shelf (GOTS) components.

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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 03: Other Support Equipment / BSA 60: Generators	<b>P-1 Line Item Number / Title:</b> 0426MA9800 / Generators And Associated Equip
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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> )	2,559	3,801	3,887	1,577	54	1,631	1,463	1,995	1,816	2,098	-	19,250
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	274.902	115.704	134.341	58.566	2.436	61.002	62.126	75.155	73.228	76.022	-	872.480
Less PY Advance Procurement ( <i>\$ in Millions</i> )	22.109	-	-	-	-	-	-	-	-	-	-	22.109
Net Procurement (P-1) ( <i>\$ in Millions</i> )	252.793	115.704	134.341	58.566	2.436	61.002	62.126	75.155	73.228	76.022	-	850.371
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	22.109	-	-	-	-	-	-	-	-	-	-	22.109
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>274.902</b>	<b>115.704</b>	<b>134.341</b>	<b>58.566</b>	<b>2.436</b>	<b>61.002</b>	<b>62.126</b>	<b>75.155</b>	<b>73.228</b>	<b>76.022</b>	<b>-</b>	<b>872.480</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> )	107.426	30.440	34.562	37.138	45.111	37.402	42.465	37.672	40.324	36.235	-	45.324

**Description:**

This line supports the Army Network Modernization Strategy Line of Effort #4, Command Post. This line provides the power generation and distribution that enables the Army to employ Command Posts across the operational spectrum, from early entry to major combat operations. Command Posts will use the microgrid to provide safe, reliable, and efficient power.

The MA9800 / Generators and Associated Equipment funding line supports the Mobile Electric Power Generating Sources (MEPGS) systems. The MEPGS systems consist of three generations: first generation is the Military Standard (MIL-STD) generators (to include the 2kW Military Tactical Generator (MTG)); the second generation is the Tactical Quiet Generator (TQG); the third generation is the Tactical Electric Power (TEP). The TEP program is to replace and modernize the first and second generation of DoD generator inventory (MIL STD, MTG and TQG, respectively) to meet the Army's requirements and establish the DoD standard for MEPGS. The TEP program is structured around the Small Tactical Electric Power (STEP) that covers 2-3kW stand-alone generator variants, Advanced Medium Mobile Power Sources (AMMPS) that covers 5-60kW stand-alone generator variants, Large Advanced Mobile Power Sources (LAMPS) that covers 100kW and 200kW stand-alone generator variants, multiple Power Units/Power Plants (PU/PPs) and Microgrid configurations, and associated power distribution equipment (Power Distribution Illumination Systems Electrical (PDISE)). These programs collectively provide a new, modern family of generators and distribution systems satisfying critical user requirements. The TEP CPD (rev 2 July 2014) will:

1. Reduce Acquisition Costs and Operations and Sustainment (O&S) costs by 15-20%.
2. Reduce weight by 25% across generator population, thereby reducing the Logistics footprint and improving deployability.
3. Significantly improve Reliability, Availability and Maintainability, to include Mean Time Between Failure improvements of 100-300%.
4. Eliminate gasoline from the generator inventory, thus complying with DoD guidance regarding single fuel on the battlefield (diesel/JP-8).
5. Reduce battlefield detectability by lowering noise levels by 50-75% across generator population.
6. Improve battlefield survivability by providing mission critical electric power to the digitized warfighting forces.

The Improved Power Distribution Illumination Systems Electrical (IPDISE) program element will fund the PDISE program expansion to fill power distribution gaps. The PDISE expansion will support the full spectrum of Tactical Electrical Power (TEP) (low voltage), Prime Electrical Power (medium voltage) and Utility Electrical Power with advanced features which enable microgrid and smart grid power systems, power monitoring, energy storage and incorporation of renewable energy sources.

PDISE Army Acquisition Objective (AAO) = 23,752, Prime Power Connection Kit (PPCK) AAO = TBD, Multiple Input Power Distribution Unit (PDU) AAO = TBD, M20 AAO = TBD.

Power Distribution Illumination Systems Electrical (PDISE) provides reliable, quick to assemble, modular designed power distribution equipment that is critical to deploying power networks. The PDISE family consists of five different end items, including the M200 and M100 three phase feeder systems, the M40 three phase and M60 single phase distribution systems and the M46 electrical utility kit. PDISE is

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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 03: Other Support Equipment / BSA 60: Generators	<b>P-1 Line Item Number / Title:</b> 0426MA9800 / Generators And Associated 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

simple, reliable, and compatible with DoD generator sets from 5kW to 60kW. It is used to subdivide and distribute electricity from single power sources to multiple equipment users within shelters and various unit complexes, and thus is a critical element of the DoD power structure. PDISE is also critical to Army's transformation by reducing the logistics footprint through the use of centralized power configurations. M200 Army Acquisition Objective (AAO) = 324; M100 AAO = 2,314; M60 AAO = 6,231; M40 AAO = 4,748; M46 AAO = 12,020.

The Advanced Medium Mobile Power Sources (AMMPS) program provides mid-range power sources, including the 5 kilowatt (kW), 10kW, 15kW, 30kW, and 60kW, 50/60 Hertz (Hz) or 400 Hz, Skid Mounted AMMPS configurations, which incorporate state-of-the-art commercial technologies that enhance the operational effectiveness and supportability of power sources. Operational effectiveness is improved through reduced noise (increasing survivability), and reduced weight (enhancing deployability, reduced footprint). The logistics footprint has been significantly reduced through improved fuel consumption (15-21% reduction), use of embedded diagnostics and improved maintainability. AMMPS are fully capable of meeting the most rigorous operational requirements providing mobile electric power to our deployed Soldiers, Sailors, Airmen and Marines worldwide.  
Army Acquisition Objective (AAO) = 16,560.

Power Units/Mounted (AMMPS): The integration of generator sets on trailers with the electronic components are defined as power units or power plants. Power Units (PUs) consist of one generator set mounted on a trailer. Power Plants (PPs) consist of two generator sets mounted on either one or two trailers (depending on size) with a switchbox installed and paralleling cables between sets. The Microgrid capability allows up to six (6) 30kW or 60kW sized AMMPS generators to automatically start and stop to match load demand and supply power to a common distribution hub. The generator sets are procured by competitive contracts through the Army Contracting Command - Aberdeen Proving Ground, Belvoir (ACC-APG, B). The trailers are procured by competitive contracts through the Army Contracting Command - Warren (ACC-W). Set sizes from 5 kilowatt (kW) thru 60kW are mounted in Power Unit/Power Plant (PU/PP) configurations to meet the requirements of the DoD.  
Power Units/Power Plants Army Acquisition Objective (AAO) = 15,167; Microgrid AAO = TBD.

LAMPS is a modernization program that will provide more mobile, reliable, and logistically supportable tactical electric power sources for the Department of Defense's 21st century digitized forces. LAMPS will replace the currently fielded 100/200 kilowatt (kW) Military Standard (MIL-STD) generator sets and Tactical Quiet Generator (TQG) sets. LAMPS will provide improved tactical electric power to combat support, and combat service support units throughout the Army and the other military Services within the DoD. The LAMPS system is based on technology currently available from industry and being used in various industrial applications. They are used to provide power to Field Hospitals, Corps Support Commands, Homeland Defense, Military Intelligence, Special Operations Command and Forward Operating Bases. The LAMPS program will provide significant improvements over currently fielded systems in size, mobility, transportability, diagnostics/prognostics, enhanced survivability and supportability. The LAMPS program includes four (4) 50/60 Hertz (Hz) configurations; two (2) skid-mounted configurations and two (2) trailer-mounted (5 ton M1061A1 trailer) configurations as Power Units; and the LAMPS Power Distribution Unit (PDU). The LAMPS PDU will replace the M400 (100 Amp) power distribution panel.  
Army Acquisition Objective (AAO): LAMPS = 822, LAMPS PDU = 459.

The Small Tactical Electric Power (STEP) program will provide the Warfighter with expeditionary power solutions designed for combat operations in the most austere environments. STEP will replace existing systems and is a modernization program that will provide improved tactical electric mobile power sources for replacement of the currently fielded 2kW (MTG) sets and 3kW (TQG) sets, initially procured in the 1990s. STEP models will be lightweight, modular, reliable, and more logistically supportable power sources than their predecessors for the Department of Defense's (DoD) 21st century digitized forces. AAO: 2kW = 6,913, 3kW = 20,601.

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	2,113	2,019	979	54	1,033	1,018	1,108	1,092	1,216
	Total Obligation Authority	72.309	92.679	38.641	2.436	41.077	44.786	49.869	47.681	46.821
ANG	Quantity	1,067	1,163	380	-	380	293	529	428	549
	Total Obligation Authority	26.776	30.971	12.747	-	12.747	10.985	16.242	15.447	17.639
AR	Quantity	621	705	218	-	218	152	358	296	333
	Total Obligation Authority	16.619	10.691	7.178	-	7.178	6.355	9.044	10.100	11.562

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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 03: Other Support Equipment / BSA 60: Generators					<b>P-1 Line Item Number / Title:</b> 0426MA9800 / Generators And Associated Equip				
<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>	Quantity	3,801	3,887	1,577	54	1,631	1,463	1,995	1,816	2,098
<b>Secondary Distribution</b>	Total Obligation Authority	115.704	134.341	58.566	2.436	61.002	62.126	75.155	73.228	76.022

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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 03: Other Support Equipment / BSA 60: Generators	<b>P-1 Line Item Number / Title:</b> 0426MA9800 / Generators And Associated Equip

<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	M50202 / Improved Power Distribution Illumination Systems E	P-5a			62 / 3.878	1,719 / 11.730	29 / 1.716	354 / 7.267	19 / 0.686	373 / 7.953
P-5	R45400 / P-DISE 40-200 AMP				- / 89.427	- / -	2 / 0.388	- / -	- / -	- / -
P-5	R51050 / Advanced Medium Mobile Power Systems (AMMPS)	P-5a, P-21			1,728 / 79.367	1,442 / 56.167	2,383 / 60.702	972 / 29.667	- / -	972 / 29.667
P-5	R59210 / Power Units/Mounted (AMMPS)	P-5a			639 / 73.013	640 / 40.982	1,380 / 61.620	158 / 12.802	35 / 1.750	193 / 14.552
P-5	R61510 / Large Advanced Mobile Power				130 / 15.173	0 / 0.500	5 / 1.976	- / 1.444	- / -	- / 1.444
P-5	R63510 / Small Tactical Electric Power	P-5a	A		- / 14.044	- / 6.325	88 / 7.939	93 / 7.386	- / -	93 / 7.386
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>2,559 / 274.902</b>	<b>3,801 / 115.704</b>	<b>3,887 / 134.341</b>	<b>1,577 / 58.566</b>	<b>54 / 2.436</b>	<b>1,631 / 61.002</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 \$58.566 million supports small, medium and large generator sets, assembly of power units and power plants, microgrids, and power feeder, distribution and management systems. The program provides for the partial replacement of the current inventory of over aged, gasoline-fueled generators with modernized single fuel (diesel/JP-8) assets that will enhance the user's safety, survivability, reduce the logistics footprint and enhance reliability, availability and maintainability. These mobile generators provide tactical electric power to virtually every weapon, communication, medical and combat support system in the inventory including Network / Command, Control, Communications & Intelligence (C3I) systems; Air & Missile Defense systems; Long Range Precision Fires systems; Command Posts / Tactical Operations Centers; and Brigade Combat Teams (BCTs).

IPDISE (M50202): FY 2020 Base procurement dollars in the amount of \$7.267 million is for Power Distribution Illumination Systems Electrical (PDISE) expansion. PDISE continues fielding to Corps/Division headquarters, Brigade Combat Teams (BCTs), and Support Brigades in support of their combat support systems. IPDISE expansion will begin production in FY 2019. Provides safe power distribution from the point of generation to the point of need - Network/C3I, Air & Missile Defense, Long Range Precision Fires, Command Post and Combat Support/Combat Service Support systems

PDISE interfaces with AMMPS, LAMPS and DPGDS power generation sources

IPDISE (M50202): FY 2020 OCO procurement dollars in the amount of \$0.686 million supports battle losses.

AMMPS (R51050): FY 2020 Base procurement dollars in the amount of \$29.667 million is for the Advanced Medium Mobile Power Sources (AMMPS) 5kW-60kW skid mounted sets, which replace aging legacy systems, reduce total ownership costs and support modernization. This program continues fielding to Corps/Division headquarters, Brigade Combat Teams (BCTs), and Support Brigades in support of their Network / Command, Control, Communications & Intelligence (C3I), Air & Missile Defense, and combat support / combat service support missions. All funding for this line has been moved from Medium Sets, SSN M53500, as of FY 2017. Principal power source for the Army's Network/C3I, Air & Missile Defense, Long Range Precision Fires, Command Post and Combat Support/Combat Service Support Systems. AMMPS generators increase readiness and operational reach while reducing noise, weight, and sustainment burdens (e.g. 60% parts commonality and 20% reduced fuel consumption across the fleet). AMMPS replaces 5-60kW legacy generators in a skid configuration, while adding a Microgrid capability and an ability to interface with newer technologies.

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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 03: Other Support Equipment / BSA 60: Generators		<b>P-1 Line Item Number / Title:</b> 0426MA9800 / Generators And Associated Equip
<b>ID Code</b> (A=Service Ready, B=Not Service Ready): A	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
<b>Line Item MDAP/MAIS Code:</b> N/A		
<p>Power Units/Mounted (AMMPS) (R59210): FY 2020 Base procurement dollars in the amount of \$12.802 million supports power units, power plants, and microgrids. The program continues fielding to Corps/ Division headquarters, Brigade Combat Teams (BCT), and Support Brigades in support of their Network / Command, Control, Communications &amp; Intelligence (C3I), Air &amp; Missile Defense, and combat support / combat service support missions. All funding for this line has been moved from POWER UNITS/POWER PLANTS, SSN R62700, as of FY 2017.</p> <p>Power Units/Mounted (AMMPS) (R59210): FY 2020 OCO procurement dollars in the amount of \$1.750 million supports battle losses. Principal power source for the Army's Network/C3I, Air &amp; Missile Defense, Long Range Precision Fires, Command Post and Combat Support/Combat Service Support Systems.</p> <p>AMMPS generators increase readiness and operational reach while reducing noise, weight, and sustainment burdens (e.g. 60% parts commonality and 20% reduced fuel consumption across the fleet). AMMPS replaces 5-60kW legacy generators in a trailer mounted configuration, while adding a Microgrid capability and an ability to interface with newer technologies.</p> <p>LAMPS (R61510): FY 2020 Base procurement dollars in the amount of \$1.444 million supports the program management, engineering, logistics, parts obsolescence and configuration management of 100kW, 200kW Large Tactical Power and the acquisition of large generator sets and power distribution units. LAMPS is the primary power source for Field Hospitals Funds in this program are a realignment of funds from program LARGE SETS (=&gt; 100 KW), SSN M54400, as of FY 2016. Without Power Generation, the Army would not be able to perform critical functions such as Shoot-Move-Communicate and Sustainment operations.</p> <p>LAMPS generators will increase readiness and operational reach while reducing noise and sustainment burdens. This program replaces 100-200kW legacy generators in either a skid or trailer mounted configuration, while adding a microgrid capability and an ability to interface with newer technologies.</p> <p>STEP (R63510): FY 2020 Base procurement dollars in the amount of \$7.386 million will procure 3kw generators for Terminal High Altitude Area Defense (THAAD). STEP will be the next generation lighter tactical power solutions that will increase the ability to operate semi-independently. STEP is used primarily at the Battalion and below levels and with other critical Army assets such as THAAD, UAVs, and CBRN. These next generation of generators will include the latest technology and more fuel efficient; thus reducing sustainment cost.</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 / 03 / 60	<b>P-1 Line Item Number / Title:</b> 0426MA9800 / Generators And Associated Equip	<b>Item Number / Title [DODIC]:</b> M50202 / Improved Power Distribution Illumination Systems E

<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)	62	1,719	29	354	19	373
Gross/Weapon System Cost (\$ in Millions)	3.878	11.730	1.716	7.267	0.686	7.953
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	3.878	11.730	1.716	7.267	0.686	7.953
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>3.878</b>	<b>11.730</b>	<b>1.716</b>	<b>7.267</b>	<b>0.686</b>	<b>7.953</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)	62.548	6.824	59.172	20.528	36.105	21.322

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>																		
1. Engineering Support	-	-	1.384	-	-	0.684	-	-	0.201	-	-	0.260	-	-	-	-	-	0.260
2. Engineering Change Orders	-	-	0.106	-	-	-	-	-	0.020	-	-	0.020	-	-	-	-	-	0.020
3. Testing	-	-	0.106	-	-	-	-	-	0.080	-	-	0.082	-	-	-	-	-	0.082
4. System Fielding Support	-	-	0.474	-	-	0.539	-	-	0.020	-	-	0.020	-	-	-	-	-	0.020
5. Systems Assessment	-	-	0.078	-	-	0.079	-	-	0.075	-	-	0.077	-	-	-	-	-	0.077
6. Logistics Support	-	-	0.735	-	-	0.749	-	-	0.059	-	-	0.060	-	-	-	-	-	0.060
7. Data	-	-	0.083	-	-	-	-	-	0.072	-	-	0.073	-	-	-	-	-	0.073
8. PM Management Support	-	-	0.912	-	-	1.479	-	-	0.962	-	-	0.799	-	-	-	-	-	0.799
Multiple Input PDU <sup>(†)</sup>	-	-	-	35.000	20	0.700	-	-	-	36.106	132	4.766	-	-	-	36.106	132	4.766
M 40 (Distribution System) <sup>(†)</sup>	-	-	-	4.200	656	2.755	4.800	5	0.024	-	-	-	-	-	-	-	-	-
M60 (Distribution System) <sup>(†)</sup>	-	-	-	-	-	-	-	-	-	-	-	-	7.000	3	0.021	7.000	3	0.021
M200 (Feeder System) <sup>(†)</sup>	-	-	-	6.000	324	1.944	7.000	29	0.203	5.000	222	1.110	5.000	133	0.665	5.000	355	1.775

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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 / 03 / 60	<b>P-1 Line Item Number / Title:</b> 0426MA9800 / Generators And Associated Equip	<b>Item Number / Title [DODIC]:</b> M50202 / Improved Power Distribution Illumination Systems E
<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)
U89185- UTILITY RECEPTACLE	-	-	-	3.790	739	2.801	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	3.878	-	-	11.730	-	-	1.716	-	-	7.267	-	-	0.686	-	-	7.953
<i>Subtotal: Flyaway Cost</i>	-	-	3.878	-	-	11.730	-	-	1.716	-	-	7.267	-	-	0.686	-	-	7.953
<b>Gross/Weapon System Cost</b>	<b>62.548</b>	<b>62</b>	<b>3.878</b>	<b>6.824</b>	<b>1,719</b>	<b>11.730</b>	<b>59.172</b>	<b>29</b>	<b>1.716</b>	<b>20.528</b>	<b>354</b>	<b>7.267</b>	<b>36.105</b>	<b>19</b>	<b>0.686</b>	<b>21.322</b>	<b>373</b>	<b>7.953</b>

**Remarks:**

Automatic feed quantity on P-40 resource summary is incorrect. Cost element on P-5 displays the correct OCO quantity (136).

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	
Army	Quantity		918	29	354	19	373
	Total Obligation Authority		7.465	1.716	7.267	0.686	7.953
ANG	Quantity		535	-	-	-	-
	Total Obligation Authority		2.742	-	-	-	-
AR	Quantity		266	-	-	-	-
	Total Obligation Authority		1.523	-	-	-	-
<b>Total: Secondary Distribution</b>	<b>Quantity</b>		<b>1,719</b>	<b>29</b>	<b>354</b>	<b>19</b>	<b>373</b>
	<b>Total Obligation Authority</b>		<b>11.730</b>	<b>1.716</b>	<b>7.267</b>	<b>0.686</b>	<b>7.953</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 / 03 / 60			<b>P-1 Line Item Number / Title:</b> 0426MA9800 / Generators And Associated Equip					<b>Item Number / Title [DODIC]:</b> M50202 / Improved Power Distribution Illumination Systems E				

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
Multiple Input PDU		2018	TBD / TBD	Option / TBD	TBD	Jun 2018	Dec 2018	20	35.000	Y		
Multiple Input PDU		2020	TBD / TBD	Option / TBD	TBD	Jun 2020	Dec 2020	132	36.106	Y		
M 40 (Distribution System)		2018	Fidelity Technologies Corp / Reading, PA	C / FFP	ACC-APG, Belvoir	Jan 2018	Jul 2018	656	4.200	Y		
M 40 (Distribution System)		2019	Fidelity Technologies Corp / Reading, PA	C / FFP	ACC-APG, Belvoir	Jan 2019	Jul 2019	5	4.800	Y		
M60 (Distribution System)	✓	2020	TBD / TBD	Option / TBD	TBD	Jun 2020	Dec 2020	3	7.000	Y		
M200 (Feeder System)		2018	Fidelity Technologies Corp / Reading, PA	C / FPIF	ACC-APG, Belvoir	Jan 2018	Jul 2018	324	6.000	Y		
M200 (Feeder System)		2019	Fidelity Technologies Corp / Reading, PA	C / FFP	ACC-APG, Belvoir	Jan 2019	Jul 2019	29	7.000	Y		
M200 (Feeder System)		2020	TBD / TBD	Option / TBD	TBD	Jun 2020	Dec 2020	355	5.000	Y		

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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 / 03 / 60	<b>P-1 Line Item Number / Title:</b> 0426MA9800 / Generators And Associated Equip	<b>Item Number / Title [DODIC]:</b> R45400 / P-DISE 40-200 AMP

<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	-	-	-
Gross/Weapon System Cost (\$ in Millions)	89.427	-	0.388	-	-	-
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	89.427	-	0.388	-	-	-
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>89.427</b>	<b>-</b>	<b>0.388</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 (\$ in Millions)	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	-	-	194.000	-	-	-

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																		
1. Engineering Support	-	-	7.912	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2. Engineering Change Orders	-	-	0.810	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3. Testing	-	-	0.552	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4. System Fielding Support	-	-	1.020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5. System Assessment	-	-	1.316	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6. Logistics Support	-	-	8.900	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7. Data	-	-	0.624	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8. PM Management Support	-	-	11.011	-	-	-	-	-	0.364	-	-	-	-	-	-	-	-	-
M200 (Feeder System)	56.000	2	0.112	-	-	-	12.000	2	0.024	-	-	-	-	-	-	-	-	-
M100 (Feeder System)	22.053	950	20.950	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M60 (Distribution System)	14.472	2,252	32.591	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M 40 (Distribution System)	36.220	100	3.622	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M46 (Utility Kit)	7.000	1	0.007	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	<b>89.427</b>	-	-	-	-	-	<b>0.388</b>	-	-	-	-	-	-	-	-	-
<i>Subtotal: Flyaway Cost</i>	-	-	<b>89.427</b>	-	-	-	-	-	<b>0.388</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 / 03 / 60						<b>P-1 Line Item Number / Title:</b> 0426MA9800 / Generators And Associated Equip						<b>Item Number / Title [DODIC]:</b> R45400 / P-DISE 40-200 AMP					
<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	-	-	89.427	-	-	-	194.000	2	0.388	-	-	-	-	-	-	-	-	-

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	-	2	-	-	-
	Total Obligation Authority	-	0.388	-	-	-
<b>Total:</b> Secondary Distribution	Quantity	-	2	-	-	-
	Total Obligation Authority	-	0.388	-	-	-

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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 / 03 / 60	<b>P-1 Line Item Number / Title:</b> 0426MA9800 / Generators And Associated Equip	<b>Item Number / Title [DODIC]:</b> R51050 / Advanced Medium Mobile Power Systems (AMMPS)

<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)	1,728	1,442	2,383	972	-	972
Gross/Weapon System Cost (\$ in Millions)	79.367	56.167	60.702	29.667	-	29.667
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	79.367	56.167	60.702	29.667	-	29.667
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>79.367</b>	<b>56.167</b>	<b>60.702</b>	<b>29.667</b>	<b>-</b>	<b>29.667</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)	45.930	38.951	25.473	30.522	-	30.522

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>																		
1. Engineering Support	-	-	1.719	-	-	1.985	-	-	0.761	-	-	0.776	-	-	-	-	-	0.776
2. Engineering Change Orders	-	-	0.094	-	-	0.095	-	-	0.097	-	-	0.099	-	-	-	-	-	0.099
3. Testing	-	-	0.150	-	-	0.154	-	-	0.157	-	-	0.160	-	-	-	-	-	0.160
4. System Fielding Support	-	-	3.503	-	-	1.885	-	-	2.400	-	-	2.448	-	-	-	-	-	2.448
5. System Assessment	-	-	1.016	-	-	0.569	-	-	0.328	-	-	0.334	-	-	-	-	-	0.334
6. Logistics Support	-	-	2.751	-	-	2.592	-	-	0.684	-	-	0.698	-	-	-	-	-	0.698
7. Data	-	-	0.366	-	-	0.164	-	-	0.198	-	-	0.200	-	-	-	-	-	0.200
8. PM Management Support	-	-	3.459	-	-	4.154	-	-	1.501	-	-	1.558	-	-	-	-	-	1.558
5kW/60Hz (MEP1030) <sup>(†)</sup>	21.219	1,450	30.768	35.929	535	19.222	19.000	476	9.044	22.000	402	8.844	-	-	-	22.000	402	8.844
10kW/60Hz (MEP1040) <sup>(†)</sup>	24.515	1,318	32.311	22.695	800	18.156	23.300	1,250	29.125	25.000	438	10.950	-	-	-	25.000	438	10.950
15kW/400Hz (MEP1051) <sup>(†)</sup>	-	-	-	23.318	192	4.477	-	-	-	31.000	3	0.093	-	-	-	31.000	3	0.093
15kW/60Hz (MEP1050) <sup>(†)</sup>	26.100	70	1.827	3.200	190	0.608	23.998	507	12.167	27.000	127	3.429	-	-	-	27.000	127	3.429

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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 / 03 / 60		<b>P-1 Line Item Number / Title:</b> 0426MA9800 / Generators And Associated Equip
		<b>Item Number / Title [DODIC]:</b> R51050 / Advanced Medium Mobile Power Systems (AMMPS)
<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)
30kW/60Hz (MEP1060) <sup>(†)</sup>	-	-	-	84.240	25	2.106	28.267	150	4.240	-	-	-	-	-	-	-	-	-
60kW/60Hz (MEP1070)	38.500	30	1.155	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30kW/400Hz (MEP1061) <sup>(†)</sup>	31.000	8	0.248	-	-	-	-	-	-	39.000	2	0.078	-	-	-	39.000	2	0.078
<i>Subtotal: Recurring Cost</i>	-	-	79.366	-	-	56.167	-	-	60.702	-	-	29.667	-	-	-	-	-	29.667
<i>Subtotal: Flyaway Cost</i>	-	-	79.366	-	-	56.167	-	-	60.702	-	-	29.667	-	-	-	-	-	29.667
<b>Gross/Weapon System Cost</b>	<b>45.930</b>	<b>1,728</b>	<b>79.367</b>	<b>38.951</b>	<b>1,442</b>	<b>56.167</b>	<b>25.473</b>	<b>2,383</b>	<b>60.702</b>	<b>30.522</b>	<b>972</b>	<b>29.667</b>	-	-	-	<b>30.522</b>	<b>972</b>	<b>29.667</b>

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	807	1,149	465	-	465
	Total Obligation Authority	32.783	40.702	16.015	-	16.015
ANG	Quantity	353	697	322	-	322
	Total Obligation Authority	13.406	15.000	8.906	-	8.906
AR	Quantity	282	537	185	-	185
	Total Obligation Authority	9.978	5.000	4.746	-	4.746
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	<b>1,442</b>	<b>2,383</b>	<b>972</b>	-	<b>972</b>
	<b>Total Obligation Authority</b>	<b>56.167</b>	<b>60.702</b>	<b>29.667</b>	-	<b>29.667</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 / 03 / 60	<b>P-1 Line Item Number / Title:</b> 0426MA9800 / Generators And Associated Equip	<b>Item Number / Title [DODIC]:</b> R51050 / Advanced Medium Mobile Power Systems (AMMPS)
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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
5kW/60Hz (MEP1030) <sup>(†)</sup>		2018	CUMMINS POWER GENERATION; INC / Minneapolis, MN	SS / FFP	ACC-APG, Belvoir	Sep 2018	Oct 2019	535	35.929	Y		
5kW/60Hz (MEP1030) <sup>(†)</sup>		2019	CUMMINS POWER GENERATION; INC / Minneapolis, MN	SS / FFP	ACC-APG, Belvoir	Feb 2019	Feb 2020	476	19.000	Y		
5kW/60Hz (MEP1030) <sup>(†)</sup>		2020	CUMMINS POWER GENERATION; INC / Minneapolis, MN	SS / FFP	ACC-APG, Belvoir	Feb 2020	Feb 2021	402	22.000	Y		
10kW/60Hz (MEP1040) <sup>(†)</sup>		2018	CUMMINS POWER GENERATION; INC / Minneapolis, MN	SS / FFP	ACC-APG, Belvoir	Sep 2018	Oct 2019	800	22.695	Y		
10kW/60Hz (MEP1040) <sup>(†)</sup>		2019	CUMMINS POWER GENERATION; INC / Minneapolis, MN	SS / FFP	ACC-APG, Belvoir	Feb 2019	Feb 2020	1,250	23.300	Y		
10kW/60Hz (MEP1040) <sup>(†)</sup>		2020	CUMMINS POWER GENERATION; INC / Minneapolis, MN	SS / FFP	ACC-APG, Belvoir	Feb 2020	Feb 2021	438	25.000	Y		
15kW/400Hz (MEP1051)		2018	CUMMINS POWER GENERATION; INC / Minneapolis, MN	SS / FFP	ACC-APG, Belvoir	Sep 2018	Oct 2019	192	23.318	Y		
15kW/400Hz (MEP1051)		2020	CUMMINS POWER GENERATION; INC / Minneapolis, MN	SS / FFP	ACC-APG, Belvoir	Feb 2020	Feb 2021	3	31.000	Y		
15kW/60Hz (MEP1050)		2018	CUMMINS POWER GENERATION; INC / Minneapolis, MN	SS / FFP	ACC-APG, Belvoir	Sep 2018	Oct 2019	190	3.200	Y		
15kW/60Hz (MEP1050)		2019	CUMMINS POWER GENERATION; INC / Minneapolis, MN	SS / FFP	ACC-APG, Belvoir	Feb 2019	Feb 2020	507	23.998	Y		
15kW/60Hz (MEP1050)		2020	CUMMINS POWER GENERATION; INC / Minneapolis, MN	SS / FFP	ACC-APG, Belvoir	Feb 2020	Feb 2021	127	27.000	Y		
30kW/60Hz (MEP1060)		2018	CUMMINS POWER GENERATION; INC / Minneapolis, MN	SS / FFP	ACC-APG, Belvoir	Sep 2018	Oct 2019	25	84.240	Y		
30kW/400Hz (MEP1061)		2020	CUMMINS POWER GENERATION; INC / Minneapolis, MN	SS / FFP	ACC-APG, Belvoir	Feb 2020	Feb 2021	2	39.000	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 / 03 / 60										<b>P-1 Line Item Number / Title:</b> 0426MA9800 / Generators And Associated Equip										<b>Item Number / Title [DODIC]:</b> R51050 / Advanced Medium Mobile Power Systems (AMMPS)									

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			
5kW/60Hz (MEP1030)																																	
Prior Years Deliveries: 1450																																	
	1	2018	ARMY	535	0	535	44	44	44	44	44	45	45	45	45	45	45												0				
	1	2019	ARMY	476	0	476	-	-	-	-	39	39	39	40	40	40	40	40	40	40	40	39							0				
	1	2020	ARMY	402	0	402					A -	-	-	-	-	-	-	-	-	-	-	33	33	33	33	33	33	34	34	136			
10kW/60Hz (MEP1040)																																	
Prior Years Deliveries: 1318																																	
	2	2018	ARMY	800	0	800	67	67	66	66	66	66	67	67	67	67	67											0					
	2	2019	ARMY	1,250	0	1,250	-	-	-	-	104	104	104	104	104	104	104	104	104	104	104							0					
	2	2020	ARMY	438	0	438					A -	-	-	-	-	-	-	-	-	-	-	35	36	36	36	36	37	37	37	148			
							O C T	N O V	D E C	J A N	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 / 03 / 60										<b>P-1 Line Item Number / Title:</b> 0426MA9800 / Generators And Associated Equip										<b>Item Number / Title [DODIC]:</b> R51050 / Advanced Medium Mobile Power Systems (AMMPS)									

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			
5kW/60Hz (MEP1030)																																	
Prior Years Deliveries: 1450																																	
	1	2018	ARMY	535	535	0																							0				
	1	2019	ARMY	476	476	0																							0				
	1	2020	ARMY	402	266	136	34	34	34	34																			0				
10kW/60Hz (MEP1040)																																	
Prior Years Deliveries: 1318																																	
	2	2018	ARMY	800	800	0																							0				
	2	2019	ARMY	1,250	1,250	0																							0				
	2	2020	ARMY	438	290	148	37	37	37	37																			0				
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P			

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<b>Exhibit P-21, Production Schedule:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 03 / 60		<b>P-1 Line Item Number / Title:</b> 0426MA9800 / Generators And Associated Equip
<b>Item Number / Title [DODIC]:</b> R51050 / Advanced Medium Mobile Power Systems (AMMPS)		

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	CUMMINS POWER GENERATION; INC - Minneapolis, MN	1,000	3,000	5,000	6	2	17	19	0	4	12	16
2	CUMMINS POWER GENERATION; INC - Minneapolis, MN	1,000	3,000	5,000	6	2	17	19	0	4	12	16

**Remarks:**  
All production rates shown on a yearly basis.

Manufacturer has multiple products (AMMPS and PUPPS) that contribute to the minimum production rate of 1,200.

"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 / 03 / 60	<b>P-1 Line Item Number / Title:</b> 0426MA9800 / Generators And Associated Equip	<b>Item Number / Title [DODIC]:</b> R59210 / Power Units/Mounted (AMMPS)

<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)		639	640	1,380	158	35	193
Gross/Weapon System Cost (\$ in Millions)		73.013	40.982	61.620	12.802	1.750	14.552
Less PY Advance Procurement (\$ in Millions)		-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)		73.013	40.982	61.620	12.802	1.750	14.552
Plus CY Advance Procurement (\$ in Millions)		-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>		<b>73.013</b>	<b>40.982</b>	<b>61.620</b>	<b>12.802</b>	<b>1.750</b>	<b>14.552</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)	114.261	64.034	44.652	81.025	50.000	75.399	

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																		
1. Engineering Support	-	-	2.023	-	-	1.761	-	-	0.771	-	-	0.777	-	-	-	-	-	0.777
2. Engineering Change Orders	-	-	0.041	-	-	0.022	-	-	0.022	-	-	0.022	-	-	-	-	-	0.022
3. Testing	-	-	1.103	-	-	0.053	-	-	0.054	-	-	0.055	-	-	-	-	-	0.055
4. System Fielding Support	-	-	1.570	-	-	1.676	-	-	1.400	-	-	1.418	-	-	-	-	-	1.418
5. System Assessment	-	-	0.792	-	-	0.240	-	-	0.321	-	-	0.327	-	-	-	-	-	0.327
6. Logistics Support	-	-	1.051	-	-	1.215	-	-	0.561	-	-	0.572	-	-	-	-	-	0.572
7. Data	-	-	0.558	-	-	0.199	-	-	0.203	-	-	0.207	-	-	-	-	-	0.207
8. PM Management Support	-	-	2.221	-	-	2.276	-	-	2.310	-	-	2.128	-	-	-	-	-	2.128
PP3001, two 5kW 50/60Hz, LTT <sup>(†)</sup>	-	-	-	51.308	26	1.334	54.500	84	4.578	56.000	29	1.624	-	-	-	56.000	29	1.624
PP3102, two 10kW 50/60Hz <sup>(†)</sup>	61.367	30	1.841	150.314	35	5.261	59.630	92	5.486	64.000	39	2.496	-	-	-	64.000	39	2.496
PP3105, two 30kW 50/60Hz <sup>(†)</sup>	72.333	3	0.217	820.100	10	8.201	70.000	70	4.900	-	-	-	-	-	-	-	-	-
PP3106, two 60kW 50/60Hz <sup>(†)</sup>	-	-	-	82.300	40	3.292	82.190	42	3.452	-	-	-	-	-	-	-	-	-

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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 / 03 / 60	<b>P-1 Line Item Number / Title:</b> 0426MA9800 / Generators And Associated Equip	<b>Item Number / Title [DODIC]:</b> R59210 / Power Units/Mounted (AMMPS)

<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)
PU2001, 5kW 50/60Hz <sup>(†)</sup>	29.312	237	6.947	20.000	186	3.720	28.234	286	8.075	30.000	28	0.840	-	-	-	30.000	28	0.840
PP3003, two 15kW 50/60Hz <sup>(†)</sup>	62.177	62	3.855	78.000	25	1.950	62.800	15	0.942	75.000	5	0.375	-	-	-	75.000	5	0.375
PU2002, 10kW 50/60Hz <sup>(†)</sup>	29.556	241	7.123	27.000	130	3.510	32.103	165	5.297	33.000	37	1.221	-	-	-	33.000	37	1.221
PU2101, 15kW 50/60Hz, M200 <sup>(†)</sup>	33.685	750	25.264	46.743	35	1.636	35.069	260	9.118	-	-	-	50.000	35	1.750	50.000	35	1.750
PU2102, 30kW 50/60Hz <sup>(†)</sup>	37.238	369	13.741	44.640	25	1.116	39.477	130	5.132	-	-	-	-	-	-	-	-	-
PU2112, 30kW 400Hz <sup>(†)</sup>	-	-	-	38.567	30	1.157	42.269	26	1.099	-	-	-	-	-	-	-	-	-
PU 2111, 15Kw/400Hz <sup>(†)</sup>	-	-	-	-	-	-	36.000	30	1.080	39.000	10	0.390	-	-	-	39.000	10	0.390
PU2003, 15kW/60Hz, LTT <sup>(†)</sup>	34.000	46	1.564	40.000	25	1.000	34.200	30	1.026	35.000	10	0.350	-	-	-	35.000	10	0.350
PU2103, 60kW/60Hz <sup>(†)</sup>	39.266	79	3.102	37.861	36	1.363	38.620	150	5.793	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	73.013	-	-	40.982	-	-	61.620	-	-	12.802	-	-	1.750	-	-	14.552
<i>Subtotal: Flyaway Cost</i>	-	-	73.013	-	-	40.982	-	-	61.620	-	-	12.802	-	-	1.750	-	-	14.552
<b>Gross/Weapon System Cost</b>	<b>114.261</b>	<b>639</b>	<b>73.013</b>	<b>64.034</b>	<b>640</b>	<b>40.982</b>	<b>44.652</b>	<b>1,380</b>	<b>61.620</b>	<b>81.025</b>	<b>158</b>	<b>12.802</b>	<b>50.000</b>	<b>35</b>	<b>1.750</b>	<b>75.399</b>	<b>193</b>	<b>14.552</b>

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	388	746	67	35	102
	Total Obligation Authority	25.236	39.958	6.529	1.750	8.279
ANG	Quantity	179	466	58	-	58
	Total Obligation Authority	10.628	15.971	3.841	-	3.841
AR	Quantity	73	168	33	-	33
	Total Obligation Authority	5.118	5.691	2.432	-	2.432
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	<b>640</b>	<b>1,380</b>	<b>158</b>	<b>35</b>	<b>193</b>
	<b>Total Obligation Authority</b>	<b>40.982</b>	<b>61.620</b>	<b>12.802</b>	<b>1.750</b>	<b>14.552</b>

(†) 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 / 03 / 60			P-1 Line Item Number / Title: 0426MA9800 / Generators And Associated Equip					Item Number / Title [DODIC]: R59210 / Power Units/Mounted (AMMPS)				
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
PP3001, two 5kW 50/60Hz, LTT		2018	CUMMINS POWER GENERATION; INC / Minneapolis, MN	SS / FFP	ACC-APG, Belvoir	Sep 2018	Oct 2019	26	51.308	Y		
PP3001, two 5kW 50/60Hz, LTT		2019	CUMMINS POWER GENERATION; INC / Minneapolis, MN	SS / FFP	ACC-APG, Belvoir	Feb 2019	Feb 2020	84	54.500	Y		
PP3001, two 5kW 50/60Hz, LTT		2020	CUMMINS POWER GENERATION; INC / Minneapolis, MN	SS / FFP	ACC-APG, Belvoir	Feb 2020	Feb 2021	29	56.000	Y		
PP3102, two 10kW 50/60Hz		2018	CUMMINS POWER GENERATION; INC / Minneapolis, MN	SS / FFP	ACC-APG, Belvoir	Sep 2018	Oct 2019	35	150.314	Y		
PP3102, two 10kW 50/60Hz		2019	CUMMINS POWER GENERATION; INC / Minneapolis, MN	SS / FFP	ACC-APG, Belvoir	Feb 2019	Feb 2020	92	59.630	Y		
PP3102, two 10kW 50/60Hz		2020	CUMMINS POWER GENERATION; INC / Minneapolis, MN	SS / FFP	ACC-APG, Belvoir	Feb 2020	Feb 2021	39	64.000	Y		
PP3105, two 30kW 50/60Hz		2018	CUMMINS POWER GENERATION; INC / Minneapolis, MN	SS / FFP	ACC-APG, Belvoir	Sep 2018	Oct 2019	10	820.100	Y		
PP3105, two 30kW 50/60Hz		2019	CUMMINS POWER GENERATION; INC / Minneapolis, MN	SS / FFP	ACC-APG, Belvoir	Feb 2019	Feb 2020	70	70.000	Y		
PP3106, two 60kW 50/60Hz		2018	CUMMINS POWER GENERATION; INC / Minneapolis, MN	SS / FFP	ACC-APG, Belvoir	Sep 2018	Oct 2019	40	82.300	Y		
PP3106, two 60kW 50/60Hz		2019	CUMMINS POWER GENERATION; INC / Minneapolis, MN	SS / FFP	ACC-APG, Belvoir	Feb 2019	Feb 2020	42	82.190	Y		
PU2001, 5kW 50/60Hz		2018	CUMMINS POWER GENERATION; INC / Minneapolis, MN	SS / FFP	ACC-APG, Belvoir	Sep 2018	Oct 2019	186	20.000	Y		
PU2001, 5kW 50/60Hz		2019	CUMMINS POWER GENERATION; INC / Minneapolis, MN	SS / FFP	ACC-APG, Belvoir	Feb 2019	Feb 2020	286	28.234	Y		
PU2001, 5kW 50/60Hz		2020	CUMMINS POWER GENERATION; INC / Minneapolis, MN	SS / FFP	ACC-APG, Belvoir	Feb 2020	Feb 2021	28	30.000	Y		
PP3003, two 15kW 50/60Hz		2017	CUMMINS POWER GENERATION; INC / Minneapolis, MN	SS / FFP	Philadelphia, PA	Jan 2017	Jun 2018	12	63.040	Y		
PP3003, two 15kW 50/60Hz		2019	CUMMINS POWER GENERATION; INC / Minneapolis, MN	SS / FFP	ACC-APG, Belvoir	Feb 2019	Feb 2020	15	62.800	Y		
PP3003, two 15kW 50/60Hz		2020	CUMMINS POWER GENERATION; INC / Minneapolis, MN	SS / FFP	ACC-APG, Belvoir	Feb 2020	Feb 2021	5	75.000	Y		
PU2002, 10kW 50/60Hz		2018	CUMMINS POWER GENERATION; INC / Minneapolis, MN	SS / FFP	ACC-APG, Belvoir	Sep 2018	Oct 2019	130	27.000	Y		
PU2002, 10kW 50/60Hz		2019	CUMMINS POWER GENERATION; INC / Minneapolis, MN	SS / FFP	ACC-APG, Belvoir	Feb 2019	Feb 2020	165	32.103	Y		
PU2002, 10kW 50/60Hz		2020	CUMMINS POWER GENERATION; INC / Minneapolis, MN	SS / FFP	ACC-APG, Belvoir	Feb 2020	Feb 2021	37	33.000	Y		

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 03 / 60	<b>P-1 Line Item Number / Title:</b> 0426MA9800 / Generators And Associated Equip	<b>Item Number / Title [DODIC]:</b> R59210 / Power Units/Mounted (AMMPS)
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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
PU2101, 15kW 50/60Hz, M200		2018	CUMMINS POWER GENERATION; INC / Minneapolis, MN	SS / FFP	ACC-APG, Belvoir	Sep 2018	Oct 2019	35	46.743	Y		
PU2101, 15kW 50/60Hz, M200		2019	CUMMINS POWER GENERATION; INC / Minneapolis, MN	SS / FFP	ACC-APG, Belvoir	Feb 2019	Feb 2020	260	35.069	Y		
PU2101, 15kW 50/60Hz, M200	✓	2020	CUMMINS POWER GENERATION; INC / Minneapolis, MN	SS / FFP	ACC-APG, Belvoir	Feb 2020	Feb 2021	35	50.000	Y		
PU2102, 30kW 50/60Hz		2018	CUMMINS POWER GENERATION; INC / Minneapolis, MN	SS / FFP	ACC-APG, Belvoir	Sep 2018	Oct 2019	25	44.640	Y		
PU2102, 30kW 50/60Hz		2019	CUMMINS POWER GENERATION; INC / Minneapolis, MN	SS / FFP	ACC-APG, Belvoir	Feb 2019	Feb 2020	130	39.477	Y		
PU2112, 30kW 400Hz		2018	CUMMINS POWER GENERATION; INC / Minneapolis, MN	SS / FFP	ACC-APG, Belvoir	Sep 2018	Oct 2019	30	38.567	Y		
PU2112, 30kW 400Hz		2019	CUMMINS POWER GENERATION; INC / Minneapolis, MN	SS / FFP	ACC-APG, Belvoir	Feb 2019	Feb 2020	26	42.269	Y		
PU 2111, 15Kw/400Hz		2019	CUMMINS POWER GENERATION; INC / Minneapolis, MN	SS / FFP	ACC-APG, Belvoir	Feb 2019	Feb 2020	30	36.000	Y		
PU 2111, 15Kw/400Hz		2020	CUMMINS POWER GENERATION; INC / Minneapolis, MN	SS / FFP	ACC-APG, Belvoir	Feb 2020	Feb 2021	10	39.000	Y		
PU2003, 15kW/60Hz, LTT		2019	CUMMINS POWER GENERATION; INC / Minneapolis, MN	SS / FFP	ACC-APG, Belvoir	Feb 2019	Feb 2020	30	34.200	Y		
PU2003, 15kW/60Hz, LTT		2020	CUMMINS POWER GENERATION; INC / Minneapolis, MN	SS / FFP	ACC-APG, Belvoir	Feb 2020	Feb 2021	10	35.000	Y		
PU2103, 60kW/60Hz		2019	CUMMINS POWER GENERATION; INC / Minneapolis, MN	SS / FFP	ACC-APG, Belvoir	Feb 2019	Feb 2020	150	38.620	Y		



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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 / 03 / 60	<b>P-1 Line Item Number / Title:</b> 0426MA9800 / Generators And Associated Equip	<b>Item Number / Title [DODIC]:</b> R61510 / Large Advanced Mobile Power

<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)	130	0	5	-	-	-
Gross/Weapon System Cost (\$ in Millions)	15.173	0.500	1.976	1.444	-	1.444
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	15.173	0.500	1.976	1.444	-	1.444
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>15.173</b>	<b>0.500</b>	<b>1.976</b>	<b>1.444</b>	<b>-</b>	<b>1.444</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)	116.715	-	395.200	-	-	-

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																		
1. Engineering Support	-	-	0.388	-	-	-	-	-	0.976	-	-	0.824	-	-	-	-	-	0.824
2. Engineering Change Orders	-	-	0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3. Testing	-	-	0.020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4. System Fielding Support	-	-	0.050	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5. Systems Assessment	-	-	0.113	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6. Logistics Support	-	-	0.370	-	-	-	-	-	0.500	-	-	0.260	-	-	-	-	-	0.260
7. Data	-	-	0.050	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8. PM Management Support	-	-	0.302	-	-	0.500	-	-	0.500	-	-	0.360	-	-	-	-	-	0.360
LAMPS 100kW Skid	73.439	41	3.011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LAMPS 100kW Power Unit	89.904	83	7.462	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LAMPS PDU	42.463	80	3.397	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	15.173	-	-	0.500	-	-	1.976	-	-	1.444	-	-	-	-	-	1.444
<i>Subtotal: Flyaway Cost</i>	-	-	15.173	-	-	0.500	-	-	1.976	-	-	1.444	-	-	-	-	-	1.444
<b>Gross/Weapon System Cost</b>	<b>116.715</b>	<b>130</b>	<b>15.173</b>	<b>-</b>	<b>0</b>	<b>0.500</b>	<b>395.200</b>	<b>5</b>	<b>1.976</b>	<b>-</b>	<b>-</b>	<b>1.444</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>1.444</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 / 03 / 60	<b>P-1 Line Item Number / Title:</b> 0426MA9800 / Generators And Associated Equip	<b>Item Number / Title [DODIC]:</b> R61510 / Large Advanced Mobile Power
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<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
Army	Quantity	-	5	-	-	-
	Total Obligation Authority	0.500	1.976	1.444	-	1.444
<b>Total:</b>	<b>Quantity</b>	<b>0</b>	<b>5</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>0.500</b>	<b>1.976</b>	<b>1.444</b>	<b>-</b>	<b>1.444</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 / 03 / 60		<b>P-1 Line Item Number / Title:</b> 0426MA9800 / Generators And Associated Equip
		<b>Item Number / Title [DODIC]:</b> R63510 / Small Tactical Electric Power

<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)	-	-	88	93	-	93
Gross/Weapon System Cost (\$ in Millions)	14.044	6.325	7.939	7.386	-	7.386
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	14.044	6.325	7.939	7.386	-	7.386
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>14.044</b>	<b>6.325</b>	<b>7.939</b>	<b>7.386</b>	<b>-</b>	<b>7.386</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)	-	-	90.216	79.419	-	79.419

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																		
1. Engineering Support	-	-	2.000	-	-	1.663	-	-	3.760	-	-	3.147	-	-	-	-	-	-
2. Engineering Change Orders	-	-	0.125	-	-	-	-	-	0.001	-	-	0.025	-	-	-	-	-	-
3. Testing	-	-	-	-	-	0.342	-	-	-	-	-	0.078	-	-	-	-	-	-
5. System Assessment	-	-	1.000	-	-	-	-	-	0.086	-	-	0.200	-	-	-	-	-	-
6. Logistic Support	-	-	0.125	-	-	0.010	-	-	1.009	-	-	0.965	-	-	-	-	-	-
7. Data	-	-	2.000	-	-	-	-	-	0.076	-	-	-	-	-	-	-	-	-
8. PM Management Support	-	-	8.794	-	-	4.310	-	-	1.687	-	-	1.216	-	-	-	-	-	1.216
G18358 3kW/60Hz TQG Generator <sup>(1)</sup>	-	-	-	-	-	-	15.000	88	1.320	13.000	135	1.755	-	-	-	13.000	135	1.755
<i>Subtotal: Recurring Cost</i>	-	-	<b>14.044</b>	-	-	<b>6.325</b>	-	-	<b>7.939</b>	-	-	<b>7.386</b>	-	-	-	-	-	<b>7.386</b>
<i>Subtotal: Flyaway Cost</i>	-	-	<b>14.044</b>	-	-	<b>6.325</b>	-	-	<b>7.939</b>	-	-	<b>7.386</b>	-	-	-	-	-	<b>7.386</b>
<b>Gross/Weapon System Cost</b>	-	-	<b>14.044</b>	-	-	<b>6.325</b>	<b>90.216</b>	<b>88</b>	<b>7.939</b>	<b>79.419</b>	<b>93</b>	<b>7.386</b>	-	-	-	<b>79.419</b>	<b>93</b>	<b>7.386</b>

**Remarks:**

Automatic feed quantity on P-40 resource summary is incorrect. Cost element on P-5 displays the correct Base quantity (135).

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 03 / 60	<b>P-1 Line Item Number / Title:</b> 0426MA9800 / Generators And Associated Equip	<b>Item Number / Title [DODIC]:</b> R63510 / Small Tactical Electric Power
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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	-	88	93	-	93
	Total Obligation Authority	6.325	7.939	7.386	-	7.386
<b>Total:</b>	<b>Quantity</b>	-	88	93	-	93
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>6.325</b>	<b>7.939</b>	<b>7.386</b>	-	<b>7.386</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 / 03 / 60			<b>P-1 Line Item Number / Title:</b> 0426MA9800 / Generators And Associated Equip				<b>Item Number / Title [DODIC]:</b> R63510 / Small Tactical Electric Power					
<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>
G18358 3kW/60Hz TQG Generator		2019	TBD / TBD	C / FFP	ACC-APG	Sep 2019	Mar 2020	88	15.000	Y		
G18358 3kW/60Hz TQG Generator		2020	TBD / TBD	C / FFP	ACC-APG	Sep 2020	Apr 2021	135	13.000	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 03: Other Support Equipment / BSA 60: Generators	<b>P-1 Line Item Number / Title:</b> 9012R42501 / Tactical Electric Power Recapitalization
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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> )	-	-	20	28	-	28	45	19	3	2	-	117
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	21.673	7.936	8.333	14.814	-	14.814	23.019	12.200	5.100	5.100	-	98.175
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	21.673	7.936	8.333	14.814	-	14.814	23.019	12.200	5.100	5.100	-	98.175
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>21.673</b>	<b>7.936</b>	<b>8.333</b>	<b>14.814</b>	<b>-</b>	<b>14.814</b>	<b>23.019</b>	<b>12.200</b>	<b>5.100</b>	<b>5.100</b>	<b>-</b>	<b>98.175</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> )	-	-	416.650	529.071	-	529.071	511.533	642.105	1,700.000	2,550.000	-	839.103

**Description:**

This line supports the Army Air and Missile Defense Modernization Strategy, Priority #5. This line provides power generation and distribution that enables the Army to employ Air and Missile Defense systems across the operational spectrum. Air and Missile Defense will use the recapitalized DPGDS PU to continue providing safe, reliable, effective and efficient power.

This effort supports the recapitalization of the MEP-PU-810A/B, Deployable Power Generation & Distribution System (DPGDS) Power Unit (PU). The DPGDS Power Unit (PU) is the U.S. Army's current prime power mobile electric power generating asset. The MEP-PU-810, DPGDS PU is a wheel-mounted, diesel engine driven, prime power (Type II), utility (Class 2A), Mode I unit that produces 800kW, 4160 volts line-to-line at 60 Hertz (Hz) and 667kW, 3800 volts line-to-line at 50Hz with a 0.8 power factor, lagging. The recapitalized MEP-PU-810 will come in two variants, the MEP-PU-810C, a towed trailer configuration, and the MEP-PU-810D, a 5th wheel configuration DoT approved for over the road use at 55 mph. Throughout the Department of Defense there are 165 'A' Models and 66 'B' Models supporting numerous missions, such as supporting the nation's Ballistic Missile Defense System. The DPGDS recapitalization extends the economic useful life to FY35.

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	-	20	28	-	28	45	19	3	2
Total Obligation Authority	7.936	8.333	14.814	-	14.814	23.019	12.200	5.100	5.100
<b>Total:</b>									
<b>Secondary Distribution</b>									
Quantity	-	20	28	-	28	45	19	3	2
Total Obligation Authority	7.936	8.333	14.814	-	14.814	23.019	12.200	5.100	5.100

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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 03: Other Support Equipment / BSA 60: Generators **P-1 Line Item Number / Title:** 9012R42501 / Tactical Electric Power Recapitalization

**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	R42511 / RECAP of DPGDS (840k)	P-5a, P-21			- / 21.673	- / 7.936	20 / 8.333	28 / 14.814	- / -	28 / 14.814
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 21.673</b>	<b>- / 7.936</b>	<b>20 / 8.333</b>	<b>28 / 14.814</b>	<b>- / -</b>	<b>28 / 14.814</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:**  
 FY 2020 Base procurement dollars in the amount of \$14.814 million supports DPGDS PU Recapitalization production. DPGDS PU provides prime power to strategic Air & Missile Defense assets (AN/TPY-2 Forward-Based Mode radar sites) worldwide in the Nation's Ballistic Missile Defense System. DPGDS enables the U.S. Army Corps of Engineer's support to the National Military Framework (NMF) for Disaster Relief and contingency 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 / 03 / 60						<b>P-1 Line Item Number / Title:</b> 9012R42501 / Tactical Electric Power Recapitalization						<b>Item Number / Title [DODIC]:</b> R42511 / RECAP of DPGDS (840k)					
<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> )				-		-		20		28		-		28			
Gross/Weapon System Cost ( <i>\$ in Millions</i> )				21.673		7.936		8.333		14.814		-		14.814			
Less PY Advance Procurement ( <i>\$ in Millions</i> )				-		-		-		-		-		-			
Net Procurement (P-1) ( <i>\$ in Millions</i> )				21.673		7.936		8.333		14.814		-		14.814			
Plus CY Advance Procurement ( <i>\$ in Millions</i> )				-		-		-		-		-		-			
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )				<b>21.673</b>		<b>7.936</b>		<b>8.333</b>		<b>14.814</b>		<b>-</b>		<b>14.814</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> )				-		-		416.650		529.071		-		529.071			

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																		
Engineering Support	-	-	6.901	-	-	0.051	-	-	1.000	-	-	0.533	-	-	-	-	-	0.533
Engineering Change Orders	-	-	1.050	-	-	-	-	-	0.100	-	-	0.102	-	-	-	-	-	0.102
Testing	-	-	5.372	-	-	5.000	-	-	3.600	-	-	0.666	-	-	-	-	-	0.666
System Fielding Support	-	-	-	-	-	-	-	-	-	-	-	0.219	-	-	-	-	-	0.219
Logistics Support	-	-	5.450	-	-	0.078	-	-	0.500	-	-	0.533	-	-	-	-	-	0.533
Data	-	-	0.800	-	-	-	-	-	0.150	-	-	0.100	-	-	-	-	-	0.100
PM Management Support	-	-	2.100	-	-	2.046	-	-	1.483	-	-	0.633	-	-	-	-	-	0.633
System Assessment	-	-	-	-	-	-	-	-	1.500	-	-	0.420	-	-	-	-	-	0.420
GENERATOR SET: DIESEL ENGINE MEP-810C <sup>(f)</sup>	-	-	-	365.000	1	0.365	-	-	-	400.000	4	1.600	-	-	-	400.000	4	1.600
GENERATOR SET: DIESEL ENGINE MEP-810D <sup>(f)</sup>	-	-	-	396.000	1	0.396	-	-	-	417.000	24	10.008	-	-	-	417.000	24	10.008
<i>Subtotal: Recurring Cost</i>	-	-	21.673	-	-	7.936	-	-	8.333	-	-	14.814	-	-	-	-	-	14.814
<i>Subtotal: Flyaway Cost</i>	-	-	21.673	-	-	7.936	-	-	8.333	-	-	14.814	-	-	-	-	-	14.814
<b>Gross/Weapon System Cost</b>	-	-	21.673	-	-	7.936	416.650	20	8.333	529.071	28	14.814	-	-	-	529.071	28	14.814



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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 03 / 60	<b>P-1 Line Item Number / Title:</b> 9012R42501 / Tactical Electric Power Recapitalization	<b>Item Number / Title [DODIC]:</b> R42511 / RECAP of DPGDS (840k)
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<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
Army	Quantity	-	20	28	-	28
	Total Obligation Authority	7.936	8.333	14.814	-	14.814
<b>Total:</b>	<b>Quantity</b>	-	20	28	-	28
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>7.936</b>	<b>8.333</b>	<b>14.814</b>	-	<b>14.814</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
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<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 03 / 60	<b>P-1 Line Item Number / Title:</b> 9012R42501 / Tactical Electric Power Recapitalization	<b>Item Number / Title [DODIC]:</b> R42511 / RECAP of DPGDS (840k)
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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
GENERATOR SET: DIESEL ENGINE MEP-810C		2020	PD Systems / Springfield,VA	C / FFP	ACC-APG Fort Belvoir	Jun 2020	Jan 2021	4	400.000	Y		
GENERATOR SET: DIESEL ENGINE MEP-810D <sup>(†)</sup>		2020	PD Systems / Springfield,VA	C / FFP	ACC-APG Fort Belvoir	Jun 2020	Jan 2021	24	417.000	Y		

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

**Remarks:**

All production rates shown on a yearly basis. Manufacturer has multiple products that contribute to the minimum production rate.

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 03 / 60	<b>P-1 Line Item Number / Title:</b> 9012R42501 / Tactical Electric Power Recapitalization	<b>Item Number / Title [DODIC]:</b> R42511 / RECAP of DPGDS (840k)
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Cost Elements <i>(Units in Each)</i>						Fiscal Year 2020												Fiscal Year 2021												BALANCE	
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2019	BAL DUE AS OF 1 OCT	Calendar Year 2020												Calendar Year 2021												
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G		S E P
GENERATOR SET: DIESEL ENGINE MEP-810D																															
	1	2020	ARMY	24	0	24																								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 / 03 / 60	<b>P-1 Line Item Number / Title:</b> 9012R42501 / Tactical Electric Power Recapitalization	<b>Item Number / Title [DODIC]:</b> R42511 / RECAP of DPGDS (840k)
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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	PD Systems - Springfield,VA	60	96	120	6	8	5	13	0	0	0	0

**Remarks:**  
MEP- 810C Cost Element will not be included as FY20 cost is under \$5 million in Exhibit P-21.

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

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

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A: Other Procurement, Army / BA 03: Other Support Equipment / BSA 65: Material Handling Equipment	<b>P-1 Line Item Number / Title:</b> 5558G41001 / Family Of Forklifts
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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> )	15	79	137	150	-	150	139	199	210	174	-	1,103
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	82.739	9.000	12.901	14.864	5.152	20.016	13.564	18.960	20.393	17.162	-	194.735
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	82.739	9.000	12.901	14.864	5.152	20.016	13.564	18.960	20.393	17.162	-	194.735
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>82.739</b>	<b>9.000</b>	<b>12.901</b>	<b>14.864</b>	<b>5.152</b>	<b>20.016</b>	<b>13.564</b>	<b>18.960</b>	<b>20.393</b>	<b>17.162</b>	<b>-</b>	<b>194.735</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> )	5,515.933	113.924	94.168	99.093	-	133.440	97.583	95.276	97.110	98.632	-	176.550

**Description:**

The Family of Forklifts supports various combat, combat support, and combat service support units in the loading and unloading of palletized supplies. Currently, the forklift family consists of the 5K Light Capability Rough Terrain Forklift (LCRTF) and the All-Terrain Lifter, Army System (ATLAS).

The 5K Light Capability Rough Terrain Forklift enables Maneuver, Maneuver Support, and Sustainment Units with the capabilities necessary to handle, transport, and stack materials. The LCRTF is the only rugged forklift in the U.S. Army's inventory which can rapidly enter, pack, and unpack ISO containers, load and unload tactical vehicles and trailers, and lift and move light equipment and cargo. The 5K LCRTF will move supplies across the beach and rough terrain to transfer loads from aircraft landing zones and tactical vehicles. The 5K LCRTF mission profile is 20 hours of operations in all types of environmental conditions. The 5K LCRTF will be employed by cargo battalions, artillery units, transportation support battalions, combat service support units and various aviation units. It will be routinely in forward deployed areas with operating forces in support of combat operations other than war. The 5K LCRTF system is a Critical Dual Use (CDU) system enabling and supporting Defense Support to Civil Authorities (DSCA) operations (i.e. Disaster Relief). It can be transported by C-130 aircraft and external sling load via CH47D helicopter. The 5K LCRT Forklift Army Acquisition Objective (AAO): 2,776 Systems. The minimum sustainment rate is 15 systems.

The All-Terrain Lifter, Army System is a family of, C-130 airplane, transportable 10,000 Pound (LB) capacity variable reach rough terrain forklifts. The ATLAS primary missions include handling all classes of supply, stuffing and un-stuffing standard Army pallets in 20 foot ISO containers, handling break-bulk cargo and loads weighing up to 10,000 LBS on Air Force 463L pallets. It is a key component to the Army's Container Oriented Distribution System which is essential to the deployment of an Expeditionary Army and sustainment of a deployed force. The ATLAS forklift mobility capabilities support all the Army's Brigade Combat Teams and units from seven branches (Transportation, Quartermaster, Ordnance, Missile & Munitions, Engineer, Aviation and Medical). Crew survivability is being addressed in accordance with the Army's Long Term Armor Strategy (LTAS). The ATLAS is a military unique vehicle. It operates in all terrains, has cross country mobility and road speed of 23 Miles per Hour (MPH). Commercial forklifts cannot meet the military requirements nor the Key Performance Parameters (KPP) identified in the ATLAS requirements document. The ATLAS is capable of performing all mission requirements and meets EPA Tier III emissions requirements, with increased reliability and survivability. The ATLAS system is a CDU system enabling and supporting DSCA operations (i.e. Disaster Relief). The ATLAS AAO is: 4,645. The Army has procured 4,399 Systems.

FY2021 funding totals include \$0.000M for Base and \$.224M for OCO, realigned as part of the OCO for Base Requirements funding which reflects the Department's compliance with the Budget Control Act of 2011.

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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 03: Other Support Equipment / BSA 65: Material Handling Equipment		<b>P-1 Line Item Number / Title:</b> 5558G41001 / Family Of Forklifts
<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	29	56	61	-	61	58	83	88	75
	Total Obligation Authority	3.240	4.744	3.256	5.152	8.408	5.697	7.963	8.565	7.208
ANG	Quantity	19	22	36	-	36	30	44	46	37
	Total Obligation Authority	2.250	2.126	4.403	-	4.403	2.984	4.171	4.486	3.776
AR	Quantity	31	59	53	-	53	51	72	76	62
	Total Obligation Authority	3.510	6.031	7.205	-	7.205	4.883	6.826	7.342	6.178
<b>Total:</b>	<b>Quantity</b>	<b>79</b>	<b>137</b>	<b>150</b>	<b>-</b>	<b>150</b>	<b>139</b>	<b>199</b>	<b>210</b>	<b>174</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>9.000</b>	<b>12.901</b>	<b>14.864</b>	<b>5.152</b>	<b>20.016</b>	<b>13.564</b>	<b>18.960</b>	<b>20.393</b>	<b>17.162</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 03: Other Support Equipment / BSA 65: Material Handling Equipment	<b>P-1 Line Item Number / Title:</b> 5558G41001 / Family Of Forklifts
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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	G41002 / 5K LIGHT CAPABILITY ROUGH TERRAIN (LCRT) FORKLIFT	P-5a, P-21	A		15 / 82.739	79 / 9.000	137 / 12.901	150 / 14.864	- / 5.152	150 / 20.016
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>15 / 82.739</b>	<b>79 / 9.000</b>	<b>137 / 12.901</b>	<b>150 / 14.864</b>	<b>- / 5.152</b>	<b>150 / 20.016</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 \$14.864 million will procure and field 150 Light Capability Rough Terrain Forklift (LCRTF) systems and all program support costs.  
  
 FY 2020 OCO procurement dollars in the amount of \$5.152 million will procure and field 57 LCRTF systems in support of the European Deterrence Initiative.  
  
 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 / 03 / 65		<b>P-1 Line Item Number / Title:</b> 5558G41001 / Family Of Forklifts
		<b>Item Number / Title [DODIC]:</b> G41002 / 5K LIGHT CAPABILITY ROUGH TERRAIN (LCRT) FORKLIFT

<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)		15	79	137	150	-	150
Gross/Weapon System Cost (\$ in Millions)		82.739	9.000	12.901	14.864	5.152	20.016
Less PY Advance Procurement (\$ in Millions)		-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)		82.739	9.000	12.901	14.864	5.152	20.016
Plus CY Advance Procurement (\$ in Millions)		-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>		<b>82.739</b>	<b>9.000</b>	<b>12.901</b>	<b>14.864</b>	<b>5.152</b>	<b>20.016</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)	5,515.933	113.924	94.168	99.093	-	133.440	

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 <sup>(†)</sup>	103.279	430	44.410	78.423	78	6.117	81.839	137	11.212	82.780	150	12.417	82.789	57	4.719	82.783	207	17.136
Engineering Changes	-	-	-	-	-	-	-	-	0.021	-	-	0.195	-	-	-	-	-	0.195
System Engineering/Program Management	-	-	5.287	-	-	0.760	-	-	0.657	-	-	0.135	-	-	-	-	-	0.135
System Test and Evaluation, Production	-	-	1.200	-	-	1.355	-	-	-	-	-	0.012	-	-	0.012	-	-	0.024
Data	-	-	2.400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Support Equipment	-	-	2.400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fielding	-	-	27.042	-	-	0.768	-	-	1.011	-	-	2.105	-	-	0.421	-	-	2.526
<i>Subtotal: Recurring Cost</i>	-	-	<i>82.739</i>	-	-	<i>9.000</i>	-	-	<i>12.901</i>	-	-	<i>14.864</i>	-	-	<i>5.152</i>	-	-	<i>20.016</i>
<i>Subtotal: Flyaway Cost</i>	-	-	<i>82.739</i>	-	-	<i>9.000</i>	-	-	<i>12.901</i>	-	-	<i>14.864</i>	-	-	<i>5.152</i>	-	-	<i>20.016</i>
<b>Gross/Weapon System Cost</b>	<b>5,515.933</b>	<b>15</b>	<b>82.739</b>	<b>113.924</b>	<b>79</b>	<b>9.000</b>	<b>94.168</b>	<b>137</b>	<b>12.901</b>	<b>99.093</b>	<b>150</b>	<b>14.864</b>	<b>-</b>	<b>-</b>	<b>5.152</b>	<b>133.440</b>	<b>150</b>	<b>20.016</b>

**Remarks:**

System issues prevented the correct population of quantities in the P5 Resource Summary header and Gross/Weapon System Cost totals for FY 2020 OCO. The Cost Element detail of the P5 (Hardware) provides planned procurement quantities associated with FY 2020 OCO requested funding.



**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 / 03 / 65	<b>P-1 Line Item Number / Title:</b> 5558G41001 / Family Of Forklifts	<b>Item Number / Title [DODIC]:</b> G41002 / 5K LIGHT CAPABILITY ROUGH TERRAIN (LCRT) FORKLIFT

**ID Code** (A=Service Ready, B=Not Service Ready) : A **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	29	56	61	-	61
	Total Obligation Authority	3.240	4.744	3.256	5.152	8.408
ANG	Quantity	19	22	36	-	36
	Total Obligation Authority	2.250	2.126	4.403	-	4.403
AR	Quantity	31	59	53	-	53
	Total Obligation Authority	3.510	6.031	7.205	-	7.205
<b>Total:</b>	<b>Quantity</b>	<b>79</b>	<b>137</b>	<b>150</b>	<b>-</b>	<b>150</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>9.000</b>	<b>12.901</b>	<b>14.864</b>	<b>5.152</b>	<b>20.016</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 / 03 / 65			<b>P-1 Line Item Number / Title:</b> 5558G41001 / Family Of Forklifts				<b>Item Number / Title [DODIC]:</b> G41002 / 5K LIGHT CAPABILITY ROUGH TERRAIN (LCRT) FORKLIFT				

Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty <i>(Each)</i>	Unit Cost <i>(\$ K)</i>	Specs Avail Now?	Date Revision Available	RFP Issue Date
Hardware <sup>(†)</sup>		2018	JCB Inc. / Pooler, GA	C / FFP	TACOM	Jan 2019	Sep 2019	78	78.423	N		
Hardware <sup>(†)</sup>		2019	JCB Inc. / Pooler, GA	C / FFP	TACOM	Jan 2019	Feb 2020	137	81.839	N		
Hardware <sup>(†)</sup>		2020	JCB Inc. / Pooler, GA	C / FFP	TACOM	Jan 2020	Dec 2020	207	82.783	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														
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 03 / 65										<b>P-1 Line Item Number / Title:</b> 5558G41001 / Family Of Forklifts										<b>Item Number / Title [DODIC]:</b> G41002 / 5K LIGHT CAPABILITY ROUGH TERRAIN (LCRT) FORKLIFT									

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							
Hardware																																					
Prior Years Deliveries: 430																																					
1		2018	ARMY	78	78	0																															0
1		2019	ARMY	137	107	30	15	15																													0
1		2020	ARMY	207	0	207	-	-	17	18	18	18	18	18	18	17	17	16	16	16																	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 / 03 / 65		<b>P-1 Line Item Number / Title:</b> 5558G41001 / Family Of Forklifts
<b>Item Number / Title [DODIC]:</b> G41002 / 5K LIGHT CAPABILITY ROUGH TERRAIN (LCRT) FORKLIFT		

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	JCB Inc. - Pooler, GA	15	17	50	0	3	8	11	0	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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**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 03: Other Support Equipment / BSA 70: Training Equipment	<b>P-1 Line Item Number / Title:</b> 1780MA6600 / Combat Training Centers Support
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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> )	519	1,637	565	2,130	-	2,130	432	239	217	201	-	5,940
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	1,574.492	126.600	117.584	123.411	-	123.411	96.692	96.186	91.276	73.483	-	2,299.724
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	1,574.492	126.600	117.584	123.411	-	123.411	96.692	96.186	91.276	73.483	-	2,299.724
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>1,574.492</b>	<b>126.600</b>	<b>117.584</b>	<b>123.411</b>	<b>-</b>	<b>123.411</b>	<b>96.692</b>	<b>96.186</b>	<b>91.276</b>	<b>73.483</b>	<b>-</b>	<b>2,299.724</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> )	3,033.703	77.337	208.113	57.939	-	57.939	223.824	402.452	420.627	365.587	-	387.159

**Description:**

The Combat Training Centers (CTCs) are the Army's premiere collective training centers. The CTCs provide high-fidelity Live, Virtual and Constructive (LVC) Brigade training rotations which prepare Brigade Combat Teams, Joint partners, and supporting units to deploy in support of the Army's Sustainable Readiness Model (SRM). The CTC program supports the National Training Center (NTC), the Joint Readiness Training Center (JRTC), and the Joint Multinational Readiness Center (JMRC). The CTCs primary goal is to develop agile and adaptive leaders at the tactical, operational and strategic levels while providing BCTs the core training necessary to conduct decisive action in a dynamic operating environment.

The Combat Training Center Instrumentation System (CTC-IS) is a communications, analysis and feedback system that provides a realistic operational environment for training the Brigade Combat Team (BCT) and below in preparation for deployment to conduct Unified Land Operations (ULO). It is comprised of voice, video, and data instrumentation subsystem networks that include software, hardware, work stations, base-station equipment, communications infrastructure, voice radios, data devices, and interfaces. The Instrumentation System provides the Combat Trainer (CT) critical situational awareness for training safety, analysis, and feedback capabilities to conduct After Action Reviews (AARs).

The Combat Training Center Military Operations on Urban Terrain Instrumentation System (CTC MOUT-IS) provides instrumentation for the collection, data transfer, control, editing and presentation of training exercises including realistic battlefield effects, targetry, and night operations. The After Action Review (AAR) theater provides a multi-media environment with video replay capability to enable discussions and assessments of unit performance during exercises. Program instrumentation is fielded at the National Training Center (NTC), the Joint Readiness Training Center (JRTC), and the Joint Multinational Readiness Center (JMRC).

The Combat Training Center LIVE FIRE Modernization (CTC LIVE FIRE MOD) provides Future Army System of Integrated Targets (FASIT) qualified live-fire capable targets: stationary armor targets (SAT) with accompanying battlefield effects simulators (BES); stationary infantry targets (SIT); human urban targets (HUT); double-arm SIT's; moving infantry targets (MIT); and non-FASIT qualified Aviation 3-D and Unattended Aerial Systems (UAS) targets which provide a capability for the CTCs to support the transition from Mission Rehearsal Exercise/Situational Training Exercise (MRE/ST) rotations to Unified Land Operations (ULO) against a hybrid threat.

The CTC Aviation program procures and installs instrumentation capabilities on the Light Utility Helicopter (LUH) and for the Instrumentation System (IS) to track newly fielded Light Utility Helicopters (LUH) performing Observer/Controller (OC) and Opposing Forces (OPFOR) roles at the three CTCs. The CTC Aviation program provides the capabilities to communicate with LUH organic onboard radios via the CTC ground-based Observer Controller Communications Systems (OCCS). The OPFOR capability provides a high-fidelity threat to the BLUFOR in training at the CTCs and the OC capability provides and aids the control of the CTC exercises to ultimately achieve the objective of improved and sustained readiness of the force.

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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 03: Other Support Equipment / BSA 70: Training Equipment		<b>P-1 Line Item Number / Title:</b> 1780MA6600 / Combat Training Centers Support
<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
<b>Line Item MDAP/MAIS Code:</b> N/A		

The OPFOR Surrogate Wheeled Vehicles (OSWV) program procures technical wheeled vehicles, unique Visual Modifications (VISMODs), and Civilian on the Battlefield Vehicles (COBVs). This capability provides for a more realistic replication of OPFOR and Civilians on the Battlefield (COB) vehicle environment that rotational units must train against.

Training Aircraft Survivability Equipment (ASE) Stimulation Suite (TASS) is a live training system consisting of aircraft components and ground emitters that replicate current and emerging enemy Air Defense systems. Its fidelity supports individual pilot training as well as the collective training requirements of the Brigade Combat Team (BCT) to fully plan, prepare, execute and react against an enemy air defense weapons at the Combat Training Centers (CTC). The Integrated Air Defense System Radar Signal Emulator (RSE) replicates an enemy multi-layered, short range, medium and high altitude air-defense system to execute unified land operations against the current or projected threat.

Independent Commercially Compatible Cellular Network System (IC3NS) provides a closed loop, commercially available cell phone communications infrastructure at the Maneuver Combat Training Centers (CTCs) that portrays the OPFOR cellular telephone network portion of the Operating Environment to allow BCTs to train on exploit/defeat the network tasks.

Opposing Forces (OPFOR) Surrogate Vehicles (OSV) Tank Thermal Sights (TTS) replaces obsolete and unsustainable M60 TTSs at the Combat Training Centers (CTCs). The existing sights are causing operational issues specifically at NTC where approximately half of their fleet has non-functional TTSs. With the current Operational Environment, US Army units must train against forces that have near peer capabilities which the current TTS system does not meet. This program will provide a near peer TTS that is common to today's M1 Abrams Tanks and M2 Bradley's (Block 1 Version 2nd Generation Forwarding Looking Infrared (FLIR)) which will allow the CTCs' OPFOR to fight safely at night.

The Opposing Forces (OPFOR) Vehicles program consists of two variants, the Opposing Forces Surrogate Training System Main Battle Tank (OSTS-MBT) and the Opposing Surrogate Vehicle. They are used in force on force training as the OPFOR in active battle scenarios. Both vehicles are based on the M113 platform with an added turret and other modifications for opposing force visual recognition; to look like an opposing force combat vehicle.

The Cyber Operations systems represents a peer threat Offensive Cyber capability in a collective training environment. The Cyber Operations systems require the ability to replicate the complexities of the World Wide Web and the information domain of the Operational Environment. The Electronic Warfare (EW), Cyber, and Space Operations systems shall be able to operate within the designated geographic and electromagnetic spectrum confines of the respective training center. The EW, Cyber, and Space Operations systems shall create a threat environment which requires the Rotational Training Unit (RTU) to identify situations which require external (higher headquarters or supporting agency) support to mitigate the threat or to seize opportunity in the EMS Operational Environment (OE). The EW/Space Operations systems require the ability to replicate competitive threat signatures to enable the RTU to execute Mission Command, Movement and Maneuver, Intelligence, Fires, Sustainment, and Protection operations to identify and mitigate the threat.

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	1,637	565	2,130	-	2,130	432	239	217	201
	Total Obligation Authority	126.600	117.584	123.411	-	123.411	96.692	96.186	91.276	73.483
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	<b>1,637</b>	<b>565</b>	<b>2,130</b>	<b>-</b>	<b>2,130</b>	<b>432</b>	<b>239</b>	<b>217</b>	<b>201</b>
	<b>Total Obligation Authority</b>	<b>126.600</b>	<b>117.584</b>	<b>123.411</b>	<b>-</b>	<b>123.411</b>	<b>96.692</b>	<b>96.186</b>	<b>91.276</b>	<b>73.483</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 03: Other Support Equipment / BSA 70: Training Equipment

**P-1 Line Item Number / Title:**  
1780MA6600 / Combat Training Centers Support

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

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

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	MA6601 / Combat Training Centers (CTC) Support	P-5a, P-21			519 / 1,574.492	1,637 / 126.600	565 / 117.584	2,130 / 123.411	- / -	2,130 / 123.411
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>519 / 1,574.492</b>	<b>1,637 / 126.600</b>	<b>565 / 117.584</b>	<b>2,130 / 123.411</b>	<b>- / -</b>	<b>2,130 / 123.411</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 \$123.411 million supports the following efforts:

FY 2020 Combat Training Center Instrumentation System (CTC-IS) Base procurement dollars in the amount of \$53.355 million procures Joint Readiness Training Center (JRTC) modernization to include four new communications sites/towers. Towers are over capacity and have not been maintained to TIA-222G standards and therefore have deteriorated. With several projects (iATTACK, IC3NS) requiring placement on the towers and to allow for future growth replacement, modernization of the towers is required. Funding will also be used to perform essential lifecycle activities on the existing subsystems of the fielded Instrumentation Systems located at the National Training Center (NTC), JRTC, and JMRC. These essential lifecycle activities consist of Information Technology (IT) Hardware Replacement, Continuous Technology Refresh (CTR), and Post Deployment Software Support (PDSS) to ensure that the Instrumentation System subsystems do not become obsolete and that there is a continuing evolution of system capability over the lifecycle of the Instrumentation Systems at the three Combat Training Centers.

FY 2020 Base procurement dollars in the amount of \$7.205 million supports the Military Operations on Urban Terrain Instrumentation System (CTC MOUT-IS) program with Horizontal Continuous Technology Refresh (H-CTR) which includes Interior Cameras, Illuminators, Camera Boxes, Work Stations, Ext. Cameras, NET, Spares.

FY 2020 Base procurement dollars in the amount of \$7.761 million supports the Combat Training Center LIVE FIRE Modernization (CTC LIVE FIRE MOD) program with the procurement of Capability Set 3 package of targets for NTC that are integrated into the RCS network for a quantity of 642 Stationary Infantry Targets (SITs) and ancillary equipment and integration.

FY 2020 OPFOR Integrated Air Defense System (IADS) Base procurement dollars in the amount of \$7.019 million procures VISMOSDs for the CTCs, interim contractor support and initial spares of Ground Threat Emitters (GTEs) and aircraft instrumentation kits in support of opposing threat training at the National Training Center, Joint Readiness Training Center and the Joint Multinational Readiness Center.

FY2020 IADS Radar Signal Emitter (RSE) base procurement dollars in the amount of \$13.725 million procures two Radar Signal Emitters in support of opposing threat training at the National Training Center and the Joint Readiness Training Center.

FY 2020 Independent Commercially Compatible Cellular Network System (IC3NS) base procurement in the amount of \$3.242 million procures closed loop cellular infrastructure for Opposing Force (OPFOR) use during training rotations at the National Training Center (NTC) and Joint Readiness Training Center (JRTC). The IC3NS program began in FY19 with the procurement of high-speed (3G-4G), relevant cellular infrastructure and will be fielded in FY20.

FY2020 Base procurement dollars in the amount of \$6.003 million procures Tank Thermal Sights for the Opposing Forces (OPFOR) Vehicles program.

FY2020 Base procurement dollars in the amount of \$13.647 million procures 34 Technical vehicles in support of the OPFOR Surrogate Wheeled Vehicles (OSWV) program. It also procures thermal sight units and tactical vehicle VISMOSDs for NTC and JRTC.



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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 03: Other Support Equipment / BSA 70: Training Equipment		<b>P-1 Line Item Number / Title:</b> 1780MA6600 / Combat Training Centers Support
<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> N/A	<b>Other Related Program Elements:</b> N/A
<b>Line Item MDAP/MAIS Code:</b> N/A		
FY 2020 base procurement dollars for EW/Space/Cyber in the amount of \$11.454 million procures and integrates IT equipment in support of the Cyber Environment Replication (CER) program. This program serves to refresh existing cyber infrastructure currently used at JRTC, NTC, and JMRC.		
FY 2020 Base procurement dollars procure training devices and systems in support of U.S. Army Readiness to support a balanced investment strategy for the Army's approved force structure and the Army's Sustainable Readiness Model (SRM).		

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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 / 03 / 70		<b>P-1 Line Item Number / Title:</b> 1780MA6600 / Combat Training Centers Support
		<b>Item Number / Title [DODIC]:</b> MA6601 / Combat Training Centers (CTC) Support

<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)	519	1,637	565	2,130	-	2,130
Gross/Weapon System Cost (\$ in Millions)	1,574.492	126.600	117.584	123.411	-	123.411
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	1,574.492	126.600	117.584	123.411	-	123.411
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>1,574.492</b>	<b>126.600</b>	<b>117.584</b>	<b>123.411</b>	<b>-</b>	<b>123.411</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)	3,033.703	77.337	208.113	57.939	-	57.939

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																		
Combat Training Center Instrumentation System (CTC-IS) Modernization <sup>(†)</sup>	61,197.000	1	61.197	43,450.000	1	43.450	2,500.000	1	2.500	15,600.000	1	15.600	-	-	-	15,600.000	1	15.600
Combat Training Center Instrumentation System (CTC-IS) Essential Lifecycle Activities	-	-	1,378.091	-	-	28.469	-	-	29.560	-	-	28.817	-	-	-	-	-	28.817
CTC MOUT-IS Instrumentation	3,377.818	11	37.156	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CTC MOUT-IS Continuous Tech Refresh	-	-	1.694	-	-	4.237	-	-	11.074	-	-	7.008	-	-	-	-	-	7.008
OPFOR WEAPONS (MBT, OSV & SLM) kits	19.450	626	12.176	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CTC LIVE FIRE MOD Kits <sup>(†)</sup>	8.467	1,644	13.920	12.593	1,524	19.192	9.727	477	4.640	-	-	-	-	-	-	-	-	-
CTC LIVE FIRE MOD Stationary Infantry Targets (SIT) Kits <sup>(†)</sup>	-	-	-	-	-	-	-	-	-	8.970	642	5.759	-	-	-	8.970	642	5.759
CTC LIVE FIRE MOD Integration	-	-	-	-	-	-	-	-	-	-	-	1.781	-	-	-	-	-	1.781

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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 / 03 / 70	<b>P-1 Line Item Number / Title:</b> 1780MA6600 / Combat Training Centers Support	<b>Item Number / Title [DODIC]:</b> MA6601 / Combat Training Centers (CTC) 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)
CTC Aviation Shootback Kits	2,012.083	12	24.145	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OPFOR Integrated Air Defense System (IADS) TASS <sup>(†)</sup>	-	-	-	66.667	30	2.000	67.955	22	1.495	-	-	-	-	-	-	-	-	-
OPFOR Integrated Air Defense System (IADS) TASS Initial Spares Package	-	-	-	-	-	-	-	-	-	-	-	2.540	-	-	-	-	-	2.540
OPFOR Integrated Air Defense System (IADS) TASS Mobile VISMOS	-	-	-	-	-	-	-	-	-	-	-	4.100	-	-	-	-	-	4.100
OPFOR Integrated Air Defense System (IADS) RSE <sup>(†)</sup>	-	-	-	-	-	-	-	-	-	6,862.500	2	13.725	-	-	-	6,862.500	2	13.725
IC3NS HW Components <sup>(†)</sup>	-	-	-	-	-	-	2,241.000	2	4.482	1,621.000	2	3.242	-	-	-	1,621.000	2	3.242
Opposing Forces (OPFOR) Surrogate Vehicles (OSV) Tank Thermal Sights (TTS) <sup>(†)</sup>	-	-	-	155.061	82	12.715	175.526	156	27.382	272.864	22	6.003	-	-	-	272.864	22	6.003
Opposing Forces (OPFOR) Vehicles Conversion <sup>(†)</sup>	-	-	-	-	-	-	884.615	26	23.000	-	-	-	-	-	-	-	-	-
EW/Space/Cyber <sup>(†)</sup>	-	-	-	-	-	-	600.000	3	1.800	8.294	1,381	11.454	-	-	-	8.294	1,381	11.454
Opposing Forces (OPFOR) Surrogate Wheeled Vehicle (OSWV) Technical Vehicles <sup>(†)</sup>	-	-	-	-	-	-	-	-	-	50.000	34	1.700	-	-	-	50.000	34	1.700
Opposing Forces (OPFOR) Surrogate Wheeled Vehicle (OSWV) Visual Modifications <sup>(†)</sup>	-	-	-	-	-	-	-	-	-	206.186	43	8.866	-	-	-	206.186	43	8.866
Opposing Forces (OPFOR) Surrogate Wheeled Vehicle (OSWV) Thermal Sight Units	-	-	-	-	-	-	-	-	-	-	-	0.900	-	-	-	-	-	0.900

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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 / 03 / 70	<b>P-1 Line Item Number / Title:</b> 1780MA6600 / Combat Training Centers Support	<b>Item Number / Title [DODIC]:</b> MA6601 / Combat Training Centers (CTC) 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)
<i>Subtotal: Recurring Cost</i>	-	-	1,528.378	-	-	110.063	-	-	105.933	-	-	111.495	-	-	-	-	-	111.495
<i>Subtotal: Flyaway Cost</i>	-	-	1,528.378	-	-	110.063	-	-	105.933	-	-	111.495	-	-	-	-	-	111.495
<b>Software Cost</b>																		
Recurring Cost																		
Combat Training Center Instrumentation System (CTC-IS) Post Deployment Software Support	-	-	-	-	-	6.800	-	-	6.141	-	-	6.016	-	-	-	-	-	6.016
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	6.800	-	-	6.141	-	-	6.016	-	-	-	-	-	6.016
<i>Subtotal: Software Cost</i>	-	-	-	-	-	6.800	-	-	6.141	-	-	6.016	-	-	-	-	-	6.016
<b>Logistics Cost</b>																		
Recurring Cost																		
Opposing Forces (OPFOR) Surrogate Wheeled Vehicle (OSWV) Transportation	-	-	-	-	-	-	-	-	-	-	-	1.597	-	-	-	-	-	1.597
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	1.597	-	-	-	-	-	1.597
<i>Subtotal: Logistics Cost</i>	-	-	-	-	-	-	-	-	-	-	-	1.597	-	-	-	-	-	1.597
<b>Support - Program Management Cost</b>																		
Contractor Management	-	-	46.113	-	-	9.737	-	-	5.510	-	-	4.303	-	-	-	-	-	4.303
<i>Subtotal: Support - Program Management Cost</i>	-	-	46.113	-	-	9.737	-	-	5.510	-	-	4.303	-	-	-	-	-	4.303
<b>Gross/Weapon System Cost</b>	3,033.703	519	1,574.492	77.337	1,637	126.600	208.113	565	117.584	57.939	2,130	123.411	-	-	-	57.939	2,130	123.411

**Remarks:**

Increase in unit cost for CTC-IS Modernization (row 1 under Recurring Cost) from \$2.500 million in FY19 to \$15.600 million in FY20 is because the procurements required for modernization are different for each CTC site. In FY19, funds support three mobile Remote Base Station (RBS) capabilities. In FY20, funds support modernization at a site requiring tower replacement and a live fire bunker.

Increase in unit cost for Opposing Forces (OPFOR) Surrogate Vehicles (OSV) { Row 15 under Recurring Cost} from \$175,526 per unit in FY19 to \$272,860 per unit in FY20 is due to the differing efforts in both years. In FY 19, funds support the procurement of turrets for both vehicles and the main battle tanks and the procurement of thermal receiving units. In FY20, however, funds support the procurement of thermal thermal sights.

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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 / 03 / 70	<b>P-1 Line Item Number / Title:</b> 1780MA6600 / Combat Training Centers Support	<b>Item Number / Title [DODIC]:</b> MA6601 / Combat Training Centers (CTC) Support

**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	1,637	565	2,130	-	2,130
	Total Obligation Authority	126.600	117.584	123.411	-	123.411
<b>Total:</b>	<b>Quantity</b>	<b>1,637</b>	<b>565</b>	<b>2,130</b>	<b>-</b>	<b>2,130</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>126.600</b>	<b>117.584</b>	<b>123.411</b>	<b>-</b>	<b>123.411</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 / 03 / 70				P-1 Line Item Number / Title: 1780MA6600 / Combat Training Centers Support				Item Number / Title [DODIC]: MA6601 / Combat Training Centers (CTC) 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
Combat Training Center Instrumentation System (CTC-IS) Modernization <sup>(†)</sup>		2018	AT&T GOVERNMENT SOLUTIONS, INC. / VIENNA VA 22182-3865	C / FFP	ACC, Orlando, FL	Sep 2018	Sep 2019	1	43,450.000	Y		
Combat Training Center Instrumentation System (CTC-IS) Modernization <sup>(†)</sup>		2019	TBS (CTC IS) / TBS	C / FFP	ACC, Orlando, FL	Jul 2019	Jul 2020	1	2,500.000	N		
Combat Training Center Instrumentation System (CTC-IS) Modernization <sup>(†)</sup>		2020	TBS (CTC IS) / TBS	C / FFP	ACC, Orlando, FL	Feb 2020	Feb 2021	1	15,600.000	Y		
CTC LIVE FIRE MOD Kits		2018	Darley Defense / Itasca, IL 60143-2072	C / IDIQ	DLA, Philadelphia, PA	Sep 2018	Apr 2019	1,524	12.593	Y		
CTC LIVE FIRE MOD Kits		2019	TBS (CTC LF MOD) / TBS	Option / IDIQ	DLA, Philadelphia, PA	Jul 2019	Feb 2020	477	9.727	Y		
CTC LIVE FIRE MOD Stationary Infantry Targets (SIT) Kits <sup>(†)</sup>		2020	TBS (CTC LF MOD) / TBS	Option / IDIQ	DLA, Philadelphia, PA	Jan 2020	Aug 2020	642	8.970	Y		
OPFOR Integrated Air Defense System (IADS) TASS		2018	INTER COASTAL ELECTRONICS INC / MESA AZ 85215-2740	SS / FFP	ACC, Orlando, FL	Aug 2018	Aug 2019	30	66.667	Y		
OPFOR Integrated Air Defense System (IADS) TASS		2019	TBS (IADS TASS) / TBS	Option / FFP	ACC, Orlando, FL	Aug 2019	Aug 2020	22	67.955	Y		
OPFOR Integrated Air Defense System (IADS) RSE <sup>(†)</sup>		2020	TBS (IADS RSE) / TBS	C / IDIQ	ACC, Orlando, FL	Dec 2019	Nov 2020	2	6,862.500	Y		
IC3NS HW Components		2019	TBS (IC3NS) / TBS	C / IDIQ	ACC, Orlando, FL	Sep 2019	Jun 2020	2	2,241.000	Y		
IC3NS HW Components		2020	TBS (IC3NS) / TBS	C / IDIQ	ACC, Orlando, FL	Mar 2020	Dec 2020	2	1,621.000	Y		
Opposing Forces (OPFOR) Surrogate Vehicles (OSV) Tank Thermal Sights (TTS) <sup>(†)</sup>		2018	DRS Technologies (OSV) / Arlington, VA	C / FFP	TACOM Contracting Center	Aug 2018	Jan 2019	82	155.061	Y		
Opposing Forces (OPFOR) Surrogate Vehicles (OSV) Tank Thermal Sights (TTS) <sup>(†)</sup>		2019	DRS Technologies (OSV) / Arlington, VA	Option / FFP	TACOM Contracting Center	Feb 2019	Jul 2019	156	175.526	Y		
Opposing Forces (OPFOR) Surrogate Vehicles (OSV) Tank Thermal Sights (TTS) <sup>(†)</sup>		2020	DRS Technologies (OSV) / Arlington, VA	Option / FFP	TACOM Contracting Center	Feb 2020	Jul 2020	22	272.864	Y		
Opposing Forces (OPFOR) Vehicles Conversion		2019	DRS Technologies (OSV) / Arlington, VA	C / FFP	TACOM	Feb 2019	Jul 2019	26	884.615	Y		
EW/Space/Cyber <sup>(†)</sup>		2019	TBS (EW/Space/Cyber) / TBS	C / IDIQ	ACC, Orlando, FL	Feb 2019	Feb 2020	3	600.000	Y		
EW/Space/Cyber <sup>(†)</sup>		2020	TBS (EW/Space/Cyber) / TBS	C / IDIQ	ACC, Orlando, FL	Mar 2020	Dec 2020	1,381	8.294	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 / 03 / 70			<b>P-1 Line Item Number / Title:</b> 1780MA6600 / Combat Training Centers Support				<b>Item Number / Title [DODIC]:</b> MA6601 / Combat Training Centers (CTC) 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 <i>(Each)</i>	Unit Cost <i>(\$ K)</i>	Specs Avail Now?	Date Revision Available	RFP Issue Date
Opposing Forces (OPFOR) Surrogate Wheeled Vehicle (OSWV) Technical Vehicles		2020	TBS (OSWV) / TBS	C / FFP	TACOM Contracting Center	Feb 2020	Jul 2021	34	50.000	Y		
Opposing Forces (OPFOR) Surrogate Wheeled Vehicle (OSWV) Visual Modifications <sup>(†)</sup>		2020	TBS (OSWV) / TBS	C / FFP	TACOM Contracting Center	Feb 2020	Jul 2021	43	206.186	Y		

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

**Remarks:**  
PEO STRI = Program Executive Office for Simulation, Training and Instrumentation  
Army Contracting Command, (ACC) Orlando, FL

EW/Space/Cyber are COTS items. Fluctuations in unit costs are due to the nature of the difference in upgrade changes from FY2019 to FY2020.

CTC Live Fire Modernization Target Kit costs are dependent on the quantities and the types of targets being procured per year. For example, FY19 is the only year that the program is procuring MATs, which are by far the most expensive type of target at an estimated 177K each, followed by MITs at 29K each.





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Exhibit P-21, Production Schedule: PB 2020 Army																							Date: March 2019										
Appropriation / Budget Activity / Budget Sub Activity: 2035A / 03 / 70										P-1 Line Item Number / Title: 1780MA6600 / Combat Training Centers Support										Item Number / Title [DODIC]: MA6601 / Combat Training Centers (CTC) Support													
Cost Elements (Units in Each)						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			
Combat Training Center Instrumentation System (CTC-IS) Modernization																																	
Prior Years Deliveries: 1																																	
1	2018	ARMY		1	1	0																							0				
2	2019	ARMY		1	0	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0				
2	2020	ARMY		1	0	1																							0				
CTC LIVE FIRE MOD Stationary Infantry Targets (SIT) Kits																																	
3	2020	ARMY		642	0	642																							0				
OPFOR Integrated Air Defense System (IADS) RSE																																	
4	2020	ARMY		2	0	2																							1				
OPFOR Surrogate Vehicles (OSV) Tank Thermal Sights (TTS)																																	
5	2018	ARMY		82	82	0																							0				
5	2019	ARMY		156	39	117	13	13	13	13	13	13	13	13	13														0				
5	2020	ARMY		22	0	22																							0				
EW/Space/Cyber																																	
6	2019	ARMY		3	0	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0				
6	2020	ARMY		1,381	0	1,381																							0				
Opposing Forces (OPFOR) Surrogate Wheeled Vehicle (OSWV) Visual Modifications																																	
7	2020	ARMY		43	0	43																							13				
							O C T	N O V	D E C	J A N	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 / 03 / 70		<b>P-1 Line Item Number / Title:</b> 1780MA6600 / Combat Training Centers Support
		<b>Item Number / Title [DODIC]:</b> MA6601 / Combat Training Centers (CTC) Support

Cost Elements <i>(Units in Each)</i>						Fiscal Year 2022														Fiscal Year 2023														B A L A N C E		
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						
Combat Training Center Instrumentation System (CTC-IS) Modernization																																				
Prior Years Deliveries: 1																																				
1		2018	ARMY	1	1	0																													0	
2		2019	ARMY	1	1	0																													0	
2		2020	ARMY	1	1	0																													0	
CTC LIVE FIRE MOD Stationary Infantry Targets (SIT) Kits																																				
3		2020	ARMY	642	642	0																													0	
OPFOR Integrated Air Defense System (IADS) RSE																																				
4		2020	ARMY	2	1	1	1																												0	
Opposing Forces (OPFOR) Surrogate Vehicles (OSV) Tank Thermal Sights (TTS)																																				
5		2018	ARMY	82	82	0																													0	
5		2019	ARMY	156	156	0																														0
5		2020	ARMY	22	22	0																														0
EW/Space/Cyber																																				
6		2019	ARMY	3	3	0																													0	
6		2020	ARMY	1,381	1,381	0																														0
Opposing Forces (OPFOR) Surrogate Wheeled Vehicle (OSWV) Visual Modifications																																				
7		2020	ARMY	43	30	13	10	3																											0	
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P						

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<b>Exhibit P-21, Production Schedule:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 03 / 70		<b>P-1 Line Item Number / Title:</b> 1780MA6600 / Combat Training Centers Support
		<b>Item Number / Title [DODIC]:</b> MA6601 / Combat Training Centers (CTC) Support

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	AT&T GOVERNMENT SOLUTIONS, INC. - VIENNA VA 22182-3865	1	1	1	0	11	13	24	0	4	13	17
2	TBS (CTC IS) - TBS	1	1	1	0	11	13	24	0	4	13	17
3	TBS (CTC LF MOD) - TBS	1	1,400	8,000	0	9	8	17	0	3	8	11
4	TBS (IADS RSE) - TBS	1	2	3	0	2	12	14	0	2	12	14
5	DRS Technologies (OSV) - Arlington, VA	30	200	300	0	10	6	16	0	4	6	10
6	TBS (EW/Space/Cyber) - TBS	1	1,000	1,500	0	4	13	17	0	11	10	21
7	TBS (OSWV) - TBS	12	26	45	0	4	18	22	0	4	18	22

"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 03: Other Support Equipment / BSA 70: Training Equipment	<b>P-1 Line Item Number / Title:</b> 2062NA0100 / Training Devices, Nonsystem
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> 0654715A	<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> )	18,780	5,960	1,100	1,144	-	1,144	1,114	2,065	2,643	3,087	-	35,893
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	5,482.861	275.629	217.598	220.707	2.106	222.813	171.314	174.812	183.435	190.967	-	6,919.429
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	5,482.861	275.629	217.598	220.707	2.106	222.813	171.314	174.812	183.435	190.967	-	6,919.429
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>5,482.861</b>	<b>275.629</b>	<b>217.598</b>	<b>220.707</b>	<b>2.106</b>	<b>222.813</b>	<b>171.314</b>	<b>174.812</b>	<b>183.435</b>	<b>190.967</b>	<b>-</b>	<b>6,919.429</b>

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

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	291.952	46.246	197.816	192.926	-	194.767	153.783	84.655	69.404	61.862	-	192.779

**Description:**

The Army continues to build on a major initiative with the Non-System Training Device (NSTD) program to introduce realistic and effective training devices into the individual and unit training setting. These devices bring into play many aspects of the combat environment (smoke, noise, confusion, stress, etc.), which provide our Soldiers with a valuable experience of battlefield conditions in a training environment. This effort includes the acquisition of training capabilities that support force-on-force training, force-on-target training, engagement simulation, and classroom instruction. Devices and simulations are being fielded to minimize resource consumption which will affect a direct cost reduction through conservation of energy and ammunition. These devices provide capabilities that allow Soldiers, leaders, and units to train tasks and missions that would be unsafe or too resource intensive to conduct with actual weapons, weapons systems, and ammunitions or if done in the actual environment. This budget line supports all Other Procurement, Army (OPA) funding for Non-System Training Devices (NSTD). It procures a variety of NSTD items such as the Home Station Instrumentation Training System (HITS), Live, Virtual, Constructive Integrating Architecture (LVC-IA), Army Targetry System (ATS), Digital Range Training System (DRTS), Integrated Military Operations in Urbanized Terrain (MOUT) Training System (IMTS), Battle Command Training Capability - Equipment Support (BCTC-ES), Common Training Instrumentation Architecture (CTIA), Intelligence & Electronic Warfare Tactical Proficiency Trainer (IEWTPT), Target Modernization, Joint Land Component Constructive Training Capability (JLCCTC), Common Battle Command Simulations Equipment (CBCSE), Joint Pacific Multinational Readiness Capability-Instrumentation System (JPMRC-IS), Instrumentable Multiple Integrated Laser Engagement System (I-MILES), Basic Electronics Maintenance Trainer (BEMT), and Medical Simulation Training Center (MSTC).

The Engagement Skills Trainer (EST) is the unit/institutional, indoor, multipurpose, multi-lane, small arms, crew-served and individual anti-tank training simulation that enables training across three different modes: individual marksmanship; small unit (collective) gunnery and tactical training; and judgmental use of force (shoot/don't shoot), which includes escalation of force/graduated response scenarios.

The Call For Fire Trainer (CFFT) family of systems is a lightweight, rapidly deployable, observed fire training system that provides simulated battlefield training for Fire Support Specialists (FSS), Joint Fires Observers (JFO), and Soldiers. The system provides simulated battlefield training to conduct Indirect Fires, Close Air Support, Close Combat Attack, and Naval Surface Fire Support. The CFFT Immersive System provides the capability for Army, Joint, Multinational, and Special Operations Forces to conduct advanced, complex, and realistic fires training at the Fires Center of Excellence, Ft Sill, OK. CFFT is a critical training enabler to support Warfighters in applying precision fires on target to prevent fratricide and minimize collateral damage.

The Basic Electronics Maintenance Trainer (BEMT) is a stand-alone, non-system training device that supports critical basic electronics training for 40 different Military Occupational Specialties (MOS) in all aspects of basic electronics, including theory and hands-on application. The system allows instructors and administrators to assign lessons and practical exercises to either a class of networked student stations, or individual students, and track their progress.

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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 03: Other Support Equipment / BSA 70: Training Equipment		<b>P-1 Line Item Number / Title:</b> 2062NA0100 / Training Devices, Nonsystem
<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> 0654715A	<b>Other Related Program Elements:</b> N/A
<b>Line Item MDAP/MAIS Code:</b> N/A		
<p>The Home Station Instrumentation Training System (HITS) provides a high-fidelity deployable instrumented training capability to support platoon through battalion level Live Force-on-Force Training. HITS tracks the location of soldiers and vehicles and simulates weapons' effects and engagements, allowing units to "Train as they Fight" against live opponents. HITS provides accurate feedback to training units. HITS consists of light deployable components that can be rapidly assembled/disassembled and transported to support deployed training. HITS integrates with future and legacy MILES. HITS is a member of the Live Training Transformation (LT2) family of training systems and shares several hardware and software components with the Instrumentation Systems (IS). HITS provides the Live domain for Live-Virtual-Constructive (LVC) training integration.</p> <p>The Joint Pacific Multinational Readiness Capability-Instrumentation System (JPMRC-IS) is a transportable instrumentation system that provides instrumented training for the Brigade Combat Team and below. JPMRC-IS a rapidly deployable, self-supported system providing an Observer Controller Communications Systems, Battle Command Systems, Instrumentation System, Embedded Constructive Simulations, TAF workstations, Voice and Video Monitoring, AAR presentation, and provides its own power generation. JPMRC-IS performs the end-to-end mission functions of Exercise Planning, System Preparation, Exercise Management, Monitoring, and Control, Training Performance Feedback through onsite AARs and unit Take Home Packages.</p> <p>The Medical Simulation Training Center (MSTC) is a critical readiness enabler for combat units as it provides realistic medical training to both medical and non-medical Soldiers in the Active, Reserve, and National Guard. MSTCs provide hands-on instruction on the latest battlefield trauma and critical care techniques based on Army Medical Department (AMEDD) approved performance oriented Program of Instructions (POI). Medical treatment validation exercises simulate the high stress of performing medical interventions in combat. MSTC supports Unit Medical Readiness by validating Combat Medic Military Occupational Specialty (MOS) (68W) Emergency Medical Technician (EMT) biennial recertification requirements and provides Combat Lifesaver (CLS) training to non-medical Soldiers.</p> <p>The Intelligence Electronic Warfare Tactical Proficiency Trainer (IEWTPT) is a Non-System Training Device (NTSD) which supports training intelligence soldiers by simulating and stimulating Military Intelligence (MI) organic or surrogate equipment. It enables sustainment of critical individual, crew, and collective tasks/skills and is the core of the United States Army Intelligence Center of Excellence (USAI CoEs) military Intelligence (MI) holistic training strategy and includes both stand-alone and network enabled training capabilities. IEWTPT provides a realistic Intelligence target environment for Multi-Intelligence disciplines such as Signals Intelligence (SIGINT), Imagery Intelligence (IMINT), Human Intelligence (HUMINT), Counterintelligence (CI), Geospatial Intelligence (GEOINT) and All Source Intelligence and must stimulate and emulate multiple intelligence, surveillance, reconnaissance (ISR) platform systems such as: PROPHET, Distributed Common Ground Station-Army (DCGS-A), and Aerial Intelligence assets such as Enhanced Medium Altitude Reconnaissance and Surveillance System (EMARSS), Airborne Reconnaissance Low-Enhanced (ARL-E), and Guardrail Common Sensor (GRCS). IEWTPT provides static and dynamic training capabilities (interactive environment for individual, collective, and Live, Virtual, and Constructive integrated mission rehearsals/exercises utilizing a constructive simulation feed) in an integrated, playback, and stand-alone mode. IEWTPT is composed of two major components: Technical Control Cell (TCC) and the HUMINT Control Cell (HCC). The IEWTPT TCC provides critical Intel enhancements to a constructive simulation to stimulate go-to-war or surrogate ISR systems where system operators/analysts are able to exploit exercise intelligence data during training, just as they would in a "real world" operation.</p> <p>Joint Land Component Constructive Training Capability (JLCCTC) supports Army Title X training worldwide for Army Commanders and their staff at Mission Training Complexes (MTCs), Training and Doctrine Command (TRADOC) facilities, and other customer locations. JLCCTC trains Commanders and their staff in Decisive Actions to include offensive, defensive, stability, and civil support operations. JLCCTC is a software modeling and simulation capability that contributes to Army Training Mission Area by providing appropriate levels of model and simulation resolution and fidelity to support unit collective and combined arms training. The JLCCTC provides a composable federation configurable to any combination of models and simulations, as required by training exercise intent/design. The JLCCTC provides accurate representations of tactically and operationally relevant land warfare operations executed in a contemporary Joint operating environment/context in support of Army Training and Readiness.</p> <p>Common Battle Command Simulation Equipment (CBCSE) is a fundamental element of the Joint Land Component Constructive Training Capability (JLCCTC) Program of Record, which supports institutional and operational Mission Command training for Active, Reserve, and National Guard units. CBCSE procures and fields commercial-off-the-shelf hardware, software and delta/new equipment training for Army Hub and Spoke Mission Training Complexes in support of JLCCTC. CBCSE must be capable of running each JLCCTC fielded software version of Army training in support of Army Force 2025 and beyond.</p> <p>Army Targetry Systems (ATS) will provide computerized live fire Armor and Infantry training ranges to the Army, Active Reserve (USAR) and Army National Guard (ARNG) installations. This equipment enables trainers to develop scenarios and to control targetry and battlefield simulation devices so that soldiers can practice wartime mission tasks in a stressful battlefield environment. The computerized system also provides feedback on individual and unit level performance to enable recognition of problem areas needing corrective action while at the same time recognizing positive performance. This equipment reinforces correct procedures and fosters soldier's confidence. The fielded equipment includes stationary and moving infantry and armor targets along with battlefield simulators for sound and sight. All ranges can be used with Multiple Integrated Laser Engagement System (MILES) equipment.</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 03: Other Support Equipment / BSA 70: Training Equipment		<b>P-1 Line Item Number / Title:</b> 2062NA0100 / Training Devices, Nonsystem
<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> 0654715A	<b>Other Related Program Elements:</b> N/A
<b>Line Item MDAP/MAIS Code:</b> N/A		
<p>The Digital Range Training System (DRTS) provides modern ranges capable of training, evaluating and stressing Soldiers and their equipment with a realistic train-as-you-fight environment. Four standard training ranges Digital Multi-Purpose Range Complex (DMPRC), Digital Multi-Purpose Training Range (DMPTR), Battle Area Complex (BAX) and Digital Air Ground Integrated Range (DAGIR) utilize all available combat systems capabilities, and digitally integrate them to manage individual and collective live-fire training and qualification. These Training Systems replace obsolete, inadequate training methods and equipment in order to incorporate new weapon systems and digitized platform upgrades, challenge Soldiers, and enhance training data collection and After Action Review (AAR) capabilities.</p> <p>The Integrated Military Operations in Urban Terrain (MOUT) Training System (IMTS) program fields the Combined Arms Collective Training Facility (CACTF), the Collective Training Facility (CTF), Live Fire Shoot House (LFSH), and the Urban Assault Course (UAC). The IMTS training systems provide instrumentation to enable training and After Action Review (AAR) of Soldier training exercises up to the battalion level combined training for the Active and Reserve Component Army. The CACTF, CTF, and LFSH enable training and AAR under daylight and night vision environments.</p> <p>The Target Modernization program enhances the warfighter's live fire readiness by providing continued software support and enhancements for the Government owned target control system software Targetry Range Automated Control and Recording (TRACR), integration with legacy range adapter software (interfacing TRACR to legacy targets, allowing range upgrades without the need to replace the targets), a single Information Assurance accreditation and support package, and synchronization with the Common Training Instrumentation Architecture (CTIA). Target Modernization supports the revitalization vice replacement of existing ranges. The Target Modernization program provides a single common target specification, standards, and interfaces for all target system devices, and provides support for Live, Virtual, and Constructive Training Environment. The Target Modernization program provides the technical data definition packages for the procurement of emerging technologies via Low Rate Initial Production (LRIP) efforts.</p> <p>Battle Command Training Capability - Equipment Support (BCTC-ES) provides the furniture, fixtures, equipment (FFE), network, Reconfigurable Tactical Operation Center (RTOC), technical control, classroom and work cell capabilities, and technical tools required for all Army Mission Training Complexes (MTC) and for the associated Military Construction Army (MCA) infrastructure. Enabling the linkage of constructive simulations to Mission Command (MC) systems and extending unit communications. BCTC-ES provides equipment that integrates Army MC Systems into Tactical Operation Center (TOC) sets, providing visualization of the Common Operating Picture (COP). It also supports the requirements for the DoD Information Assurance Certification and Accreditation Process (DIACAP), which helps enable the linkage within a MTC that supports secure and distributed MC/Simulation training. Provides Architectural and Engineering (A&amp;E) support to the MTC Design Board for new MCA development.</p> <p>The Instrumentable-Multiple Integrated Laser Engagement System (I-MILES) program enhances the warfighter's capability to prepare for combat operations allowing training and assessment of individual and collective tasks during force-on-force operations. The devices use an eye-safe laser to replicate the engagement effects of their intended "line of sight" weapons systems. I-MILES provides realistic, real-time casualty effects for force-on-force tactical engagement training scenarios and its ability to integrate into training instrumentation systems provide for high fidelity combined arms combat exercises. Due to their modular design, I-MILES devices are approved for use at Home Station, the Combat Training Centers (CTCs) and in the theater of operations to meet training requirements. The current "Instrumentable" MILES replaces the previously fielded "Basic" MILES, which cannot integrate into training instrumentation systems. Army Tactical Engagement Simulation System (A-TESS) will combine existing I-MILES capabilities with indirect fire capabilities into a single TESS program of record.</p> <p>The Common Training Instrumentation Architecture (CTIA) is the critical core product-line architecture of the Live, Virtual, Constructive Integrated Training Environment (LVC-ITE). The program provides Army owned software, product-line architecture, product-line software, standards, services, and the architectural framework for supporting the Live Training Transformation (LT2) of Live Training Systems (LTS) to include Army-wide live instrumented Force-On-Force (FOF) and Force-On-Target (FOT) training requirements. It includes Post Deployment Software Support (PDSS) and technology refresh for the LT2 family of LTS as well, with over 200 fielded training systems across the Army at both CONUS and OCONUS locations. CTIA also provides the live training standard for achieving and maintaining interoperability between LTS and the Live, Virtual, Constructive Integrating Architecture (LVC-IA), battle command and control (C2) systems.</p> <p>The Live, Virtual, Constructive - Integrating Architecture (LVC-IA) provides a net-centric linkage that collects, retrieves and exchanges data among existing Training Aids, Devices, Simulations, and Simulators (TADSS) and Mission Command Systems. LVC-IA provides the architecture that enables the Army to utilize the Live, Virtual, and Constructive training devices in the Army's Integrated Training Environment (ITE). The LVC-IA defines "how" information is exchanged among the different LVC domains and the Mission Command Systems. The LVC-IA provides enterprise level tools for exercise control, After Action Review, and system information assurance. It also provides hardware and software to interface the different Live, Virtual, and Constructive communication protocols and provides a correlated common operating picture for the training audience on their organic Mission Command equipment. The integration of the Live, Virtual, and Constructive and Gaming TADSS with the Mission Command equipment will enable larger and more robust training events to better prepare U.S. Soldiers for their missions at an overall reduced cost. The end-state goal is to enable an LVC Integrated Training Environment that can cost effectively replicate Operational Environments to provide a high level of value-added training and mission rehearsal opportunities to Army Commanders and their Soldiers enhancing Army training and readiness.</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 03: Other Support Equipment / BSA 70: Training Equipment					<b>P-1 Line Item Number / Title:</b> 2062NA0100 / Training Devices, Nonsystem					
<b>ID Code</b> (A=Service Ready, B=Not Service Ready):			<b>Program Elements for Code B Items:</b> 0654715A			<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	5,800	943	1,100	-	1,100	1,036	1,979	2,492	2,901
	Total Obligation Authority	251.362	182.885	178.293	2.106	180.399	145.346	158.428	158.607	167.207
ANG	Quantity	61	64	37	-	37	72	80	42	113
	Total Obligation Authority	10.300	20.223	31.309	-	31.309	18.426	10.439	17.367	16.603
AR	Quantity	99	93	7	-	7	6	6	109	73
	Total Obligation Authority	13.967	14.490	11.105	-	11.105	7.542	5.945	7.461	7.157
<b>Total:</b>	<b>Quantity</b>	<b>5,960</b>	<b>1,100</b>	<b>1,144</b>	<b>-</b>	<b>1,144</b>	<b>1,114</b>	<b>2,065</b>	<b>2,643</b>	<b>3,087</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>275.629</b>	<b>217.598</b>	<b>220.707</b>	<b>2.106</b>	<b>222.813</b>	<b>171.314</b>	<b>174.812</b>	<b>183.435</b>	<b>190.967</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 03: Other Support Equipment / BSA 70: Training Equipment

**P-1 Line Item Number / Title:**  
2062NA0100 / Training Devices, Nonsystem

**ID Code** (A=Service Ready, B=Not Service Ready): **Program Elements for Code B Items:** 0654715A **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	NA0101 / NSTD Soldier Training Support Program (STSP)	P-5a	A		342 / 2,639.441	294 / 44.766	543 / 44.614	264 / 31.539	- / -	264 / 31.539
P-5	NA0102 / NSTD INTELLIGENCE	P-5a	A		2 / 72.841	2 / 6.692	2 / 4.658	3 / 6.081	- / -	3 / 6.081
P-5	NA0103 / NSTD COMMAND & CONTROL	P-5a	A		9 / 436.631	15 / 35.570	15 / 38.113	24 / 35.313	- / -	24 / 35.313
P-5	NA0105 / NSTD RANGES AND TARGETS	P-5a, P-21	A		5 / 1,454.451	124 / 82.314	17 / 88.640	7 / 87.588	- / 2.106	7 / 89.694
P-5	NA0106 / NSTD Battle Command Training Center Support Prg	P-5a			17 / 357.849	20 / 18.862	18 / 20.005	20 / 23.345	- / -	20 / 23.345
P-5	NA0116 / NSTD- MILES	P-5a, P-21			18,399 / 441.586	5,498 / 76.127	498 / 13.487	819 / 28.488	- / -	819 / 28.488
P-5	NA0121 / NSTD - LVC ARCHITECTURE	P-5a			6 / 80.062	7 / 11.298	7 / 8.081	7 / 8.353	- / -	7 / 8.353
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>18,780 / 5,482.861</b>	<b>5,960 / 275.629</b>	<b>1,100 / 217.598</b>	<b>1,144 / 220.707</b>	<b>- / 2.106</b>	<b>1,144 / 222.813</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 \$220.707 million supports the following efforts:

Soldier Training Support program of \$31.539 million consists of:

FY20 Base procurement dollars in the amount of \$3.164 million will continue to provide the Home Station Instrumentation Systems (HITS) program's Post-Deployment Software Support (PDSS) efforts and contractor support. PDSS will maintain the system relevancy and ensure concurrence of combined arms training capabilities with integration into Live Virtual Constructive Integrated Architecture (LVC-IA) for simulation interoperability.

FY 2020 Base procurement dollars in the amount of \$21.006 million for the Joint Pacific Multinational Readiness Capability Information System (JPMRC-IS) program will be used to procure continued Post Development Software Support (PDSS), Continuous Tech Refresh (CTR) and funding capabilities to support the Full Operational Capability (FOC) located at Schofield Barracks, HI.

FY 2020 Base procurement dollars in the amount of \$6.640 million will provide (7) Medical Training Command and Control (MT-C2) platforms. The MT-C2 enables MSTC training environment manipulation, medical scenario integration, mannequin control, audio video (AV) surveillance and recording as well as hostile fire simulations and friendly force engagement control in order to maximize the positive impact and training experience of each fluid training event. Procurement dollars will also provide (14) Tactical Combat Casualty Care - Exportable (TC3-X) Kits to US Army Brigades. Each TC3-X kit consists of, and utilizes, High Fidelity Tetherless Mannequins, Low fidelity Mannequins, Traumatic Amputation Task Trainers, Upper Torso airway/breathing task trainers, a Field Expedient Bleeding System, Mouflage kit and an expendables kit. The TC3 - X provides medical training on basic and advanced medical skills necessary for recertification of US Army 68Ws, as well as trains non-medical Soldiers/Combat Lifesavers (CLS) on basic lifesaving tasks and techniques often experienced on the battlefield (Warrior Tasks). Procurement dollars will also provide 68W Accreditation Technical Refreshes of the MSTCs Advanced Cardia Life Support (ACLS) & Pediatric Advanced Life Support (PALS) systems.

FY2020 Base procurement dollars in the amount of \$0.729 million supports the Basic Electronics Maintenance Trainer (BEMT) II to procure, upgrade and install 243 BEMT II systems to provide increased capabilities in systems level training, distance learning, and soldering techniques.

Intelligence program of \$6.081 million consists of:



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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 03: Other Support Equipment / BSA 70: Training Equipment		<b>P-1 Line Item Number / Title:</b> 2062NA0100 / Training Devices, Nonsystem
<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> 0654715A	<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 \$6.081 million supports the Intelligence Electronic Warfare Tactical Proficiency Trainer (IEWTPT) in procuring three Technical Control Cells (TCC) and Interim Contractor Support for two installations and technical and post deployment software support for TCC systems across the Army. The funds will provide concurrency for the Distributed Common Ground Station-Army (DCGS-A) Increment 2, Prophet, Tactical Ground Station, Aerial Intelligence, Surveillance, Reconnaissance Sensors and Post Deployment Software Support activities. IEWTPT consists of a blend of non-developmental hardware components and mission specific software to support detailed Army intelligence corps training and readiness at home station locations.</p> <p>Command &amp; Control program of \$35.313 million consists of:</p> <p>FY 2020 Base procurement dollars in the amount of \$35.313 million will be used to procure Common Battle Command Simulation Equipment (CBCSE) commercial off-the-shelf (COTS) hardware and software, to conduct Joint Land Component Constructive Training Capability (JLCCTC) post deployment software refinement and Pre-Planned Product Improvement (P3I) activities. This includes fixing Problem Tracking Reports (PTRs), First-Use exercise support and Training Documentation updates, Information Assurance/Risk Management Framework (RMF) for Mission Command Concurrency, Synthetic Environment Core (SE Core) and Live, Virtual, Constructive - Integrating Architecture (LVC-IA) Interoperability, Regression Test of external interfaces, Fielding activities, Information Assurance Vulnerability Assessment (IAVA), Configuration Management, and Helpdesk activities. This will enable continued efficient training from the current systems and facilities, then transition these facilities to the objective simulation systems as part of the Constructive Simulation Strategy. This Constructive Simulation Strategy will merge software from two Federations (Multi-Resolution Federation used for Brigade/Division and above exercises and Entity Resolution Federation used for Brigade and below exercises) into a single Federation solution. Quantities represent sites and vary to configuration of site size, therefore, causing unit costs to fluctuate. The base quantity reflects the number of planned fielding events.</p> <p>Ranges and Targets program of \$87.588 million consists of:</p> <p>FY 2020 Base procurement dollars in the amount of \$16.105 million procures for the Army Targetry Systems (ATS) program targets for a Multipurpose Range Complex (Ft. Irwin, CA), Multipurpose Machine Gun Range (Cp Ravenna, OH), Automated Record Fire Range (Marseilles, IL), and Continuous Technology Refreshment (CTR) Lifecycle Management of eight ranges, in multiple locations. These ranges will replace existing ranges with new technology and increase throughput capability by providing additional ranges. Readiness of soldiers is critical to saving lives in wartime situations. Training ranges being provided will enhance the quality of training at installations. Accurate feedback to soldiers on training with battlefield conditions helps them learn procedures and techniques that will save lives and achieve success on the battlefield.</p> <p>FY 2020 Base procurement dollars in the amount of \$38.059 million supports the Digital Range Training System (DRTS) program execution with program management oversight, travel expenses, Ft. Knox Phase I and Orchard Range Phase II Digital Air-Ground Integration Range (DAGIR), Ft. Hood DMPRC Tier 1 &amp; 2 Continuous Technology Refreshment (CTR), Post Deployment Software Support (PDSS), Aviation Integration, and Cybersecurity Engineering support.</p> <p>FY 2020 Base procurement dollars in the amount of \$22.201 million supports the Integrated Military Operations in Urban Terrain (MOUT) Training System (IMTS) program with program management oversight, travel expenses, and Horizontal Continuous Technology Refreshment (H-CTR) for Combined Arms Collective Training Facilities (CACTFs), which includes interior cameras, illuminators, microphones, CACTF Coax conversion, and New Equipment Training (NET).</p> <p>FY 2020 Base procurement dollars in the amount of \$8.373 million supports the Target Modernization program with providing a single Government owned common target control system for all Army targets and small arms ranges, this includes: Range Configuration Management efforts to establish and maintain hardware and software baseline definition and control needed to support operations at the 290+ ranges utilizing the TRACR software; Continuous Technology Refreshment (CTR) of the hardware and software baselines to align with emerging hardware changes, and cybersecurity changes; Post Deployment Software Support (PDSS) of the TRACR/TRACR Suite/TRACR LOMAH family of products; evolution of the Future Army System of Integrated Targets (FASIT) standards and specifications to maintain relevancy; provide for integration and procurement of Targetry Range Automated Control and Recording (TRACR) Legacy Range and Device Adapters to support to migration of TRACR to legacy ranges without having to replace targets; and advance the TRACR Product Line to maintain synchronization with Common Training Instrumentation Architecture (CTIA). FY2020 Base procurement dollars also provides for the conversion of 60 legacy ranges to the Government owned target control system software Targetry Range Automated Control and Recording (TRACR), provides also for appropriate alignment to cybersecurity requirements, property accountability for the new equipment fielded, and system training. It also supports the technology transition from SBIR to the Future Army System of Integrated Targets (FASIT) Program of Record (POR) and Low Rate Initial Production (LRIP) of the Trackless Moving Target - Vehicle (TMT-V) and Trackless Moving Target - Infantry (TMT-I) variants. The LRIP efforts includes: the production of 2 each of the TMT-</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 03: Other Support Equipment / BSA 70: Training Equipment		<b>P-1 Line Item Number / Title:</b> 2062NA0100 / Training Devices, Nonsystem
<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> 0654715A	<b>Other Related Program Elements:</b> N/A
<b>Line Item MDAP/MAIS Code:</b> N/A		
<p>V and TMT-I systems, development of the technical data package and production instructions (for future production competitions), development of the system manuals and logistical data package, creation of the National Stock Numbers and nomenclature of the systems, and deployment and training to the initial fielding locations.</p> <p>FY 2020 Base procurement dollars in the amount of \$2.850 million procures an airspace monitoring system for the Pacific Range Complex. The airspace monitoring system will provide a critical common operating picture across all range locations to facilitate both safety and airspace management. USARAK has over 1.6 million acres of training land and over 8,700 cubic miles of Restricted Area (airspace) at three separate installations across Alaska, each separated by hundreds of miles. This training complex supports not only the training for two maneuver brigades, a combat service support element, and combat aviation battalions (including AH-64 and GRAY EAGLE); but also several Joint National Training Center certified RED FLAG exercises annually. This results in daily requirements for airspace de-confliction in each of the installations respective airspace. In addition to airspace management this system provides a capability to mitigate weather restrictions for firing small arms outside of restricted airspace. This functionality increases training capacity by over 100 days annually across the command.</p> <p>Battle Command Training Support Program of \$23.345 million consists of:</p> <p>FY 2020 Base procurement dollars in the amount of \$23.345 million procures Mission Command equipment for refresh/ upgrades, network infrastructure equipment for upgrades or to meet emerging Information Assurance and Risk Management Framework (RMF) requirements, and the refresh of furniture, fixtures and equipment for the Mission Command Training Complexes. Battle Command Training Capability-Equipment Support (BCTC-ES), BCTC-ES also funds DIACAP and Risk Management Framework (RMF), server refresh and upgrades, as well as the Electronic Security System (ESS). All of these systems enable initial, sustainment and pre-deployment digital training as well as providing a reach back capability for deployed units. DIACAP and Mission Command refresh quantities reflect all sites which will receive at least one type of these fieldings or equipment installations. The cost varies by site and fiscal year, depending on the size of the MTC or length of time between upgrades. Starting in FY17, the increase in costs show actual costs in regards to refreshing legacy MTCs; the older systems were analog and all technology is currently digital and has increased refresh cost significantly. The onset of the RMF process and the new requirements it is levying on MTC has driven costs up, which is from the increased amount of equipment (HW/SW) required to maintain accreditation and system security.</p> <p>MILES Program of \$28.488 million consists of:</p> <p>FY20 Base procurement dollars in the amount of \$28.488 million procures for the Instrumentable-Multiple Integrated Laser Engagement System (I-MILES) program 473 Vehicle Tactical Engagement Simulation System (VTESS) kits, initial spare kits, 346 Wireless Independent Target System (WITS) kits, Continuous Technology Refreshment (CTR), and engineering change proposals. The technology refresh incorporates the Live Training Engagement Composition (LTEC) architecture and Engineering Change Proposals that refine and enhance the VTESS systems during its initial fielding. I-MILES systems support Brigade Combat Teams (BCT) down to the squad level and can be integrated into the Live-Virtual-Constructive Integrated Architecture (LVC-IA) as a component of the full training environment. I-MILES enhances the Warfighter's ability to effectively train individual and collective combat skills in a safe training environment. The data from I-MILES systems provide information for After Action Reviews (AAR) to assess Tactics Techniques Procedures (TTPs). The completion of the I-MILES basis of issue plan and pure fleetings of the I-MILES product lines will standardize training at Home Station, Combat Training Centers and deployed training environments. Pure fleetings the I-MILES product lines allows maximized maintenance efficiencies and balance requirements to set the conditions for Commanders to conduct improved force-on-force training contributing to unit readiness supporting the 39th Chief of the Staff of the Army's #1 priority of "Readiness".</p> <p>LVC Architecture Program of \$8.353 million consists of:</p> <p>FY 2020 Base procurement dollars in the amount of \$3.008 million supports the required CTIA program infrastructure, core lab facility, post deployment software support, and technology refresh and modifications for the Live Training Transformation Family of Training Systems and the Live, Virtual, Constructive Integrated Training Environment.</p> <p>FY 2020 Base procurement dollars in the amount of \$5.345 million procures the Live, Virtual, Constructive - Integrating Architecture (LVC-IA) associated hardware and software, Post Deployment Software Support (PDSS) activities, version upgrades, technology refresh/ spares, site support and New Equipment Training (NET) at Army Mission Training Complexes (MTC) in preparation for Force 2025 and beyond. LVC-IA program PDSS provides a capability to support sustainment of the system software and its associated subsystems and components. LVC-IA program performs version upgrades for replacement or modification of components for reasons other than obsolescence including Pre-Planned Product Improvement (P3I), modification, conversion, reconfiguration, retrofit, and technology insertion to increase the performance capability of the system; program will continue upgrades from Version 2 to Version 3 at five (5) fielded locations. Government Program Management will provide program management; engineering and technical oversight; activities necessary for Army Risk Management Framework (RMF) requirement; contract support and travel for the LVC-IA.</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 03: Other Support Equipment / BSA 70: Training Equipment		<b>P-1 Line Item Number / Title:</b> 2062NA0100 / Training Devices, Nonsystem
<b>ID Code</b> (A=Service Ready, B=Not Service Ready):	<b>Program Elements for Code B Items:</b> 0654715A	<b>Other Related Program Elements:</b> N/A
<b>Line Item MDAP/MAIS Code:</b> N/A		

FY 2020 OCO procurement dollars in the amount of \$2.106 million supports the following effort:

FY 2020 OCO procurement dollars in the amount of \$2.106 million procures Thru Sight Video (TSV) for the Udairi Range Complex (URC) in Kuwait. The TSV is an advanced eight channel audio/video recording device that captures audio and video from the crew compartment as well as the vehicle 1153 data bus. The TSV will enable URC to support gunnery cycles and provide After Action Review for three companies of M1 Tanks, M2/3 Bradley Fighting Vehicles, and/or Strykers. This capability is critical to maintaining unit readiness and Objective T standards.

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 / 03 / 70		<b>P-1 Line Item Number / Title:</b> 2062NA0100 / Training Devices, Nonsystem
		<b>Item Number / Title [DODIC]:</b> NA0101 / NSTD Soldier Training Support Program (STSP)

<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)	342	294	543	264	-	264
Gross/Weapon System Cost (\$ in Millions)	2,639.441	44.766	44.614	31.539	-	31.539
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	2,639.441	44.766	44.614	31.539	-	31.539
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>2,639.441</b>	<b>44.766</b>	<b>44.614</b>	<b>31.539</b>	<b>-</b>	<b>31.539</b>

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

Initial Spares (\$ in Millions)	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	7,717.664	152.265	82.162	119.466	-	119.466

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>Flyaway Cost</b>																		
<b>Recurring Cost</b>																		
EST - Five Lane Subsystem/Refresh <sup>(†)</sup>	61.485	668	41.072	42.519	206	8.759	52.136	177	9.228	-	-	-	-	-	-	-	-	-
CFFT (Various Configurations)	686.429	28	19.220	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CFFT Concurrency/PDSS	-	-	5.636	-	-	-	-	-	0.416	-	-	-	-	-	-	-	-	-
BEMT II Upgrades <sup>(†)</sup>	-	-	-	-	-	-	4.271	262	1.119	3.000	243	0.729	-	-	-	3.000	243	0.729
HITS version 4	3,772.500	2	7.545	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HITS Engineering Change Proposal	-	-	1.217	-	-	1.491	-	-	-	-	-	-	-	-	-	-	-	-
HITS Concurrency	-	-	3.646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HITS PDSS/CTR	-	-	17.568	-	-	4.204	-	-	3.982	-	-	2.661	-	-	-	-	-	2.661
JPMRC-IS FOC/PDSS/CTR	-	-	17.642	-	-	12.963	-	-	14.071	-	-	20.523	-	-	-	-	-	20.523
MSTC MT-C2 <sup>(†)</sup>	1,226.909	11	13.496	323.556	9	2.912	350.000	6	2.100	342.286	7	2.396	-	-	-	342.286	7	2.396
MSTC TC3X <sup>(†)</sup>	-	-	-	96.203	79	7.600	34.884	129	4.500	250.000	14	3.500	-	-	-	250.000	14	3.500
MSTC MATT Concurrency	32.929	42	1.383	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MSTC Validation Lanes	33.000	2	0.066	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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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 / 03 / 70	<b>P-1 Line Item Number / Title:</b> 2062NA0100 / Training Devices, Nonsystem	<b>Item Number / Title [DODIC]:</b> NA0101 / NSTD Soldier Training Support Program (STSP)
<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)
MSTC Part Task Trainers	32.905	21	0.691	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MSTC Continous Tech Refreshment	-	-	-	-	-	-	-	-	6.740	-	-	-	-	-	-	-	-	-
MSTC High Fidelity Tetherless Mannequin	-	-	4.981	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Racks and Shelving	-	-	1.877	-	-	0.262	-	-	-	-	-	-	-	-	-	-	-	-
Training Devices	-	-	2,323.779	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	<i>2,459.819</i>	-	-	<i>38.191</i>	-	-	<i>42.156</i>	-	-	<i>29.809</i>	-	-	-	-	-	<i>29.809</i>
<i>Subtotal: Flyaway Cost</i>	-	-	<i>2,459.819</i>	-	-	<i>38.191</i>	-	-	<i>42.156</i>	-	-	<i>29.809</i>	-	-	-	-	-	<i>29.809</i>
<b>Support - Program Management Cost</b>																		
Contractor Management	-	-	179.622	-	-	6.575	-	-	2.458	-	-	1.730	-	-	-	-	-	1.730
<i>Subtotal: Support - Program Management Cost</i>	-	-	<i>179.622</i>	-	-	<i>6.575</i>	-	-	<i>2.458</i>	-	-	<i>1.730</i>	-	-	-	-	-	<i>1.730</i>
<b>Gross/Weapon System Cost</b>	<b>7,717.664</b>	<b>342</b>	<b>2,639.441</b>	<b>152.265</b>	<b>294</b>	<b>44.766</b>	<b>82.162</b>	<b>543</b>	<b>44.614</b>	<b>119.466</b>	<b>264</b>	<b>31.539</b>	-	-	-	<b>119.466</b>	<b>264</b>	<b>31.539</b>

**Remarks:**

Engagement Skills Trainer (EST) and Call for Fire Trainer (CFFT) programs move into sustainment in FY20.

BEMT decrease from FY19 to FY20 is due to a difference in system requirements at the FY20 fielded locations.

Unit cost growth between FY19 and FY20 for MSTC is due to redefining 'unit' more comprehensively, to count the whole system instead of its parts. Therefore quantity is reduced, and unit cost correspondingly increases.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	147	392	233	-	233
	Total Obligation Authority	41.442	35.121	29.229	-	29.229
ANG	Quantity	56	59	29	-	29
	Total Obligation Authority	0.949	3.499	1.713	-	1.713
AR	Quantity	91	92	2	-	2
	Total Obligation Authority	2.375	5.994	0.597	-	0.597
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	<b>294</b>	<b>543</b>	<b>264</b>	<b>-</b>	<b>264</b>
	<b>Total Obligation Authority</b>	<b>44.766</b>	<b>44.614</b>	<b>31.539</b>	<b>-</b>	<b>31.539</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 / 03 / 70	<b>P-1 Line Item Number / Title:</b> 2062NA0100 / Training Devices, Nonsystem	<b>Item Number / Title [DODIC]:</b> NA0101 / NSTD Soldier Training Support Program (STSP)
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A	<b>MDAP/MAIS Code:</b>	

(†) 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 / 03 / 70			<b>P-1 Line Item Number / Title:</b> 2062NA0100 / Training Devices, Nonsystem				<b>Item Number / Title [DODIC]:</b> NA0101 / NSTD Soldier Training Support Program (STSP)				

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
EST - Five Lane Subsystem/ Refresh		2018	Meggitt Training Systems, Inc / Suwanee, GA	Option / FFP	ACC, Orlando, FL	Apr 2018	Aug 2018	206	42.519	Y		
EST - Five Lane Subsystem/ Refresh		2019	Meggitt Training Systems, Inc / Suwanee, GA	Option / FFP	ACC, Orlando, FL	Apr 2019	Aug 2019	177	52.136	Y		
BEMT II Upgrades		2019	TBS (BEMT II) / TBS	SS / FFP	ACC, Orlando, FL	Feb 2019	Nov 2019	262	4.271	Y		
BEMT II Upgrades		2020	TBS (BEMT II) / TBS	Option / FFP	ACC, Orlando, FL	Feb 2020	Nov 2020	243	3.000	Y		
MSTC MT-C2		2018	TBS (MSTC) MT-C2 / TBS	C / FFP	ACC Orlando, FL	Jul 2019	Sep 2019	9	323.556	Y		
MSTC MT-C2		2019	TBS (MSTC) MT-C2 / TBS	Option / FFP	ACC Orlando, FL	Jul 2019	Sep 2019	6	350.000	Y		
MSTC MT-C2		2020	TBS (MSTC) MT-C2 / TBS	Option / FFP	ACC Orlando	May 2020	Jul 2020	7	342.286	Y		
MSTC TC3X		2018	KFORCE Gov't Sol. (MSTC) MATT / FAIRFAX, VA	C / FFP	ACC, Orlando, FL	Jun 2018	Jul 2018	79	96.203	Y		
MSTC TC3X		2019	KFORCE Gov't Sol. (MSTC) MATT / FAIRFAX, VA	C / IDIQ	ACC, Orlando, FL	Mar 2019	May 2019	129	34.884	Y		
MSTC TC3X		2020	TBS (MSTC) TC3X / TBS	C / IDIQ	ACC, Orlando, FL	Mar 2020	May 2020	14	250.000	Y		

**Remarks:**  
 Call for Fire Trainer and Engagement Skills Trainer Programs move into sustainment in FY20.  
 PEO STRI = Program Executive Office for Simulation, Training and Instrumentation  
 Army Contracting Command, (ACC) Orlando, FL

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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 / 03 / 70		<b>P-1 Line Item Number / Title:</b> 2062NA0100 / Training Devices, Nonsystem
		<b>Item Number / Title [DODIC]:</b> NA0102 / NSTD INTELLIGENCE

<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)	2	2	2	3	-	3
Gross/Weapon System Cost (\$ in Millions)	72.841	6.692	4.658	6.081	-	6.081
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	72.841	6.692	4.658	6.081	-	6.081
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>72.841</b>	<b>6.692</b>	<b>4.658</b>	<b>6.081</b>	<b>-</b>	<b>6.081</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)	36,420.500	3,346.000	2,329.000	2,027.000	-	2,027.000

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)
<b>Flyaway Cost</b>																		
Recurring Cost																		
IEWTPT TCC <sup>(†)</sup>	10,790.000	4	43.160	384.000	2	0.768	384.000	2	0.768	384.000	3	1.152	-	-	-	384.000	3	1.152
IEWTPT HCC	-	-	2.761	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
IEWTPT TCC - Retrofit	-	-	0.267	-	-	1.228	-	-	-	-	-	-	-	-	-	-	-	-
PDSS	-	-	-	-	-	0.900	-	-	1.043	-	-	1.775	-	-	-	-	-	1.775
Concurrency	-	-	-	-	-	1.000	-	-	1.000	-	-	1.300	-	-	-	-	-	1.300
P3I	-	-	-	-	-	0.535	-	-	0.580	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	46.188	-	-	4.431	-	-	3.391	-	-	4.227	-	-	-	-	-	4.227
<i>Subtotal: Flyaway Cost</i>	-	-	46.188	-	-	4.431	-	-	3.391	-	-	4.227	-	-	-	-	-	4.227
<b>Hardware Cost</b>																		
Recurring Cost																		
Engineering for Product Improvement	-	-	18.509	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	18.509	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Hardware Cost</i>	-	-	18.509	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Support - Contractor Logistics Support (CLS) Cost</b>																		
Oversight	-	-	4.441	-	-	0.900	-	-	0.900	-	-	1.854	-	-	-	-	-	1.854
<i>Subtotal: Support - Contractor Logistics Support (CLS) Cost</i>	-	-	4.441	-	-	0.900	-	-	0.900	-	-	1.854	-	-	-	-	-	1.854
<b>Support - Program Management 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 / 03 / 70		<b>P-1 Line Item Number / Title:</b> 2062NA0100 / Training Devices, Nonsystem
<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)
Contractor Management	-	-	3.703	-	-	1.361	-	-	0.367	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - Program Management Cost</i>	-	-	3.703	-	-	1.361	-	-	0.367	-	-	-	-	-	-	-	-	-
<b>Gross/Weapon System Cost</b>	<b>36,420.500</b>	<b>2</b>	<b>72.841</b>	<b>3,346.000</b>	<b>2</b>	<b>6.692</b>	<b>2,329.000</b>	<b>2</b>	<b>4.658</b>	<b>2,027.000</b>	<b>3</b>	<b>6.081</b>	-	-	-	<b>2,027.000</b>	<b>3</b>	<b>6.081</b>

**Remarks:**

FY19 to FY20 Increase to Cost Element:  
 IEWTPT TCC - increase in number of sites.  
 PDSS - increase in total number of sites, as well as providing the Software requirements and bug fixes for all sites.  
 Concurrency - increase is for the requirement to add the Electronic Warfare Environment.  
 Contractor Logistic Support - increase is the cost for contractor and maintainer support for each site.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	-	-	-	-	-
	Total Obligation Authority	-	0.224	-	-	-
ANG	Quantity	1	2	1	-	1
	Total Obligation Authority	3.346	4.434	2.027	-	2.027
AR	Quantity	1	-	2	-	2
	Total Obligation Authority	3.346	-	4.054	-	4.054
<b>Total:</b>	<b>Quantity</b>	<b>2</b>	<b>2</b>	<b>3</b>	-	<b>3</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>6.692</b>	<b>4.658</b>	<b>6.081</b>	-	<b>6.081</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 / 03 / 70	<b>P-1 Line Item Number / Title:</b> 2062NA0100 / Training Devices, Nonsystem	<b>Item Number / Title [DODIC]:</b> NA0102 / NSTD INTELLIGENCE
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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
IEWTPT TCC		2018	General Dyn. Mission Sys Inc / Orlando, FL	Option / FFP	ACC, Orlando, FL	Feb 2018	May 2018	2	384.000	Y		
IEWTPT TCC		2019	General Dyn. Mission Sys Inc / Orlando, FL	Option / FFP	ACC, Orlando, FL	Feb 2019	May 2019	2	384.000	Y		
IEWTPT TCC		2020	General Dyn. Mission Sys Inc / Orlando, FL	Option / FFP	ACC, Orlando, FL	Feb 2020	May 2020	3	384.000	Y		

**Remarks:**  
 A new IEWTPT system contract was awarded in 2nd Quarter 2017 to continue the production using Commercial, Off-the-Shelf (COTS) items, integration, fielding, training, hardware/software updates, and technical support of the IEWTPT Technical Control Cell (TCC) system. Post Deployment Software Support (PDSS) version releases are planned as well as product improvement releases.

Army Contracting Command, (ACC) Orlando, FL

NOTES:  
 (1) P-5 - Support Costs - Decrease in FY18 to FY19 program management costs due to Army civilians being paid by OMA funds. Program changed the cost element from Program Management Cost to Contractor Management. The \$.367 in FY19 is for contractor management support.  
 (2) Contractor, General Dynamics, changed their name from General Dynamics C4 Sys Inc to General Dynamics Mission Sys Inc.

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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 / 03 / 70	<b>P-1 Line Item Number / Title:</b> 2062NA0100 / Training Devices, Nonsystem	<b>Item Number / Title [DODIC]:</b> NA0103 / NSTD COMMAND & CONTROL

<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)	9	15	15	24	-	24	
Gross/Weapon System Cost (\$ in Millions)	436.631	35.570	38.113	35.313	-	35.313	
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	
Net Procurement (P-1) (\$ in Millions)	436.631	35.570	38.113	35.313	-	35.313	
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	
<b>Total Obligation Authority (\$ in Millions)</b>	<b>436.631</b>	<b>35.570</b>	<b>38.113</b>	<b>35.313</b>	<b>-</b>	<b>35.313</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)	48,514.556	2,371.333	2,540.867	1,471.375	-	1,471.375

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																		
Flyaway Recurring: Division/Hub <sup>(†)</sup>	19,858.800	15	297.882	776.571	7	5.436	746.714	7	5.227	757.143	7	5.300	-	-	-	757.143	7	5.300
Flyaway Recurring: Spoke <sup>(†)</sup>	4,068.000	8	32.544	618.500	8	4.948	603.125	8	4.825	282.353	17	4.800	-	-	-	282.353	17	4.800
<i>Subtotal: Recurring Cost</i>	-	-	330.426	-	-	10.384	-	-	10.052	-	-	10.100	-	-	-	-	-	10.100
<i>Subtotal: Flyaway Cost</i>	-	-	330.426	-	-	10.384	-	-	10.052	-	-	10.100	-	-	-	-	-	10.100
Hardware Cost																		
Recurring Cost																		
Common Hardware Platform Refresh	-	-	21.708	-	-	2.083	-	-	6.051	-	-	5.053	-	-	-	-	-	5.053
<i>Subtotal: Recurring Cost</i>	-	-	21.708	-	-	2.083	-	-	6.051	-	-	5.053	-	-	-	-	-	5.053
<i>Subtotal: Hardware Cost</i>	-	-	21.708	-	-	2.083	-	-	6.051	-	-	5.053	-	-	-	-	-	5.053
Software Cost																		
Recurring Cost																		
Post Deployment Software Refinement	-	-	45.532	-	-	11.805	-	-	11.895	-	-	10.000	-	-	-	-	-	10.000
Pre-Planned Product Improvement (P3I)	-	-	17.129	-	-	6.679	-	-	6.098	-	-	6.100	-	-	-	-	-	6.100
<i>Subtotal: Recurring Cost</i>	-	-	62.661	-	-	18.484	-	-	17.993	-	-	16.100	-	-	-	-	-	16.100
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 / 03 / 70	<b>P-1 Line Item Number / Title:</b> 2062NA0100 / Training Devices, Nonsystem	<b>Item Number / Title [DODIC]:</b> NA0103 / NSTD COMMAND & CONTROL
<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)
Constructive Strategy Implementation	-	-	2.500	-	-	3.010	-	-	3.655	-	-	3.700	-	-	-	-	-	3.700
<i>Subtotal: Non Recurring Cost</i>	-	-	2.500	-	-	3.010	-	-	3.655	-	-	3.700	-	-	-	-	-	3.700
<i>Subtotal: Software Cost</i>	-	-	<b>65.161</b>	-	-	<b>21.494</b>	-	-	<b>21.648</b>	-	-	<b>19.800</b>	-	-	-	-	-	<b>19.800</b>
<b>Support - Program Management Cost</b>																		
Government Management	-	-	19.336	-	-	1.609	-	-	0.362	-	-	0.360	-	-	-	-	-	0.360
<i>Subtotal: Support - Program Management Cost</i>	-	-	<b>19.336</b>	-	-	<b>1.609</b>	-	-	<b>0.362</b>	-	-	<b>0.360</b>	-	-	-	-	-	<b>0.360</b>
<b>Gross/Weapon System Cost</b>	<b>48,514.556</b>	<b>9</b>	<b>436.631</b>	<b>2,371.333</b>	<b>15</b>	<b>35.570</b>	<b>2,540.867</b>	<b>15</b>	<b>38.113</b>	<b>1,471.375</b>	<b>24</b>	<b>35.313</b>	-	-	-	<b>1,471.375</b>	<b>24</b>	<b>35.313</b>

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	6	13	19	-	19
	Total Obligation Authority	24.029	28.298	23.124	-	23.124
ANG	Quantity	4	2	3	-	3
	Total Obligation Authority	6.005	3.730	6.902	-	6.902
AR	Quantity	5	-	2	-	2
	Total Obligation Authority	5.536	6.085	5.287	-	5.287
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	<b>15</b>	<b>15</b>	<b>24</b>	-	<b>24</b>
	<b>Total Obligation Authority</b>	<b>35.570</b>	<b>38.113</b>	<b>35.313</b>	-	<b>35.313</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 / 03 / 70			<b>P-1 Line Item Number / Title:</b> 2062NA0100 / Training Devices, Nonsystem				<b>Item Number / Title [DODIC]:</b> NA0103 / NSTD COMMAND & CONTROL				

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
Flyaway Recurring: Division/Hub		2018	Phoenix Logistics, Inc / Mesa, AZ	C / FFP	ACC, Orlando, FL	Jul 2018	Aug 2018	7	776.571	Y		
Flyaway Recurring: Division/Hub		2019	Phoenix Logistics, Inc / Mesa, AZ	Option / FFP	ACC, Orlando, FL	Mar 2019	Apr 2019	7	746.714	Y		
Flyaway Recurring: Division/Hub		2020	Phoenix Logistics, Inc / Mesa, AZ	Option / FFP	ACC, Orlando, FL	Nov 2019	Dec 2019	7	757.143	Y		
Flyaway Recurring: Spoke		2018	Phoenix Logistics, Inc / Mesa, AZ	C / FFP	ACC, Orlando, FL	Jul 2018	Aug 2018	8	618.500	Y		
Flyaway Recurring: Spoke		2019	Phoenix Logistics, Inc / Mesa, AZ	Option / FFP	ACC, Orlando, FL	Mar 2019	Apr 2019	8	603.125	Y		
Flyaway Recurring: Spoke		2020	Phoenix Logistics, Inc / Mesa, AZ	Option / FFP	ACC, Orlando, FL	Nov 2019	Dec 2019	17	282.353	Y		

**Remarks:**

Items are all commercial-off-the-shelf (COTS). Per the Resource Formulation Guidance, no P-21 is required for COTS items.

JLCCTC is currently comprised of two federations, Multi-Resolution Federation (MRF) which supports BDE/DIV & above exercises and Entity Resolution Federation (ERF) which supports BDE & below exercises. The Constructive Simulation Strategy combines the capabilities into a single federation solution. The FY 18 and FY 19 Unit Cost (Hub/Spoke) for the JLCCTC federation solution was decreased due to efficiencies gained by implementing the Constructive Simulation Strategy.

Minimal Common Hardware Platforms (CHP) were refreshed during FY 18. In FY 19, program will resume the planned 5-year CHP refresh 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 / 03 / 70		<b>P-1 Line Item Number / Title:</b> 2062NA0100 / Training Devices, Nonsystem
		<b>Item Number / Title [DODIC]:</b> NA0105 / NSTD RANGES AND TARGETS

<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	124	17	7	-	7
Gross/Weapon System Cost (\$ in Millions)	1,454.451	82.314	88.640	87.588	2.106	89.694
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	1,454.451	82.314	88.640	87.588	2.106	89.694
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>1,454.451</b>	<b>82.314</b>	<b>88.640</b>	<b>87.588</b>	<b>2.106</b>	<b>89.694</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)	290,890.200	663.823	5,214.118	12,512.571	-	12,813.429

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																		
ATS Hardware <sup>(†)</sup>	18,931.750	4	75.727	4,335.000	3	13.005	2,253.000	1	2.253	3,000.000	3	9.000	-	-	-	3,000.000	3	9.000
ATS CTR (Lifecycle Management)	-	-	-	-	-	-	-	-	11.615	-	-	7.030	-	-	-	-	-	7.030
DRTS Complex <sup>(†)</sup>	242,731.600	5	1,213.658	17,241.000	1	17.241	-	-	-	-	-	-	-	-	-	-	-	-
DRTS DAGIR <sup>(†)</sup>	-	-	-	-	-	-	8,000.000	1	8.000	11,158.000	2	22.316	-	-	-	11,158.000	2	22.316
DRTS CTR	-	-	19.331	-	-	5.788	-	-	34.438	-	-	-	-	-	-	-	-	-
DRTS DMPRC CTR Tier 1	-	-	-	-	-	-	-	-	-	-	-	4.404	-	-	-	-	-	4.404
DRTS DMPRC CTR Tier 2	-	-	-	-	-	-	-	-	-	-	-	8.400	-	-	-	-	-	8.400
DRTS Aviation Integration	-	-	7.145	-	-	1.075	-	-	1.282	-	-	-	-	-	-	-	-	-
DRTS Integration	-	-	-	-	-	-	-	-	-	-	-	1.605	-	-	-	-	-	1.605
IMTS CTR	-	-	17.534	-	-	11.321	-	-	21.761	-	-	21.629	-	-	-	-	-	21.629
Target Modernization	-	-	17.399	-	-	4.687	-	-	4.768	-	-	7.690	-	-	-	-	-	7.690
IMTS CTF	-	-	12.402	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	1,363.196	-	-	53.117	-	-	84.117	-	-	82.074	-	-	-	-	-	82.074
Non Recurring Cost																		
UDAIRI Range Target Lifter <sup>(†)</sup>	-	-	-	23,000.000	1	23.000	-	-	-	-	-	-	-	-	-	-	-	-

**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 / 03 / 70						<b>P-1 Line Item Number / Title:</b> 2062NA0100 / Training Devices, Nonsystem						<b>Item Number / Title [DODIC]:</b> NA0105 / NSTD RANGES AND TARGETS					
<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)
ARCENT Thru Sight Video (TSV) <sup>(†)</sup>	-	-	-	-	-	-	-	-	-	-	-	-	2,106.000	1	2.106	2,106.000	1	2.106
Pacific Range Complex <sup>(†)</sup>	-	-	-	-	-	-	-	-	-	2,850.000	1	2.850	-	-	-	2,850.000	1	2.850
<i>Subtotal: Non Recurring Cost</i>	-	-	-	-	-	23.000	-	-	-	-	-	2.850	-	-	2.106	-	-	4.956
<i>Subtotal: Flyaway Cost</i>	-	-	<b>1,363.196</b>	-	-	<b>76.117</b>	-	-	<b>84.117</b>	-	-	<b>84.924</b>	-	-	<b>2.106</b>	-	-	<b>87.030</b>
<b>Software Cost</b>																		
<b>Non Recurring Cost</b>																		
European Reassurance Initiative - USAREUR - Targetry requirements for Hungary <sup>(†)</sup>	-	-	-	42.857	63	2.700	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Non Recurring Cost</i>	-	-	-	-	-	2.700	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Software Cost</i>	-	-	-	-	-	<b>2.700</b>	-	-	-	-	-	-	-	-	-	-	-	-
<b>Support - Program Management Cost</b>																		
Contractor Management	-	-	79.438	-	-	2.880	-	-	3.774	-	-	2.664	-	-	-	-	-	2.664
<i>Subtotal: Support - Program Management Cost</i>	-	-	<b>79.438</b>	-	-	<b>2.880</b>	-	-	<b>3.774</b>	-	-	<b>2.664</b>	-	-	-	-	-	<b>2.664</b>
<b>Support - Quality Assurance Cost</b>																		
Quality Assurance	-	-	5.308	-	-	0.307	-	-	0.334	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - Quality Assurance Cost</i>	-	-	<b>5.308</b>	-	-	<b>0.307</b>	-	-	<b>0.334</b>	-	-	-	-	-	-	-	-	-
<b>Support - System Engineering Cost</b>																		
System Engineering	-	-	6.509	-	-	0.310	-	-	0.415	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - System Engineering Cost</i>	-	-	<b>6.509</b>	-	-	<b>0.310</b>	-	-	<b>0.415</b>	-	-	-	-	-	-	-	-	-
<b>Gross/Weapon System Cost</b>	<b>290,890.200</b>	<b>5</b>	<b>1,454.451</b>	<b>663.823</b>	<b>124</b>	<b>82.314</b>	<b>5,214.118</b>	<b>17</b>	<b>88.640</b>	<b>12,512.571</b>	<b>7</b>	<b>87.588</b>	-	-	<b>2.106</b>	<b>12,813.429</b>	<b>7</b>	<b>89.694</b>

**Remarks:**

Digital Range Training System (DRTS) Digital Air Ground Integration Range (DAGIR) unit cost variance between FY19 and FY20 is due to procurement schedules. In FY19, long lead items are being procured for one range for \$8.000 million. In FY20, all other procurements necessary for that range and one other are being made for \$22.316 million total.

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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 / 03 / 70	<b>P-1 Line Item Number / Title:</b> 2062NA0100 / Training Devices, Nonsystem	<b>Item Number / Title [DODIC]:</b> NA0105 / NSTD RANGES AND TARGETS

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A	<b>MDAP/MAIS Code:</b>
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Digital Range Training System (DRTS) CTR Tier 1 includes replacement of the control room information technology (IT) equipment. Cost varies depending on specific DMPRC installation configuration, but average unit cost is approximately \$4.404 million.

Digital Range Training System (DRTS) CTR Tier 2 includes replacement of the radio player units and the RF infrastructure on the range. Cost varies depending on the topography of the actual DMPRC range, but the average unit cost is approximately \$8.400 million.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	124	15	4	-	4
	Total Obligation Authority	82.314	77.669	68.088	2.106	70.194
ANG	Quantity	-	1	3	-	3
	Total Obligation Authority	-	8.560	19.500	-	19.500
AR	Quantity	-	1	-	-	-
	Total Obligation Authority	-	2.411	-	-	-
<b>Total:</b>	<b>Quantity</b>	<b>124</b>	<b>17</b>	<b>7</b>	<b>-</b>	<b>7</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>82.314</b>	<b>88.640</b>	<b>87.588</b>	<b>2.106</b>	<b>89.694</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 / 03 / 70	<b>P-1 Line Item Number / Title:</b> 2062NA0100 / Training Devices, Nonsystem	<b>Item Number / Title [DODIC]:</b> NA0105 / NSTD RANGES AND TARGETS
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Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty <i>(Each)</i>	Unit Cost <i>(\$ K)</i>	Specs Avail Now?	Date Revision Available	RFP Issue Date
ATS Hardware <sup>(†)</sup>		2018	TBS (ATS HW) / TBS	C / IDIQ	ACC, Warren, MI	Jun 2018	Nov 2018	3	4,335.000	Y		
ATS Hardware <sup>(†)</sup>		2019	TBS (ATS HW) / TBS	C / IDIQ	ACC, Warren, MI	Feb 2019	Jul 2019	1	2,253.000	Y		
ATS Hardware <sup>(†)</sup>		2020	TBS (ATS HW) / TBS	C / IDIQ	ACC, Warren, MI	Feb 2020	Jul 2020	3	3,000.000	Y		
DRTS Complex		2018	Lockheed Martin (DRTS) / Orlando, FL 32825	C / FFP	ACC, Orlando, FL	Mar 2018	Mar 2019	1	17,241.000	Y		
DRTS DAGIR <sup>(†)</sup>		2019	Lockheed Martin (DRTS) / Orlando, FL 32825	C / FFP	ACC, Orlando, FL	Mar 2019	Mar 2020	1	8,000.000	Y		Dec 2018
DRTS DAGIR <sup>(†)</sup>		2020	Lockheed Martin (DRTS) / Orlando, FL 32825	Option / FFP	ACC, Orlando, FL	Mar 2020	Mar 2021	2	11,158.000	Y		Aug 2018
UDAIRI Range Target Lifter		2018	Thiessen Training Systems / Chiefland, FL, 32626	C / FFP	ACC, Warren, MI	Sep 2018	Feb 2019	1	23,000.000	Y		
ARCENT Thru Sight Video (TSV)	✓	2020	TBS (ARCENT TSV) / Orlando, FL 32825	SS / FFP	ACC, Orlando, FL	Mar 2020	Aug 2020	1	2,106.000	Y		Nov 2019
Pacific Range Complex		2020	TBS (Pacific Range Complex) / Orlando, FL 32825	C / FFP	ACC, Orlando, FL	Mar 2020	Aug 2020	1	2,850.000	Y		
European Reassurance Initiative - USAREUR - Targetry requirements for Hungary		2018	TBS (ERI Targetry) / Orlando, FL 32825	C / FFP	ACC, Orlando, FL	Jan 2019	Jun 2019	63	42.857	Y		

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

**Remarks:**

\* ATS contractors are Meggitt Training Systems, Inc., Suwanee, GA; SAAB Defense and Security USA, LLC, Orlando, FL; Strategic Systems, Inc., Columbus, OH; Sius Target Systems U.S.A., Inc., Irmo, SC; Thiessen Training Systems, Inc., Chiefland, FL. Long term IDIQ contracts have been negotiated with all five sources. Contract awards will be made in some combination to some or all of these sources.

Army Contracting Command, (ACC) Orlando, FL

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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 / 03 / 70		<b>P-1 Line Item Number / Title:</b> 2062NA0100 / Training Devices, Nonsystem
		<b>Item Number / Title [DODIC]:</b> NA0105 / NSTD RANGES AND TARGETS

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
ATS Hardware																															
Prior Years Deliveries: 4																															
	1	2018	ARMY	3	0	3																									0
	1	2019	ARMY	1	0	1																									0
	1	2020	ARMY	3	0	3																									3
DRTS DAGIR																															
	2	2019	ARMY	1	0	1																									1
	2	2020	ARMY	2	0	2																									2

**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 / 03 / 70										<b>P-1 Line Item Number / Title:</b> 2062NA0100 / Training Devices, Nonsystem										<b>Item Number / Title [DODIC]:</b> NA0105 / NSTD RANGES AND TARGETS									

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
ATS Hardware																															
Prior Years Deliveries: 4																															
	1	2018	ARMY	3	3	0																							0		
	1	2019	ARMY	1	1	0																							0		
	1	2020	ARMY	3	0	3					A	-	-	-	-	-	1	1	1										0		
DRTS DAGIR																															
	2	2019	ARMY	1	0	1																							0		
	2	2020	ARMY	2	0	2					A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1		0		
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	

**UNCLASSIFIED**

<b>Exhibit P-21, Production Schedule:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 03 / 70		<b>P-1 Line Item Number / Title:</b> 2062NA0100 / Training Devices, Nonsystem
		<b>Item Number / Title [DODIC]:</b> NA0105 / NSTD RANGES AND TARGETS

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	TBS (ATS HW) - TBS	1	48	120	0	4	6	10	0	4	6	10
2	Lockheed Martin (DRTS) - Orlando, FL 32825	1	3	5	0	9	13	22	0	5	13	18

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

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

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<b>Exhibit P-5, Cost Analysis: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 03 / 70	<b>P-1 Line Item Number / Title:</b> 2062NA0100 / Training Devices, Nonsystem	<b>Item Number / Title [DODIC]:</b> NA0106 / NSTD Battle Command Training Center Support Prg

<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)		17	20	18	20	-	20
Gross/Weapon System Cost (\$ in Millions)		357.849	18.862	20.005	23.345	-	23.345
Less PY Advance Procurement (\$ in Millions)		-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)		357.849	18.862	20.005	23.345	-	23.345
Plus CY Advance Procurement (\$ in Millions)		-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>		<b>357.849</b>	<b>18.862</b>	<b>20.005</b>	<b>23.345</b>	<b>-</b>	<b>23.345</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)	21,049.941	943.100	1,111.389	1,167.250	-	1,167.250	

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

Cost Elements	Prior Years			FY 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																		
MCTC Furniture, Fixture & Equipment	35,013.625	8	280.109	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Furniture, Fixtures & Equipment Refresh <sup>(†)</sup>	1,635.727	11	17.993	1,303.000	4	5.212	1,421.000	4	5.684	2,540.000	4	10.160	-	-	-	2,540.000	4	10.160
Mission Command Equipment - Hardware <sup>(†)</sup>	1,018.417	12	12.221	690.000	7	4.830	751.571	7	5.261	635.000	7	4.445	-	-	-	635.000	7	4.445
Battlefield Visualization <sup>(†)</sup>	1,642.500	2	3.285	1,650.000	1	1.650	1,621.000	1	1.621	354.000	4	1.416	-	-	-	354.000	4	1.416
DIACAP / RMF <sup>(†)</sup>	2,522.917	12	30.275	1,387.000	4	5.548	1,383.000	4	5.532	1,382.500	4	5.530	-	-	-	1,382.500	4	5.530
ESS Services <sup>(†)</sup>	2,435.600	5	12.178	324.000	3	0.972	423.000	3	1.269	1,370.000	1	1.370	-	-	-	1,370.000	1	1.370
<i>Subtotal: Recurring Cost</i>	-	-	356.061	-	-	18.212	-	-	19.367	-	-	22.921	-	-	-	-	-	22.921
<i>Subtotal: Flyaway Cost</i>	-	-	356.061	-	-	18.212	-	-	19.367	-	-	22.921	-	-	-	-	-	22.921
Support - Program Management Cost																		
Government Management	-	-	1.788	-	-	0.650	-	-	0.638	-	-	0.424	-	-	-	-	-	0.424
<i>Subtotal: Support - Program Management Cost</i>	-	-	1.788	-	-	0.650	-	-	0.638	-	-	0.424	-	-	-	-	-	0.424
<b>Gross/Weapon System Cost</b>	<b>21,049.941</b>	<b>17</b>	<b>357.849</b>	<b>943.100</b>	<b>20</b>	<b>18.862</b>	<b>1,111.389</b>	<b>18</b>	<b>20.005</b>	<b>1,167.250</b>	<b>20</b>	<b>23.345</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>1,167.250</b>	<b>20</b>	<b>23.345</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 / 03 / 70	<b>P-1 Line Item Number / Title:</b> 2062NA0100 / Training Devices, Nonsystem	<b>Item Number / Title [DODIC]:</b> NA0106 / NSTD Battle Command Training Center Support Prg

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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**Remarks:**  
 Variations in unit cost are because of differences in the size of the site being modernized in any given year. Larger sites require more equipment, and therefore have a higher unit cost.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	18	18	18	-	18
	Total Obligation Authority	16.152	20.005	21.011	-	21.011
ANG	Quantity	-	-	1	-	1
	Total Obligation Authority	-	-	1.167	-	1.167
AR	Quantity	2	-	1	-	1
	Total Obligation Authority	2.710	-	1.167	-	1.167
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	<b>20</b>	<b>18</b>	<b>20</b>	<b>-</b>	<b>20</b>
	<b>Total Obligation Authority</b>	<b>18.862</b>	<b>20.005</b>	<b>23.345</b>	<b>-</b>	<b>23.345</b>

(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 / 03 / 70			<b>P-1 Line Item Number / Title:</b> 2062NA0100 / Training Devices, Nonsystem				<b>Item Number / Title [DODIC]:</b> NA0106 / NSTD Battle Command Training Center Support Prg				

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
Furniture, Fixtures & Equipment Refresh		2018	Phoenix Logistics Inc. / Mesa, Arizona	C / FFP	ACC Orlando, FL	Sep 2018	Jan 2019	4	1,303.000	Y		
Furniture, Fixtures & Equipment Refresh		2019	Phoenix Logistics Inc. / Mesa, Arizona	C / FFP	ACC Orlando, FL	Sep 2019	Jan 2020	4	1,421.000	Y		
Furniture, Fixtures & Equipment Refresh		2020	Phoenix Logistics Inc. / Mesa, Arizona	C / FFP	ACC Orlando, FL	Sep 2020	Jan 2021	4	2,540.000	Y		
Mission Command Equipment - Hardware		2018	PEO C3T / APG- North, MD	MIPR	ACC Orlando, FL	Jun 2018	Sep 2018	7	690.000	Y		
Mission Command Equipment - Hardware		2019	PEO C3T / APG- North, MD	MIPR	ACC Orlando, FL	Jun 2019	Sep 2019	7	751.571	Y		
Mission Command Equipment - Hardware		2020	PEO C3T / APG- North, MD	MIPR	ACC APG MD	Jun 2020	Sep 2020	7	635.000	Y		
Battlefield Visualization		2018	PEO C3T / APG- North, MD	MIPR	ACC Orlando, FL	Aug 2018	Feb 2019	1	1,650.000	Y		
Battlefield Visualization		2019	PEO C3T / APG- North, MD	MIPR	ACC Orlando, FL	Aug 2019	Feb 2020	1	1,621.000	Y		
Battlefield Visualization		2020	PEO C3T / APG- North, MD	MIPR	ACC APG MD	Jun 2020	Sep 2020	4	354.000	Y		
DIACAP / RMF		2018	Phoenix Logistics Inc. / Mesa, Arizona	C / FFP	ACC Orlando, FL	Sep 2018	Jan 2019	4	1,387.000	Y		
DIACAP / RMF		2019	Phoenix Logistics Inc. / Mesa, Arizona	C / FFP	ACC Orlando, FL	Sep 2019	Jan 2020	4	1,383.000	Y		
DIACAP / RMF		2020	Phoenix Logistics Inc. / Mesa, Arizona	C / FFP	ACC Orlando, FL	Sep 2020	Jan 2021	4	1,382.500	Y		
ESS Services		2018	USACE / AL	MIPR	USACE Huntsville, AL	Sep 2018	Sep 2019	3	324.000	Y		
ESS Services		2019	USACE / AL	MIPR	USACE Huntsville, AL	Sep 2019	Sep 2020	3	423.000	Y		
ESS Services		2020	USACE / AL	MIPR	USACE Huntsville, AL	Oct 2019	Oct 2020	1	1,370.000	Y		

**Remarks:**  
Items are COTS. Per the Resource Formulation Guidance, no P-21 is required for COTS items.

New Contract was awarded in 1QFY19.

Army Contracting Command, (ACC) Orlando, FL

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 03 / 70	<b>P-1 Line Item Number / Title:</b> 2062NA0100 / Training Devices, Nonsystem	<b>Item Number / Title [DODIC]:</b> NA0116 / NSTD- MILES
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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)	18,399	5,498	498	819	-	819
Gross/Weapon System Cost (\$ in Millions)	441.586	76.127	13.487	28.488	-	28.488
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	441.586	76.127	13.487	28.488	-	28.488
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>441.586</b>	<b>76.127</b>	<b>13.487</b>	<b>28.488</b>	<b>-</b>	<b>28.488</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)	24.001	13.846	27.082	34.784	-	34.784

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																		
MILES Individual Weapon System (IWS)	5.135	59,036	303.174	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MILES Tactical Vehicle System (TVS)	11.107	1,000	11.107	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I-MILES Vehicle TESS (V-TESS) <sup>(†)</sup>	11.481	3,008	34.535	11.659	5,498	64.100	11.775	498	5.864	17.137	473	8.106	-	-	-	17.137	473	8.106
MILES CVTESS	25.439	1,758	44.721	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MILES Tech Refresh	-	-	7.567	-	-	1.260	-	-	3.227	-	-	3.930	-	-	-	-	-	3.930
MILES ECPs	-	-	8.514	-	-	2.500	-	-	1.700	-	-	5.500	-	-	-	-	-	5.500
MILES Initial Spares	-	-	1.600	-	-	-	-	-	-	-	-	3.844	-	-	-	-	-	3.844
WITS Kits <sup>(†)</sup>	-	-	-	-	-	-	-	-	-	12.009	346	4.155	-	-	-	12.009	346	4.155
<i>Subtotal: Recurring Cost</i>	-	-	411.194	-	-	67.861	-	-	10.791	-	-	25.535	-	-	-	-	-	25.535
<i>Subtotal: Flyaway Cost</i>	-	-	411.194	-	-	67.861	-	-	10.791	-	-	25.535	-	-	-	-	-	25.535
<b>Software Cost</b>																		
Recurring Cost																		
MILES PDSS	-	-	1.146	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	1.146	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Software Cost</i>	-	-	1.146	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Support - Fielding Cost</b>																		
Fielding	-	-	-	-	-	-	-	-	-	-	-	-	0.364	-	-	-	-	0.364



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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 / 03 / 70						<b>P-1 Line Item Number / Title:</b> 2062NA0100 / Training Devices, Nonsystem						<b>Item Number / Title [DODIC]:</b> NA0116 / NSTD- MILES					
<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 - Fielding Cost</i>	-	-	-	-	-	-	-	-	-	-	-	0.364	-	-	-	-	-	0.364
<b>Support - Program Management Cost</b>																		
Contractor Management	-	-	21.726	-	-	8.266	-	-	2.696	-	-	2.254	-	-	-	-	-	2.254
<i>Subtotal: Support - Program Management Cost</i>	-	-	21.726	-	-	8.266	-	-	2.696	-	-	2.254	-	-	-	-	-	2.254
<b>Support - System Engineering Cost</b>																		
System Engineering	-	-	7.496	-	-	-	-	-	-	-	-	0.335	-	-	-	-	-	0.335
<i>Subtotal: Support - System Engineering Cost</i>	-	-	7.496	-	-	-	-	-	-	-	-	0.335	-	-	-	-	-	0.335
<b>Gross/Weapon System Cost</b>	24.001	18,399	441.586	13.846	5,498	76.127	27.082	498	13.487	34.784	819	28.488	-	-	-	34.784	819	28.488

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	5,498	498	819	-	819
	Total Obligation Authority	76.127	13.487	28.488	-	28.488
<b>Total:</b>	<b>Quantity</b>	<b>5,498</b>	<b>498</b>	<b>819</b>	<b>-</b>	<b>819</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>76.127</b>	<b>13.487</b>	<b>28.488</b>	<b>-</b>	<b>28.488</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 / 03 / 70	<b>P-1 Line Item Number / Title:</b> 2062NA0100 / Training Devices, Nonsystem	<b>Item Number / Title [DODIC]:</b> NA0116 / NSTD- MILES
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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
I-MILES Vehicle TESS (V-TESS) <sup>(†)</sup>		2018	Lockheed Martin Corporation / Orlando, FL	C / FFP	ACC, Orlando, FL	May 2018	May 2019	5,498	11.659	Y		
I-MILES Vehicle TESS (V-TESS) <sup>(†)</sup>		2019	Lockheed Martin Corporation / Orlando, FL	Option / FFP	ACC, Orlando, FL	May 2019	May 2020	498	11.775	Y		
I-MILES Vehicle TESS (V-TESS) <sup>(†)</sup>		2020	Lockheed Martin Corporation / Orlando, FL	Option / FFP	ACC, Orlando, FL	May 2020	May 2021	473	17.137	Y		
WITS Kits		2020	Lockheed Martin Corporation / Orlando, FL	Option / FFP	ACC, Orlando, FL	May 2020	May 2021	346	12.009	Y		

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

**Remarks:**  
Army Contracting Command, (ACC) Orlando, FL



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

**Appropriation / Budget Activity / Budget Sub Activity:** 2035A / 03 / 70 **P-1 Line Item Number / Title:** 2062NA0100 / Training Devices, Nonsystem **Item Number / Title [DODIC]:** NA0116 / NSTD- MILES

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
I-MILES Vehicle TESS (V-TESS)																															
Prior Years Deliveries: 3008																															
1		2018	ARMY	5,498	2,291	3,207	458	458	458	458	458	458	459																0		
1		2019	ARMY	498	0	498	-	-	-	-	-	-	-	100	100	100	100	98											0		
1		2020	ARMY	473	0	473								A	-	-	-	-	-	-	-	-	-	-	68	68	68	68	68	133	
							O C T	N O V	D E C	J A N	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 / 03 / 70 **P-1 Line Item Number / Title:** 2062NA0100 / Training Devices, Nonsystem **Item Number / Title [DODIC]:** NA0116 / NSTD- MILES

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			
I-MILES Vehicle TESS (V-TESS)																																		
Prior Years Deliveries: 3008																																		
	1	2018	ARMY	5,498	5,498	0																												0
	1	2019	ARMY	498	498	0																											0	
	1	2020	ARMY	473	340	133		68	65																								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 / 03 / 70	<b>P-1 Line Item Number / Title:</b> 2062NA0100 / Training Devices, Nonsystem	<b>Item Number / Title [DODIC]:</b> NA0116 / NSTD- MILES
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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	Lockheed Martin Corporation - Orlando, FL	300	620	10,000	0	17	19	36	0	7	13	20

**Remarks:**  
 I-MILES CVTESS production completed with FY16 PB Funds. I-MILES Individual Weapon System (IWS) production completed with FY17 PB Funds. I-MILES Vehicle TESS (V-TESS) production to be completed with FY16-FY19 Funds.

"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 / 03 / 70						<b>P-1 Line Item Number / Title:</b> 2062NA0100 / Training Devices, Nonsystem						<b>Item Number / Title [DODIC]:</b> NA0121 / NSTD - LVC ARCHITECTURE					
<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)				6		7		7		7		-		7			
Gross/Weapon System Cost (\$ in Millions)				80.062		11.298		8.081		8.353		-		8.353			
Less PY Advance Procurement (\$ in Millions)				-		-		-		-		-		-			
Net Procurement (P-1) (\$ in Millions)				80.062		11.298		8.081		8.353		-		8.353			
Plus CY Advance Procurement (\$ in Millions)				-		-		-		-		-		-			
<b>Total Obligation Authority (\$ in Millions)</b>				<b>80.062</b>		<b>11.298</b>		<b>8.081</b>		<b>8.353</b>		<b>-</b>		<b>8.353</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)				13,343.667		1,614.000		1,154.429		1,193.286		-		1,193.286			

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																		
CTIA Modifications	-	-	0.750	-	-	0.773	-	-	0.775	-	-	0.694	-	-	-	-	-	0.694
CTIA Continuous Tech Refresh	-	-	0.445	-	-	0.445	-	-	0.300	-	-	0.300	-	-	-	-	-	0.300
LVC-IA Fieldings	445.667	12	5.348	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LVC New Equipment Training	-	-	3.044	-	-	-	-	-	0.180	-	-	0.094	-	-	-	-	-	0.094
LVC-IA Spares	-	-	0.429	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LVC-IA Site Support	-	-	1.315	-	-	0.465	-	-	-	-	-	-	-	-	-	-	-	-
<b>Subtotal: Recurring Cost</b>	<b>-</b>	<b>-</b>	<b>11.331</b>	<b>-</b>	<b>-</b>	<b>1.683</b>	<b>-</b>	<b>-</b>	<b>1.255</b>	<b>-</b>	<b>-</b>	<b>1.088</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>1.088</b>
Non Recurring Cost																		
LVC-IA Version Upgrade/ Tech Refresh <sup>(†)</sup>	412.417	12	4.949	546.000	5	2.730	387.600	5	1.938	309.400	5	1.547	-	-	-	309.400	5	1.547
<b>Subtotal: Non Recurring Cost</b>	<b>-</b>	<b>-</b>	<b>4.949</b>	<b>-</b>	<b>-</b>	<b>2.730</b>	<b>-</b>	<b>-</b>	<b>1.938</b>	<b>-</b>	<b>-</b>	<b>1.547</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>1.547</b>
<b>Subtotal: Flyaway Cost</b>	<b>-</b>	<b>-</b>	<b>16.280</b>	<b>-</b>	<b>-</b>	<b>4.413</b>	<b>-</b>	<b>-</b>	<b>3.193</b>	<b>-</b>	<b>-</b>	<b>2.635</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>2.635</b>
<b>Software Cost</b>																		
Recurring Cost																		
LVC-IA PDSS <sup>(†)</sup>	1,252.000	14	17.528	1,382.000	2	2.764	944.000	2	1.888	1,038.000	2	2.076	-	-	-	1,038.000	2	2.076
LVC-IA Core System Integration	-	-	6.711	-	-	0.717	-	-	-	-	-	0.647	-	-	-	-	-	0.647
CTIA PDSS	-	-	17.034	-	-	1.722	-	-	1.718	-	-	1.853	-	-	-	-	-	1.853

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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 / 03 / 70		<b>P-1 Line Item Number / Title:</b> 2062NA0100 / Training Devices, Nonsystem
<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: Recurring Cost</i>	-	-	41.273	-	-	5.203	-	-	3.606	-	-	4.576	-	-	-	-	-	4.576
<i>Subtotal: Software Cost</i>	-	-	41.273	-	-	5.203	-	-	3.606	-	-	4.576	-	-	-	-	-	4.576
Support - Program Management Cost																		
Contractor Management	-	-	21.859	-	-	1.682	-	-	1.282	-	-	1.142	-	-	-	-	-	1.142
<i>Subtotal: Support - Program Management Cost</i>	-	-	21.859	-	-	1.682	-	-	1.282	-	-	1.142	-	-	-	-	-	1.142
Support - System Technical Support (STS) Cost																		
System Technical Support (STS)	-	-	0.650	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - System Technical Support (STS) Cost</i>	-	-	0.650	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Gross/Weapon System Cost</b>	13,343.667	6	80.062	1,614.000	7	11.298	1,154.429	7	8.081	1,193.286	7	8.353	-	-	-	1,193.286	7	8.353

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	7	7	7	-	7
	Total Obligation Authority	11.298	8.081	8.353	-	8.353
<b>Total:</b>	Quantity	7	7	7	-	7
<b>Secondary Distribution</b>	Total Obligation Authority	11.298	8.081	8.353	-	8.353

(†) 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 / 03 / 70	<b>P-1 Line Item Number / Title:</b> 2062NA0100 / Training Devices, Nonsystem	<b>Item Number / Title [DODIC]:</b> NA0121 / NSTD - LVC ARCHITECTURE
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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
LVC-IA Version Upgrade/ Tech Refresh		2018	Cole Engineering Services (T) / Orlando	C / CPFF	ACC Orlando, FL	Dec 2017	Feb 2018	5	546.000	Y		Jul 2015
LVC-IA Version Upgrade/ Tech Refresh		2019	Cole Engineering Services (T) / Orlando	C / CPFF	ACC Orlando, FL	Dec 2018	Feb 2019	5	387.600	Y		
LVC-IA Version Upgrade/ Tech Refresh		2020	Cole Engineering Services (T) / Orlando	C / CPFF	ACC Orlando, FL	Jun 2020	Aug 2020	5	309.400	Y		
LVC-IA PDSS		2018	Cole Engineering Services (P) / Orlando	C / CPFF	ACC Orlando, FL	Jun 2018	Aug 2018	2	1,382.000	Y		Jul 2015
LVC-IA PDSS		2019	Cole Engineering Services (P) / Orlando	C / CPFF	ACC Orlando, FL	Dec 2018	Mar 2019	2	944.000	Y		
LVC-IA PDSS		2020	Cole Engineering Services (P) / Orlando	C / CPFF	ACC Orlando, FL	Jun 2020	Aug 2020	2	1,038.000	Y		

**Remarks:**  
 In FY18, the increase in unit cost for LVC-IA Version Upgrades/Tech Refresh is due to the additional integration requirements required to comply with the Army's Constructive Strategy to be completed by FY19. The deliveries of Version 3 upgrade commences in 2nd quarter FY18. Quantities for Version Upgrades/Tech Refresh and PDSS were transposed and will be corrected in a future cycle due to database being locked.  
 In FY19, deliveries continue to upgrade from Version 2 to Version 3 at 5 locations.

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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 03: Other Support Equipment / BSA 70: Training Equipment	<b>P-1 Line Item Number / Title:</b> 2079NA2000 / Synthetic Training Environment (STE)
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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> 0604121A
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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> )	-	-	-	69	-	69	378	378	384	385	-	1,594
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	-	-	-	20.749	-	20.749	70.978	70.887	72.969	66.683	-	302.266
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	-	-	-	20.749	-	20.749	70.978	70.887	72.969	66.683	-	302.266
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	-	-	-	<b>20.749</b>	-	<b>20.749</b>	<b>70.978</b>	<b>70.887</b>	<b>72.969</b>	<b>66.683</b>	-	<b>302.266</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> )	-	-	-	300.710	-	300.710	187.772	187.532	190.023	173.203	-	189.627

**Description:**

The Synthetic Training Environment (STE) is the next generation holistic collective training capability that will train units where they will fight, with whom they will fight with, and in complex operational environments to include dense urban and sub-terrain; within the entire range of combined arms maneuver tasks in support of Multi-Domain Operations. STE will be a common synthetic environment enabled by a core of Global Terrain/One World Terrain (OWT); common authoritative data and models; Training Simulation Software (TSS), and Training Management Tools (TMT). The STE will be available where training occurs (Home Station, Armories, Institutions, Shipboard, Deployed) and will include Air and Ground Reconfigurable Virtual Collective Trainers (RVCTs) and a Squad Virtual Training (S/SVT) close combat training capability. The STE will be cloud-enabled, compatible with the Army Enterprise Network, and service-based through the Common Operating Environment. The STE will provide the realistic repetitions necessary to fight 25 bloodless battles before the first battle; a Secretary of Defense priority.

The STE program was a new start in FY18, with initial procurement execution planned for FY2020

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	-	69	378	378	384	385
Total Obligation Authority	-	-	20.749	-	20.749	70.978	70.887	72.969	66.683
<b>Total:</b>									
<b>Secondary Distribution</b>									
Quantity	-	-	<b>69</b>	-	<b>69</b>	<b>378</b>	<b>378</b>	<b>384</b>	<b>385</b>
Total Obligation Authority	-	-	<b>20.749</b>	-	<b>20.749</b>	<b>70.978</b>	<b>70.887</b>	<b>72.969</b>	<b>66.683</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 03: Other Support Equipment / BSA 70: Training Equipment

**P-1 Line Item Number / Title:**  
2079NA2000 / Synthetic Training Environment (STE)

**ID Code** (A=Service Ready, B=Not Service Ready): **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0604121A

**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	NA2020 / Synthetic Training Environment (STE)	P-5a, P-21			- / -	- / -	- / -	69 / 20.749	- / -	69 / 20.749
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				- / -	- / -	- / -	<b>69 / 20.749</b>	- / -	<b>69 / 20.749</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 \$20.749 million will fund the initial STE production Lines of Effort (LOE), which are Reconfigurable Virtual Collective Trainer (RVCT); One World Terrain (OWT); Training Simulation Software (TSS), Training Management Tools (TMT) and Squad Virtual Trainer (S/SVT). This will enable close combat Soldier/Squad Virtual collective maneuver and advanced marksmanship training, provide a reconfigurable, virtual air and ground collective trainer to enable battalion and below multi-domain combined arms maneuver, and deliver a common synthetic training environment with Training Simulation Software (TSS) and Training Management Tools (TMT).

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.

Other Program Funding: RDT&E located in 644121FD6

**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 / 03 / 70		<b>P-1 Line Item Number / Title:</b> 2079NA2000 / Synthetic Training Environment (STE)
		<b>Item Number / Title [DODIC]:</b> NA2020 / Synthetic Training Environment (STE)

<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)	-	-	-	69	-	69
Gross/Weapon System Cost (\$ in Millions)	-	-	-	20.749	-	20.749
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	-	-	-	20.749	-	20.749
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	-	-	-	<b>20.749</b>	-	<b>20.749</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)	-	-	-	300.710	-	300.710

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>																		
Synthetic Training Environment Production <sup>(t)</sup>	-	-	-	-	-	-	-	-	-	300.710	69	20.749	-	-	-	300.710	69	20.749
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	20.749	-	-	-	-	-	20.749
<i>Subtotal: Hardware Cost</i>	-	-	-	-	-	-	-	-	-	-	-	<b>20.749</b>	-	-	-	-	-	<b>20.749</b>
<b>Gross/Weapon System Cost</b>	-	-	-	-	-	-	-	-	-	<b>300.710</b>	<b>69</b>	<b>20.749</b>	-	-	-	<b>300.710</b>	<b>69</b>	<b>20.749</b>

**Remarks:**

FY 2020 Base procurement dollars in the amount of \$20.749 million will fund the initial STE production Lines of Effort (LOE), which are Reconfigurable Virtual Collective Trainer (RVCT); One World Terrain (OWT); Training Simulation Software (TSS), Training Management Tools (TMT) and Squad Virtual Trainer (S/SVT). This will enable close combat Soldier/Squad Virtual collective maneuver and advanced marksmanship training, provide a reconfigurable, virtual air and ground collective trainer to enable battalion and below multi-domain combined arms maneuver, and deliver a common synthetic training environment with Training Simulation Software (TSS) and Training Management Tools (TMT).

<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	-	-	69	-	69
Total Obligation Authority	-	-	20.749	-	20.749
<b>Total:</b>	-	-	<b>69</b>	-	<b>69</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 / 03 / 70		<b>P-1 Line Item Number / Title:</b> 2079NA2000 / Synthetic Training Environment (STE)		<b>Item Number / Title [DODIC]:</b> NA2020 / Synthetic Training Environment (STE)		
<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>	-	-	20.749	-	20.749

(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 / 03 / 70			<b>P-1 Line Item Number / Title:</b> 2079NA2000 / Synthetic Training Environment (STE)				<b>Item Number / Title [DODIC]:</b> NA2020 / Synthetic Training Environment (STE)					

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
Synthetic Training Environment Production <sup>(†)</sup>		2020	TBS / TBS	TBD	ACC, Orlando, FL	May 2020	Jul 2020	69	300.710	N		

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

**Remarks:**

Remarks: Although a 4th QTR FY20 FAR based contract is planned, there is a strong potential for an earlier OTA award based on decision and knowledge points from previous prototype efforts in FY19

The November 2019 to May 2020 change occurred as a result of initial FY18 prototype assessments. Based on the outcome of the user assessments that informed the requirement, the government anticipates that follow-on production efforts will be awarded to the vendor(s) under the current competitively awarded OTAs. .



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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 / 03 / 70		<b>P-1 Line Item Number / Title:</b> 2079NA2000 / Synthetic Training Environment (STE)
		<b>Item Number / Title [DODIC]:</b> NA2020 / Synthetic Training Environment (STE)

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 - TBS	1	70	380	0	1	1	2	0	1	4	5

"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 03: Other Support Equipment / BSA 70: Training Equipment	<b>P-1 Line Item Number / Title:</b> 6650NA0170 / Close Combat Tactical Trainer
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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> )	604	-	-	-	-	-	-	-	-	-	-	604
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	1,149.281	34.008	33.080	-	-	-	-	-	-	-	-	1,216.369
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	1,149.281	34.008	33.080	-	-	-	-	-	-	-	-	1,216.369
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>1,149.281</b>	<b>34.008</b>	<b>33.080</b>	-	-	-	-	-	-	-	-	<b>1,216.369</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> )	1,902.783	-	-	-	-	-	-	-	-	-	-	2,013.856

**Description:**

The Close Combat Tactical Trainer (CCTT) is a critical readiness enabler for Armored Brigade Combat Team (ABCT) units. CCTT simulators support Commanders' home station collective training and readiness requirements in conducting pre-deployment training in preparation for worldwide combat operations. CCTT immersively and comprehensively trains Armor, Cavalry, Infantry, Mechanized Infantry and Armored Reconnaissance units from squad through Battalion/Squadron level to include their staffs. The primary training audience operates from full-crew simulators, reconfigurable command posts and live battalion command posts to accomplish their combined arms training tasks. CCTT is a ground based, collective training device. CCTT is comprised of full fidelity, manned simulators for the M1 Abrams Main Battle Tank, M2 Bradley Fighting Vehicle (BFV) variants and includes the Reconfigurable Vehicle Tactical Trainer (RVTT) and Reconfigurable Vehicle Simulator (RVS) modules. RVTT is comprised of full fidelity, manned simulators for the High Mobility Multipurpose Wheeled Vehicle (HMMWV) and the Heavy Expanded Mobility Tactical Truck (HEMTT).

CCTT is an integral part of the Army training strategy, and through planned platform concurrency modernization.

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	34.008	33.080	-	-	-	-	-	-	-
<b>Total:</b>									
<b>Secondary Distribution</b>									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	<b>34.008</b>	<b>33.080</b>	-	-	-	-	-	-	-

**Justification:**

Effective FY20, Close Combat Tactical Trainer is in sustainment and does not have procurement or RDTE funds programmed.

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 Army 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 03: Other Support Equipment / BSA 70: Training Equipment	<b>P-1 Line Item Number / Title:</b> 6800NA0173 / Aviation Combined Arms Tactical Trainer
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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	34	21	-	21	21	-	-	-	-	121
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	539.540	30.568	32.700	4.840	-	4.840	4.947	-	-	-	-	612.595
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	539.540	30.568	32.700	4.840	-	4.840	4.947	-	-	-	-	612.595
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>539.540</b>	<b>30.568</b>	<b>32.700</b>	<b>4.840</b>	<b>-</b>	<b>4.840</b>	<b>4.947</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>612.595</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> )	22,480.833	1,455.619	961.765	230.476	-	230.476	235.571	-	-	-	-	5,062.769

**Description:**

The Aviation Combined Arms Tactical Trainer (AVCATT) is Army Aviation's only Collective Training System of Record to ensure the Active, Reserve and Army National Guard Aviation Units are trained and ready. AVCATT enables unit collective and combined arms air-ground training for AH-64, UH-60, CH-47, UH-72, and UH-72 aircrews within the Live, Virtual, Constructive (LVC) Integrated Training Environment (ITE). The AVCATT also supports the training of Non-Rated crew members in crew coordination, flight, aerial gunnery, hoist, and slingload related tasks via the Non-Rated Crewmember Manned Module (NCM3); which can be linked to AVCATT's UH-60, CH-47, and UH-72 cockpit configurations to support a unit's specific Mission Training Requirements.

Supports the Synthetic Training Environment (STE), which is the next generation holistic collective training capability that will train units at the point of need within the entire range of Multi-Domain Battle tasks in support of Unified Land Operations in a complex operational environment. STE will be a synthetic environment (virtual, constructive, and gaming) utilizing common authoritative data and models that is cloud-enabled through the Army Enterprise Network, and is service-based through the Common Operating Environment.

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	25	12	-	12	-	-	-
	Total Obligation Authority	12.227	22.286	2.766	-	2.766	2.827	-	-
ANG	Quantity	5	4	5	-	5	-	-	-
	Total Obligation Authority	6.114	4.629	0.922	-	0.922	0.942	-	-
AR	Quantity	4	5	4	-	4	-	-	-
	Total Obligation Authority	12.227	5.785	1.152	-	1.152	1.178	-	-
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	<b>21</b>	<b>34</b>	<b>21</b>	<b>-</b>	<b>21</b>	<b>21</b>	<b>-</b>	<b>-</b>
	<b>Total Obligation Authority</b>	<b>30.568</b>	<b>32.700</b>	<b>4.840</b>	<b>-</b>	<b>4.840</b>	<b>4.947</b>	<b>-</b>	<b>-</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 03: Other Support Equipment / BSA 70: Training Equipment		<b>P-1 Line Item Number / Title:</b> 6800NA0173 / Aviation Combined Arms Tactical Trainer
<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		
FY 2020 Base procurement dollars in the amount of \$4.8 million supports AVCATT/NCM3 Tech Refresh and Post Deployment Software Support (PDSS).  Technology Refresh includes replacement of and modernization of AVCATT's NCM3 manned module computer and display system hardware to mitigate obsolescence. Modernization and technical refresh upgrades are essential to enable the long term operational relevancy and sustainability of the AVCATT/NCM3 system, which is a key training enabler for the Active and National Guard components for training combined arms operations in a simulated, fully interactive, virtual battlefield. The AVCATT/NCM3 requirement exists to train and sustain collective (crew through battalion) tasks to meet Army readiness and mission objectives. AVCATT/NCM3 training also contributes to unit readiness by augmenting live training to train tasks that cannot be performed in a live training environment due to safety, cost, and environmental constraints.  AVCATT/NCM3 is an integral part of the Army training strategy, and has completed planned platform concurrency modernization.  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 03: Other Support Equipment / BSA 70: Training Equipment	<b>P-1 Line Item Number / Title:</b> 6860NA0176 / Gaming Technology In Support of Army Training
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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> )	15	10	33	45	-	45	4	-	-	-	-	107
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	63.061	6.487	25.161	15.463	-	15.463	12.894	6.905	1.350	-	-	131.321
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	63.061	6.487	25.161	15.463	-	15.463	12.894	6.905	1.350	-	-	131.321
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>63.061</b>	<b>6.487</b>	<b>25.161</b>	<b>15.463</b>	<b>-</b>	<b>15.463</b>	<b>12.894</b>	<b>6.905</b>	<b>1.350</b>	<b>-</b>	<b>-</b>	<b>131.321</b>

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

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Thousands</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Thousands</i> )	4,204.067	648.700	762.455	343.622	-	343.622	3,223.500	-	-	-	-	1,227.299

**Description:**

The Games for Training (GFT) Program prepares Soldiers and Leaders for executing Unified Land Operations by delivering robust training and mission rehearsal capabilities. The GFT program satisfies the Active, National Guard, and Army Reserves' educational requirements in the Operational, Institutional, and Self-Development Training Domains with a low-overhead, flexible, persistent training capability on geo-specific and geo-typical terrain that is relevant with all military platforms and weapon systems. This gaming capability allows units and commanders to train individual and collective tasks at the company and below level with minimal amount of resourcing required (land, ammunition, transportation, etc.). Through the use of GFT systems, commanders are able to refine and rehearse unit Tactics, Techniques, and Procedures (TTPs) and Standard Operating Procedures (SOPs) prior to executing live, large-scale training events. GFT trains higher echelon units and staffs by facilitating Tactical Exercises Without Troops (TEWT).

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	25	16	-	16	-	-	-	-
	Total Obligation Authority	4.217	20.620	6.748	-	6.748	6.345	3.593	0.702	-
ANG	Quantity	-	3	26	-	26	4	-	-	-
	Total Obligation Authority	1.135	1.703	7.758	-	7.758	5.855	2.919	0.571	-
AR	Quantity	-	5	3	-	3	-	-	-	-
	Total Obligation Authority	1.135	2.838	0.957	-	0.957	0.694	0.393	0.077	-
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	<b>10</b>	<b>33</b>	<b>45</b>	<b>-</b>	<b>45</b>	<b>4</b>	<b>-</b>	<b>-</b>	<b>-</b>
	<b>Total Obligation Authority</b>	<b>6.487</b>	<b>25.161</b>	<b>15.463</b>	<b>-</b>	<b>15.463</b>	<b>12.894</b>	<b>6.905</b>	<b>1.350</b>	<b>-</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 03: Other Support Equipment / BSA 70: Training Equipment

**P-1 Line Item Number / Title:**  
6860NA0176 / Gaming Technology In Support of Army Training

**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	NA0176 / Gaming Technology In Support of Army Training	P-5a			15 / 63.061	10 / 6.487	33 / 25.161	45 / 15.463	- / -	45 / 15.463
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>15 / 63.061</b>	<b>10 / 6.487</b>	<b>33 / 25.161</b>	<b>45 / 15.463</b>	<b>- / -</b>	<b>45 / 15.463</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 \$15.463 million allows for the Games for Training (GFT) program to enable sustained readiness by efficiently and effectively building soldier, leader, and unit competency on technical skills necessary to perform multiple mission types in accordance with current tactics, techniques and procedures. FY20 funds support the technical refresh, to include fielding of 45 GFT classroom suites, maintaining compliance with the US Army cybersecurity requirements. The base dollars also perform the concurrency, verification, validation and assessment (VV&A), along with training and technical support of the Virtual Battle Space 3 (VBS3) software license that provides Army Enterprise use rights.

Fielding support includes logistical provisioning for de-confliction and coordination with receiving locations as well as centralized oversight for meeting network and Risk Management Framework (RMF) /cyber requirements. New Equipment Training reflects the creation of training materials and delivery of training for new suites. System Technical Support provides the oversight, implementation, and help desk support in order to facilitate the program's Cybersecurity Strategy for the fielded GFT classroom and Stryker Virtual Collective Trainer (SVCT) suites across 88 various Army locations.

Government Management will provide program management, engineering and technical oversight, and travel for the GFT program. Government Furnished Material provides a Web Portal for the centralized distribution, repository of content and tech support of the VBS3 and gaming software for the Army training community. GFT is a critical program enabling other virtual and constructive training capabilities and the Integrated Training Environment (ITE).

The increase in Flyway Cost - Gaming System Refresh on P-5 from FY19 to FY20 is due to additional number of technical refreshes being perform on previously fielded GFT classrooms suites, due to hardware obsolescence, and to ensure that these suites are in compliance with US Army cybersecurity requirements. The increase in the Support Cost on P-5 from FY19 to FY20 is due to increased personnel cost associated with fielding of the GFT system, in addition to the System Technical Support to ensure that the GFT system meets the Program Cybersecurity Strategy to comply with Army 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.

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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 / 03 / 70	<b>P-1 Line Item Number / Title:</b> 6860NA0176 / Gaming Technology In Support of Army Training	<b>Item Number / Title [DODIC]:</b> NA0176 / Gaming Technology In Support of Army Training

<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)		15	10	33	45	-	45
Gross/Weapon System Cost (\$ in Millions)		63.061	6.487	25.161	15.463	-	15.463
Less PY Advance Procurement (\$ in Millions)		-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)		63.061	6.487	25.161	15.463	-	15.463
Plus CY Advance Procurement (\$ in Millions)		-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>		<b>63.061</b>	<b>6.487</b>	<b>25.161</b>	<b>15.463</b>	<b>-</b>	<b>15.463</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)		4,204.067	648.700	762.455	343.622	-	343.622

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																		
New Gaming Hardware Suites <sup>(f)</sup>	173.182	22	3.810	-	-	-	215.000	31	6.665	-	-	-	-	-	-	-	-	-
Gaming Systems Refresh <sup>(f)</sup>	100.974	38	3.837	-	-	-	215.000	35	7.525	215.000	45	9.675	-	-	-	215.000	45	9.675
Stryker Virtual Collective Trainer <sup>(f)</sup>	1,608.800	5	8.044	-	-	-	1,457.000	3	4.371	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	15.691	-	-	-	-	-	18.561	-	-	9.675	-	-	-	-	-	9.675
<i>Subtotal: Flyaway Cost</i>	-	-	15.691	-	-	-	-	-	18.561	-	-	9.675	-	-	-	-	-	9.675
Hardware Cost																		
Non Recurring Cost																		
Gaming Toolkits/ Ancillary Equipment	-	-	0.023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RMF Hardware	-	-	1.000	-	-	0.063	-	-	-	-	-	-	-	-	-	-	-	-
SVCT Spares	-	-	-	-	-	-	-	-	0.744	-	-	-	-	-	-	-	-	-
<i>Subtotal: Non Recurring Cost</i>	-	-	1.023	-	-	0.063	-	-	0.744	-	-	-	-	-	-	-	-	-
<i>Subtotal: Hardware Cost</i>	-	-	1.023	-	-	0.063	-	-	0.744	-	-	-	-	-	-	-	-	-
Software Cost																		
Recurring Cost																		
VBS3 License	-	-	26.812	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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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 / 03 / 70						<b>P-1 Line Item Number / Title:</b> 6860NA0176 / Gaming Technology In Support of Army Training						<b>Item Number / Title [DODIC]:</b> NA0176 / Gaming Technology In Support of Army Training					
<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)
VBS3 Software Concurrency	-	-	1.502	-	-	3.870	-	-	2.458	-	-	0.329	-	-	-	-	-	0.329
<i>Subtotal: Recurring Cost</i>	-	-	28.314	-	-	3.870	-	-	2.458	-	-	0.329	-	-	-	-	-	0.329
Non Recurring Cost																		
Modifications and Upgrades	-	-	2.998	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Non Recurring Cost</i>	-	-	2.998	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Subtotal: Software Cost</b>	-	-	<b>31.312</b>	-	-	<b>3.870</b>	-	-	<b>2.458</b>	-	-	<b>0.329</b>	-	-	-	-	-	<b>0.329</b>
Support - Fielding Cost																		
Fielding	-	-	2.377	-	-	0.115	-	-	1.275	-	-	1.865	-	-	-	-	-	1.865
<i>Subtotal: Support - Fielding Cost</i>	-	-	<b>2.377</b>	-	-	<b>0.115</b>	-	-	<b>1.275</b>	-	-	<b>1.865</b>	-	-	-	-	-	<b>1.865</b>
Support - Government Furnished Materials Cost																		
Government Furnished Materials	-	-	2.652	-	-	0.529	-	-	0.569	-	-	0.582	-	-	-	-	-	0.582
<i>Subtotal: Support - Government Furnished Materials Cost</i>	-	-	<b>2.652</b>	-	-	<b>0.529</b>	-	-	<b>0.569</b>	-	-	<b>0.582</b>	-	-	-	-	-	<b>0.582</b>
Support - New Equipment Training (NET) Cost																		
Equipment	-	-	1.301	-	-	-	-	-	0.200	-	-	0.500	-	-	-	-	-	0.500
<i>Subtotal: Support - New Equipment Training (NET) Cost</i>	-	-	<b>1.301</b>	-	-	-	-	-	<b>0.200</b>	-	-	<b>0.500</b>	-	-	-	-	-	<b>0.500</b>
Support - Program Management Cost																		
Contractor Management	-	-	7.839	-	-	1.004	-	-	1.354	-	-	1.612	-	-	-	-	-	1.612
<i>Subtotal: Support - Program Management Cost</i>	-	-	<b>7.839</b>	-	-	<b>1.004</b>	-	-	<b>1.354</b>	-	-	<b>1.612</b>	-	-	-	-	-	<b>1.612</b>
Support - System Technical Support (STS) Cost																		
System Technical Support (STS)	-	-	0.866	-	-	0.906	-	-	-	-	-	0.900	-	-	-	-	-	0.900
<i>Subtotal: Support - System Technical Support (STS) Cost</i>	-	-	<b>0.866</b>	-	-	<b>0.906</b>	-	-	-	-	-	<b>0.900</b>	-	-	-	-	-	<b>0.900</b>
<b>Gross/Weapon System Cost</b>	<b>4,204.067</b>	<b>15</b>	<b>63.061</b>	<b>648.700</b>	<b>10</b>	<b>6.487</b>	<b>762.455</b>	<b>33</b>	<b>25.161</b>	<b>343.622</b>	<b>45</b>	<b>15.463</b>	-	-	-	<b>343.622</b>	<b>45</b>	<b>15.463</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 / 03 / 70	<b>P-1 Line Item Number / Title:</b> 6860NA0176 / Gaming Technology In Support of Army Training	<b>Item Number / Title [DODIC]:</b> NA0176 / Gaming Technology In Support of Army Training

<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>
Army	Quantity	10	25	16	-	16
	Total Obligation Authority	4.217	20.620	6.748	-	6.748
ANG	Quantity	-	3	26	-	26
	Total Obligation Authority	1.135	1.703	7.758	-	7.758
AR	Quantity	-	5	3	-	3
	Total Obligation Authority	1.135	2.838	0.957	-	0.957
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	<b>10</b>	<b>33</b>	<b>45</b>	-	<b>45</b>
	<b>Total Obligation Authority</b>	<b>6.487</b>	<b>25.161</b>	<b>15.463</b>	-	<b>15.463</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 / 03 / 70			<b>P-1 Line Item Number / Title:</b> 6860NA0176 / Gaming Technology In Support of Army Training				<b>Item Number / Title [DODIC]:</b> NA0176 / Gaming Technology In Support of Army Training					

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
New Gaming Hardware Suites		2019	TBD / TBD	C / FFP	ACC Orlando, FL	Feb 2019	Apr 2019	31	215.000	Y		Jan 2019
Gaming Systems Refresh		2019	TBD / TBD	C / FFP	ACC Orlando, FL	Feb 2019	Apr 2019	35	215.000	Y		Jan 2019
Gaming Systems Refresh		2020	TBD / TBD	TBD	ACC Orlando, FL	Jan 2020	Mar 2020	45	215.000	Y		
Stryker Virtual Collective Trainer		2019	AMRDEC-PIF / Huntsville, AL	MIPR	ACC Huntsville, AL	Dec 2018	Jun 2019	3	1,457.000	N		

**Remarks:**

New Gaming Hardware Suites/ Gaming System Refresh are COTS procured through the ARMY Computer Hardware Enterprise Software and Solutions (CHES) Program.

The unit cost increase in New Gaming Hardware Suites/ Gaming System Refresh seen in the P-5 is as a result of the recent independent government cost estimate and market research conducted to ensure hardware requirements are in compliance with Army RMF requirements.

The increase in Flyway Cost - Gaming System Refresh on P-5 from FY19 to FY20 is due to additional number of technical refreshes being perform on previously fielded GFT classrooms suites, due to hardware obsolescence, and to ensure that these suites are in compliance with US Army cybersecurity requirements.

The increase in the Support Cost on P-5 from FY19 to FY20 is due to increased personnel cost associated with fielding of the GFT system, in addition to the System Technical Support to ensure that the GFT system meets the Program Cybersecurity Strategy to comply with Army RMF requirements.

AMRDEC-PIF: Army Aviation and Missile Research Development and Engineering Center - Prototype Integration Facility

**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 03: Other Support Equipment / BSA 80: Test Measure and Dig Equipment (TMD)

**P-1 Line Item Number / Title:**  
0100N10000 / Calibration Sets Equipment

**ID Code** (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0604746A

**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> )	202	123	793	-	-	-	-	3	-	-	Continuing	Continuing
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	301.171	5.564	4.270	3.030	-	3.030	2.514	9.882	2.650	2.326	Continuing	Continuing
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	301.171	5.564	4.270	3.030	-	3.030	2.514	9.882	2.650	2.326	Continuing	Continuing
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>301.171</b>	<b>5.564</b>	<b>4.270</b>	<b>3.030</b>	<b>-</b>	<b>3.030</b>	<b>2.514</b>	<b>9.882</b>	<b>2.650</b>	<b>2.326</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> )	1,490.946	45.236	5.385	-	-	-	-	3,294.000	-	-	Continuing	Continuing

**Description:**

Calibration Sets Equipment (CALSETS) consists of calibration instrumentation housed in fixed facilities or contained within tactical shelters with accompanying power generation equipment. The CALSETS instrumentation provides support to maintenance units and area support organizations from brigade to multi-theater sustainment operations and ensures a cascading transfer of precision accuracy originating from the US National Institute of Standards and Technology (NIST). The calibration sets are designed to support 90 percent of the Army test, measurement and diagnostic equipment (TMDE) workload with an objective of 98 percent. The instruments and equipment procured through this program are assembled into several set configurations (AN/GSM-286, AN/GSM-287, AN/GSM-439, AN/GSM-440, AN/GSM-442, AN/GSM-26(V)1, AN/GSM-26(V)2 and Secondary Reference) and two tactical calibration shelters (AN/GSM-705 and AN/GSM-421A(V)2). These calibration standards sets are integral to verifying the accuracy of TMDE with mandated traceability to accuracy standards. State-of-the-art calibration equipment is required to ensure that advanced technology weapons and systems are maintained at the required state of operational readiness. Systems supported by the Calibration Sets include, but are not limited to, unmanned aerial vehicles (Shadow/Gray Eagle); military signal and electronic intelligence operations; tactical and strategic communications (Single Channel Ground and Airborne Radio System (SINCGARS)); and ground, missile and aviation platforms such as the Army Family of Medium Tactical Vehicles (FMTV), Abrams, Multiple Launch Rocket System, Patriot, Apache, Blackhawk, Chinook and all future weapon systems.

The quantities for FY 2018 and FY 2019 include modernization items that are incorporated into calibration set shelters in the Army's inventory to maintain and upgrade capabilities of the sets. Quantities shown for FY 2020 and the out-years represent calibration set/shelter acquisitions only and exclude quantities for modernization items.

Army Acquisition Objective (AAO): AN/GSM-286 - 45; AN/GSM-287 - 67; AN/GSM-439 - 37; AN/GSM-440 - 32; AN/GSM-705 - 26; AN/GSM-421A(V)2 - 26; AN/GSM-26(V)1 - 161; AN/GSM-26(V)2 - 37; AN/GSM-422 - 1; Secondary Reference Standards Set - 11

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	48	487	-	-	-	-	-	-	-
Total Obligation Authority	4.459	1.949	1.714	-	1.714	1.499	5.815	1.428	1.228
ANG	75	306	-	-	-	-	3	-	-
Total Obligation Authority	1.105	2.321	1.316	-	1.316	1.015	4.067	1.222	1.098
<b>Total:</b>	<b>123</b>	<b>793</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>3</b>	<b>-</b>	<b>-</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 03: Other Support Equipment / BSA 80: Test Measure and Dig Equipment (TMD) **P-1 Line Item Number / Title:** 0100N10000 / Calibration Sets Equipment

**ID Code** (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0604746A

**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	5.564	4.270	3.030	-	3.030	2.514	9.882	2.650	2.326

**Justification:**  
 FY 2020 base procurement dollars in the amount of \$3.030 million support acquisition of low phase noise signal generators, multi-function electrical calibrators (to support various electronic test, measurement and diagnostic equipment used on aviation, communication, missile and radar systems), pneumatic pressure indicators (to support Army pitot-static test equipment (i.e., Army aviation altitude and airspeed testers)), and instrument controllers (used to display all Army calibration procedures and to automate the execution of most Army calibration procedures). These items are components of various calibration sets and used in tactical calibration shelters.

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

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

**Appropriation / Budget Activity / Budget Sub Activity:**  
2035A: Other Procurement, Army / BA 03: Other Support Equipment / BSA 80: Test Measure and Dig Equipment (TMD) **P-1 Line Item Number / Title:**  
0200MB4000 / Integrated Family Of Test Equipment (IFTE)

**ID Code** (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0604746A

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

<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> )	2,176	544	5,429	1,134	-	1,134	867	729	-	-	-	10,879
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	766.516	36.644	82.037	76.980	1.395	78.375	78.661	78.227	-	-	-	1,120.460
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	766.516	36.644	82.037	76.980	1.395	78.375	78.661	78.227	-	-	-	1,120.460
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>766.516</b>	<b>36.644</b>	<b>82.037</b>	<b>76.980</b>	<b>1.395</b>	<b>78.375</b>	<b>78.661</b>	<b>78.227</b>	-	-	-	<b>1,120.460</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> )	352.259	67.360	15.111	67.884	-	69.114	90.728	107.307	-	-	-	102.993

**Description:**

The Integrated Family of Test Equipment (IFTE) includes the Maintenance Support Device (MSD) for at-system automatic test and diagnostic support and the Next Generation Automatic Test System (NGATS) for consolidation of off-system automatic test and diagnostic equipment requirements. The IFTE systems provide electronic fault isolation, diagnostic and repair capabilities at all levels of maintenance and do it more cost effectively than system-specific testers. They are designed to and are capable of supporting multiple weapons systems. The MSD fleet consists of portable rugged and light (non-rugged) test and diagnostic equipment used at all levels of maintenance to automatically diagnose electronic and automotive subsystems of the Army's ground and aviation weapon systems. The MSD systems provide test and diagnostic support and maintenance automation capabilities that are critical to the readiness of Army units and their equipment. They host interactive electronic technical manuals and expert diagnostics systems, conduct intrusive testing in support of Army weapons and electronic systems, and provide a means to upload/download mission-critical software into weapon system on-board computer electronics. The MSDs are being fielded to support approved Army force structure requirements. They will host the Digital Logbook and Global Combat Support System-Army (GCSS-A) software, provide Army maintainers the capability to connect to the logistics enterprise, and perform maintenance management in an information-enabled environment. The MSDs are the Army's standard at-system test and diagnostic equipment. They are an essential maintenance tool in the support plans for the Army's ground vehicle and aviation fleets, and are in widespread use in deployed units. The NGATS is a mobile, rapidly deployable, reconfigurable general-purpose automatic test and diagnostic system which provides sustainment level maintenance testing and screening directly to the Army's major weapons systems in order to maintain the readiness and availability of those combat systems. NGATS maintains backward compatibility with previous IFTE versions, is Joint Services Next-Generation Test (NxTest) compliant, and includes interservice testing and diagnostic support capability. It is capable of satisfying field, sustainment and depot level requirements for fault isolation, diagnostics and off-system repair of current and future weapons systems. NGATS will be the single automatic test and diagnostic solution in the Army by incrementally replacing the Direct Support Electrical Systems Test Set (DSESTS), all previous IFTE Base Shop Test Facility versions, and depot system-specific automatic test equipment. It is the platform for transitioning Agile Rapid Global Combat Support System (ARGCS) technologies into the Army's weapon system support structure. The ARGCS Advanced Concept Technology Demonstration (ACTD) was sponsored by the Department of Defense (DoD), and all Services are expected to transition demonstrated technologies into their automatic test system (ATS) programs. The NGATS eliminates the requirement for the 1970s era DSESTS and reduces the associated logistics burden and cost of support. It implements a modern test and diagnostic capability to support the new generation of ground-based targeting and observation sensor packages for individual, crew and intelligence gathering systems and equipment such as Stryker Remote Weapons Station (RWS), Improved Tube-launched Optically-tracked Wire-guided missile (TOW) Acquisition System (ITAS), Common Remotely Operated Weapons Station (CROWS) and Common Missile Warning System (CMWS) and also has the ability to improve the testing and diagnostic support of legacy weapons systems.

Army Acquisition Objective (AAO): MSD - 25,803; AV-MSD - 5002; NGATS - 175

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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 03: Other Support Equipment / BSA 80: Test Measure and Dig Equipment (TMD) **P-1 Line Item Number / Title:** 0200MB4000 / Integrated Family Of Test Equipment (IFTE)

**ID Code** (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0604746A

**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	262	3,365	711	-	711	541	460	-	-
	Total Obligation Authority	30.939	46.658	72.930	1.395	74.325	58.258	74.461	-	-
ANG	Quantity	236	1,631	334	-	334	258	213	-	-
	Total Obligation Authority	4.774	33.023	3.198	-	3.198	19.560	2.973	-	-
AR	Quantity	46	433	89	-	89	68	56	-	-
	Total Obligation Authority	0.931	2.356	0.852	-	0.852	0.843	0.793	-	-
<b>Total:</b>	<b>Quantity</b>	<b>544</b>	<b>5,429</b>	<b>1,134</b>	<b>-</b>	<b>1,134</b>	<b>867</b>	<b>729</b>	<b>-</b>	<b>-</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>36.644</b>	<b>82.037</b>	<b>76.980</b>	<b>1.395</b>	<b>78.375</b>	<b>78.661</b>	<b>78.227</b>	<b>-</b>	<b>-</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 03: Other Support Equipment / BSA 80: Test Measure and Dig Equipment (TMD) **P-1 Line Item Number / Title:** 0200MB4000 / Integrated Family Of Test Equipment (IFTE)

**ID Code** (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0604746A

**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	MB4002 / Maintenance Support Device	P-5a	A		2,172 / 625.705	540 / 10.925	5,416 / 29.475	1,115 / 10.657	- / 1.395	1,115 / 12.052
P-5	MB4004 / Next Generation Automatic Test System (NGATS)	P-5a, P-21	A		4 / 140.811	4 / 25.719	13 / 52.562	19 / 66.323	- / -	19 / 66.323
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>2,176 / 766.516</b>	<b>544 / 36.644</b>	<b>5,429 / 82.037</b>	<b>1,134 / 76.980</b>	<b>- / 1.395</b>	<b>1,134 / 78.375</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 \$76.980 million support acquisition of 19 Next Generation Automatic Test Systems (NGATS) and 1,115 Maintenance Support Devices (MSD) to satisfy critical test and diagnostic requirements of Army warfighting systems and to support a balanced investment strategy for the Army's approved force structure requirements. Acquisition of the NGATS will continue deployment of a multi-purpose, multi-echelon off-platform automatic test and diagnostic capability to support many of the Army's weapons platforms such as Abrams, Bradley, Counter Radio-Controlled Improvised Explosive Device (RCIED) Electronic Warfare (CREW)/Duke, Stryker, Common Remotely Operated Weapons Station (CROWS), M777, Paladin Integrated Management (PIM), Tube-launched Optically-tracked Wire-guided (TOW), Avenger and Multiple Launch Rocket System and to achieve the stated Department of Defense (DoD) goal of replacing multiple single function, aging, obsolete and costly automatic test systems with a single tester capable of supporting all weapons systems at field, sustainment and depot maintenance levels. The FY 2020 funding will complete buy out of the entire NGATS U.S. Army Training and Doctrine Command (TRADOC) requirement and replacement of obsolete Direct Support Electrical Systems Test Set (DSESTS) at 19 Armored Brigade Combat Teams (ABCT) in support of the Abrams and Bradley systems. This funding also implements the net-centric logistics capability ensuring maintenance data is leveraged at all support levels through a closed loop data sharing architecture that supports the future logistics concepts as well as improved diagnostics by linking embedded diagnostics and condition-based maintenance. Acquisition of the MSDs will satisfy approved Army force structure requirements. This equipment provides critical test and diagnostics support for weapons and support systems such as the Abrams, Bradley, Stryker, Blackhawk, Chinook, Apache, Patriot, and the Army's diesel-powered tactical wheeled vehicles.

FY 2020 OCO procurement dollars in the amount of \$1.395 million will procure and field 263 MSDs in support of the European Deterrence Initiative. System issues prevented the correct population of quantities in the P-40.

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 / 03 / 80				<b>P-1 Line Item Number / Title:</b> 0200MB4000 / Integrated Family Of Test Equipment (IFTE)							<b>Item Number / Title [DODIC]:</b> MB4002 / Maintenance Support Device						
<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)				2,172		540			5,416			1,115		-		1,115	
Gross/Weapon System Cost (\$ in Millions)				625.705		10.925			29.475			10.657		1.395		12.052	
Less PY Advance Procurement (\$ in Millions)				-		-			-			-		-		-	
Net Procurement (P-1) (\$ in Millions)				625.705		10.925			29.475			10.657		1.395		12.052	
Plus CY Advance Procurement (\$ in Millions)				-		-			-			-		-		-	
<b>Total Obligation Authority (\$ in Millions)</b>				<b>625.705</b>		<b>10.925</b>			<b>29.475</b>			<b>10.657</b>		<b>1.395</b>		<b>12.052</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)				288.078		20.231			5.442			9.558		-		10.809	

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>																		
Maintenance Support Device (MSD) (Rugged) <sup>(f)</sup>	15.462	23,363	361.238	3.902	396	1.545	3.901	4,047	15.787	3.901	835	3.257	3.904	197	0.769	3.901	1,032	4.026
MSD (Light) <sup>(f)</sup>	-	-	-	-	-	0.601	3.091	1,369	4.232	3.089	280	0.865	3.091	66	0.204	3.090	346	1.069
MSD Type 3 <sup>(f)</sup>	-	-	-	6.854	144	0.987	-	-	-	-	-	-	-	-	-	-	-	-
Aviation MSD/Aircraft Notebook	3.437	1,733	5.956	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Internal Combustion Engine (ICE)/Wireless At-Platform Test Set (WATS) Kits	-	-	-	-	-	1.500	-	-	4.424	-	-	1.952	-	-	-	-	-	1.952
<b>Subtotal: Recurring Cost</b>	-	-	<b>367.195</b>	-	-	<b>4.633</b>	-	-	<b>24.443</b>	-	-	<b>6.074</b>	-	-	<b>0.973</b>	-	-	<b>7.047</b>
<b>Non Recurring Cost</b>																		
Support Equipment/ Accessories	-	-	1.224	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Subtotal: Non Recurring Cost</b>	-	-	<b>1.224</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Subtotal: Hardware Cost</b>	-	-	<b>368.419</b>	-	-	<b>4.633</b>	-	-	<b>24.443</b>	-	-	<b>6.074</b>	-	-	<b>0.973</b>	-	-	<b>7.047</b>
<b>Package Fielding Cost</b>																		
<b>Recurring Cost</b>																		
New Equipment Training/Fielding Support	-	-	5.161	-	-	0.597	-	-	0.369	-	-	0.466	-	-	-	-	-	0.466

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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 / 03 / 80						<b>P-1 Line Item Number / Title:</b> 0200MB4000 / Integrated Family Of Test Equipment (IFTE)						<b>Item Number / Title [DODIC]:</b> MB4002 / Maintenance Support Device					
<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)
Shipping Equipment to the Field	-	-	0.732	-	-	0.061	-	-	0.146	-	-	0.063	-	-	-	-	-	0.063
<i>Subtotal: Recurring Cost</i>	-	-	5.893	-	-	0.658	-	-	0.515	-	-	0.529	-	-	-	-	-	0.529
<i>Subtotal: Package Fielding Cost</i>	-	-	5.893	-	-	0.658	-	-	0.515	-	-	0.529	-	-	-	-	-	0.529
<b>Logistics Cost</b>																		
<b>Recurring Cost</b>																		
Technical and Logistics Data/ Services	-	-	0.528	-	-	0.690	-	-	0.327	-	-	0.631	-	-	-	-	-	0.631
Technical Publications	-	-	-	-	-	0.135	-	-	0.185	-	-	0.066	-	-	-	-	-	0.066
<i>Subtotal: Recurring Cost</i>	-	-	0.528	-	-	0.825	-	-	0.512	-	-	0.697	-	-	-	-	-	0.697
<i>Subtotal: Logistics Cost</i>	-	-	0.528	-	-	0.825	-	-	0.512	-	-	0.697	-	-	-	-	-	0.697
<b>Support - Initial Spares and Repair Parts Cost</b>																		
Initial Spares and Repair Parts	-	-	0.996	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - Initial Spares and Repair Parts Cost</i>	-	-	0.996	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Support - Production Engineering Cost</b>																		
Production Engineering	-	-	16.708	-	-	1.380	-	-	1.398	-	-	1.023	-	-	0.422	-	-	1.445
<i>Subtotal: Support - Production Engineering Cost</i>	-	-	16.708	-	-	1.380	-	-	1.398	-	-	1.023	-	-	0.422	-	-	1.445
<b>Support - Program Management Cost</b>																		
Government Management	-	-	8.657	-	-	0.707	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - Program Management Cost</i>	-	-	8.657	-	-	0.707	-	-	-	-	-	-	-	-	-	-	-	-
<b>Support - Quality Assurance Cost</b>																		
Quality Assurance	-	-	0.623	-	-	0.071	-	-	0.073	-	-	0.073	-	-	-	-	-	0.073
<i>Subtotal: Support - Quality Assurance Cost</i>	-	-	0.623	-	-	0.071	-	-	0.073	-	-	0.073	-	-	-	-	-	0.073
<b>Support - System Engineering Cost</b>																		
System Engineering	-	-	221.855	-	-	1.882	-	-	1.668	-	-	1.595	-	-	-	-	-	1.595
<i>Subtotal: Support - System Engineering Cost</i>	-	-	221.855	-	-	1.882	-	-	1.668	-	-	1.595	-	-	-	-	-	1.595
<b>Support - System Technical Support (STS) Cost</b>																		
System Technical Support (STS)	-	-	0.278	-	-	0.641	-	-	0.693	-	-	0.593	-	-	-	-	-	0.593



**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 / 03 / 80						<b>P-1 Line Item Number / Title:</b> 0200MB4000 / Integrated Family Of Test Equipment (IFTE)						<b>Item Number / Title [DODIC]:</b> MB4002 / Maintenance Support Device					
<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 Technical Support (STS) Cost</i>	-	-	0.278	-	-	0.641	-	-	0.693	-	-	0.593	-	-	-	-	-	0.593
Support - System Test and Evaluation Cost																		
Test and Evaluation Support	-	-	1.741	-	-	0.128	-	-	0.173	-	-	0.073	-	-	-	-	-	0.073
<i>Subtotal: Support - System Test and Evaluation Cost</i>	-	-	1.741	-	-	0.128	-	-	0.173	-	-	0.073	-	-	-	-	-	0.073
<b>Gross/Weapon System Cost</b>	288.078	2,172	625.705	20.231	540	10.925	5.442	5,416	29.475	9.558	1,115	10.657	-	-	1.395	10.809	1,115	12.052

**Remarks:**

System issues prevented the correct population of quantities in the P-5 Resource Summary header and Gross/Weapon System Unit Cost totals for FY 2020 OCO. The Cost Element detail of the P-5 (Hardware) provides planned procurement quantities associated with FY 2020 OCO requested funding.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	258	3,358	692	-	692
	Total Obligation Authority	5.220	18.275	6.607	1.395	8.002
ANG	Quantity	236	1,625	334	-	334
	Total Obligation Authority	4.774	8.844	3.198	-	3.198
AR	Quantity	46	433	89	-	89
	Total Obligation Authority	0.931	2.356	0.852	-	0.852
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	<b>540</b>	<b>5,416</b>	<b>1,115</b>	<b>-</b>	<b>1,115</b>
	<b>Total Obligation Authority</b>	<b>10.925</b>	<b>29.475</b>	<b>10.657</b>	<b>1.395</b>	<b>12.052</b>

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

**UNCLASSIFIED**

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

**Appropriation / Budget Activity / Budget Sub Activity:** 2035A / 03 / 80 **P-1 Line Item Number / Title:** 0200MB4000 / Integrated Family Of Test Equipment (IFTE) **Item Number / Title [DODIC]:** MB4002 / Maintenance Support Device

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
Maintenance Support Device (MSD) (Rugged)		2018	DRS Network & Imaging Systems, LLC / Melbourne, FL	C / FFP	ACC-Redstone	Jun 2019	Sep 2019	396	3.902	Y		
Maintenance Support Device (MSD) (Rugged)		2019	DRS Network & Imaging Systems, LLC / Melbourne, FL	C / FFP	ACC-Redstone	Jun 2019	Dec 2019	4,047	3.901	Y		
Maintenance Support Device (MSD) (Rugged)		2020	DRS Network & Imaging Systems, LLC / Melbourne, FL	C / FFP	ACC-Redstone	Feb 2020	Dec 2020	1,032	3.901	Y		
MSD (Light)		2019	DRS Network & Imaging Systems, LLC / Melbourne, FL	C / FFP	ACC-New Jersey	Jun 2019	Dec 2019	1,369	3.091	Y		
MSD (Light)		2020	DRS Network & Imaging Systems, LLC / Melbourne, FL	C / FFP	ACC-New Jersey	Feb 2020	May 2020	346	3.090	Y		
MSD Type 3		2018	Miltope Corporation / Hope Hull, AL	C / FFP	ACC-New Jersey	Jul 2018	Feb 2019	144	6.854	Y		

**Remarks:**  
Unit costs vary from year to year depending upon the configurations purchased to meet projected fielding requirements. Maintenance Support Device (MSD) systems are costed and programmed normally with 26 percent of the MSD fleet equipped with a wireless at-platform test set (WATS) required for testing diesel powered engines and an approximate mix of 75 percent rugged and 25 percent light configurations.

**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 / 03 / 80	<b>P-1 Line Item Number / Title:</b> 0200MB4000 / Integrated Family Of Test Equipment (IFTE)	<b>Item Number / Title [DODIC]:</b> MB4004 / Next Generation Automatic Test System (NGATS)

<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)	4	4	13	19	-	19
Gross/Weapon System Cost (\$ in Millions)	140.811	25.719	52.562	66.323	-	66.323
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	140.811	25.719	52.562	66.323	-	66.323
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>140.811</b>	<b>25.719</b>	<b>52.562</b>	<b>66.323</b>	<b>-</b>	<b>66.323</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)	35,202.750	6,429.750	4,043.231	3,490.684	-	3,490.684

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																		
Next Generation Automatic Test System <sup>(†)</sup>	3,747.889	9	33.731	2,500.000	4	10.000	2,500.000	13	32.500	2,000.000	19	38.000	-	-	-	2,000.000	19	38.000
Low-Rate Initial Production (LRIP) Upgrade	-	-	-	-	-	-	-	-	0.600	-	-	1.800	-	-	-	-	-	1.800
ATE Shelters	-	-	-	-	-	2.302	-	-	-	-	-	5.700	-	-	-	-	-	5.700
<i>Subtotal: Recurring Cost</i>	-	-	33.731	-	-	12.302	-	-	33.100	-	-	45.500	-	-	-	-	-	45.500
<i>Subtotal: Hardware Cost</i>	-	-	<b>33.731</b>	-	-	<b>12.302</b>	-	-	<b>33.100</b>	-	-	<b>45.500</b>	-	-	-	-	-	<b>45.500</b>
<b>Software Cost</b>																		
Recurring Cost																		
Test Program Set Support	-	-	15.574	-	-	4.578	-	-	6.618	-	-	7.158	-	-	-	-	-	7.158
<i>Subtotal: Recurring Cost</i>	-	-	15.574	-	-	4.578	-	-	6.618	-	-	7.158	-	-	-	-	-	7.158
<i>Subtotal: Software Cost</i>	-	-	<b>15.574</b>	-	-	<b>4.578</b>	-	-	<b>6.618</b>	-	-	<b>7.158</b>	-	-	-	-	-	<b>7.158</b>
<b>Logistics Cost</b>																		
Recurring Cost																		
Technical and Logistics Data/ Services	-	-	3.700	-	-	0.600	-	-	0.520	-	-	0.400	-	-	-	-	-	0.400
<i>Subtotal: Recurring Cost</i>	-	-	3.700	-	-	0.600	-	-	0.520	-	-	0.400	-	-	-	-	-	0.400

**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 / 03 / 80		<b>P-1 Line Item Number / Title:</b> 0200MB4000 / Integrated Family Of Test Equipment (IFTE)
		<b>Item Number / Title [DODIC]:</b> MB4004 / Next Generation Automatic Test System (NGATS)
<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: Logistics Cost</i>	-	-	3.700	-	-	0.600	-	-	0.520	-	-	0.400	-	-	-	-	-	0.400
Support - Initial Spares and Repair Parts Cost																		
Initial Spares and Repair Parts	-	-	18.015	-	-	2.362	-	-	5.301	-	-	9.500	-	-	-	-	-	9.500
<i>Subtotal: Support - Initial Spares and Repair Parts Cost</i>	-	-	18.015	-	-	2.362	-	-	5.301	-	-	9.500	-	-	-	-	-	9.500
Support - Production Engineering Cost																		
Production Engineering	-	-	18.729	-	-	2.550	-	-	2.988	-	-	2.192	-	-	-	-	-	2.192
<i>Subtotal: Support - Production Engineering Cost</i>	-	-	18.729	-	-	2.550	-	-	2.988	-	-	2.192	-	-	-	-	-	2.192
Support - Program Management Cost																		
Government Management	-	-	6.725	-	-	0.900	-	-	1.635	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - Program Management Cost</i>	-	-	6.725	-	-	0.900	-	-	1.635	-	-	-	-	-	-	-	-	-
Support - System Technical Support (STS) Cost																		
System Technical Support (STS)	-	-	44.337	-	-	2.427	-	-	2.400	-	-	1.573	-	-	-	-	-	1.573
<i>Subtotal: Support - System Technical Support (STS) Cost</i>	-	-	44.337	-	-	2.427	-	-	2.400	-	-	1.573	-	-	-	-	-	1.573
<b>Gross/Weapon System Cost</b>	35,202.750	4	140.811	6,429.750	4	25.719	4,043.231	13	52.562	3,490.684	19	66.323	-	-	-	3,490.684	19	66.323

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	4	7	19	-	19
	Total Obligation Authority	25.719	28.383	66.323	-	66.323
ANG	Quantity	-	6	-	-	-
	Total Obligation Authority	-	24.179	-	-	-
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	<b>4</b>	<b>13</b>	<b>19</b>	<b>-</b>	<b>19</b>
	<b>Total Obligation Authority</b>	<b>25.719</b>	<b>52.562</b>	<b>66.323</b>	<b>-</b>	<b>66.323</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 / 03 / 80			<b>P-1 Line Item Number / Title:</b> 0200MB4000 / Integrated Family Of Test Equipment (IFTE)				<b>Item Number / Title [DODIC]:</b> MB4004 / Next Generation Automatic Test System (NGATS)					

<b>Cost Elements</b>	<b>O C O</b>	<b>FY</b>	<b>Contractor and Location</b>	<b>Method/Type or Funding Vehicle</b>	<b>Location of PCO</b>	<b>Award Date</b>	<b>Date of First Delivery</b>	<b>Qty (Each)</b>	<b>Unit Cost (\$ K)</b>	<b>Specs Avail Now?</b>	<b>Date Revision Available</b>	<b>RFP Issue Date</b>
Next Generation Automatic Test System <sup>(†)</sup>		2018	Boeing Company / St. Louis	C / FFP	ACC-New Jersey	Apr 2018	Apr 2019	4	2,500.000	Y		
Next Generation Automatic Test System <sup>(†)</sup>		2019	Boeing Company / St. Louis	C / FFP	ACC-New Jersey	Jan 2019	Jan 2020	13	2,500.000	Y		
Next Generation Automatic Test System <sup>(†)</sup>		2020	Boeing Company / St. Louis	C / FFP	ACC-New Jersey	Jan 2020	Jan 2021	19	2,000.000	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 / 03 / 80										<b>P-1 Line Item Number / Title:</b> 0200MB4000 / Integrated Family Of Test Equipment (IFTE)										<b>Item Number / Title [DODIC]:</b> MB4004 / Next Generation Automatic Test System (NGATS)									

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				
Next Generation Automatic Test System																																		
Prior Years Deliveries: 9																																		
1	2018	ARMY		4	3	1	1																							0				
1	2019	ARMY		13	0	13	-	-	-	1	1	1	1	1	1	1	1	1	1	1	1	1	2									0		
1	2020	ARMY		19	0	19				A	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	2	2	2	2	6		
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P				

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<b>Exhibit P-21, Production Schedule:</b> PB 2020 Army															<b>Date:</b> March 2019														
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 03 / 80										<b>P-1 Line Item Number / Title:</b> 0200MB4000 / Integrated Family Of Test Equipment (IFTE)										<b>Item Number / Title [DODIC]:</b> MB4004 / Next Generation Automatic Test System (NGATS)									

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

Next Generation Automatic Test System

Prior Years Deliveries: 9																													
1	2018	ARMY	4	4	0																								0
1	2019	ARMY	13	13	0																								0
1	2020	ARMY	19	13	6	2	2	2																					0

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

<b>Exhibit P-21, Production Schedule:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 03 / 80		<b>P-1 Line Item Number / Title:</b> 0200MB4000 / Integrated Family Of Test Equipment (IFTE)
		<b>Item Number / Title [DODIC]:</b> MB4004 / Next Generation Automatic Test System (NGATS)

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	Boeing Company - St. Louis	1	10	30	8	8	12	20	0	3	13	16

**Remarks:**

Production rates are annual rates.

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

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

**UNCLASSIFIED**

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

**Appropriation / Budget Activity / Budget Sub Activity:**  
2035A: Other Procurement, Army / BA 03: Other Support Equipment / BSA 80: Test Measure and Dig Equipment (TMD) **P-1 Line Item Number / Title:**  
0600N11000 / Test Equipment Modernization (TEMOD)

**ID Code** (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0604746A

**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> )	704	437	1,446	512	-	512	410	305	183	160	Continuing	Continuing
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	331.950	7.771	9.806	16.415	-	16.415	7.868	10.100	7.164	6.403	Continuing	Continuing
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	331.950	7.771	9.806	16.415	-	16.415	7.868	10.100	7.164	6.403	Continuing	Continuing
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>331.950</b>	<b>7.771</b>	<b>9.806</b>	<b>16.415</b>	<b>-</b>	<b>16.415</b>	<b>7.868</b>	<b>10.100</b>	<b>7.164</b>	<b>6.403</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> )	471.520	17.783	6.781	32.061	-	32.061	19.190	33.115	39.148	40.019	Continuing	Continuing

**Description:**

The Test Equipment Modernization (TEMOD) program improves the materiel readiness of Army weapon systems; minimizes general-purpose Test, Measurement, and Diagnostic Equipment (TMDE) proliferation and obsolescence; and also reduces the Army's operations and support costs. These objectives are accomplished through the cost-effective acquisition of state-of-the-art test equipment that is employed for verifying accuracy, operability and safety of Army weapon systems and for supporting those systems at all maintenance levels. The TEMOD program procures general-purpose TMDE that supports all Army commodities and is essential to the continued support of weapon system platforms such as the Abrams Tank, Bradley Fighting Vehicle, Apache Helicopter, Patriot, and Single-Channel Ground and Airborne Radio System (SINGARS), as well as other weapon systems scheduled for fielding to the current and future forces. The Telecommunications System Test Set analyzes signal quality between communication systems to ensure data exchange accurately. The High End Oscilloscope is used to test, adjust, repair and align communications and electronic systems. The Low End Oscilloscope is a hand-held portable device used to adjust, repair, and align communications and electronic systems. The Radio Frequency (RF) Power Meter Test Set is a solid-state, microprocessor based RF microwatt meter. It has the ability to measure oscillator power, gain, insertion loss, RF attenuation, and antenna, low-power transmitter, signal generator, standing wave ratio and return loss measurements with directional couplers and slotted lines on radios, satellite communication systems and RADAR systems (Sentinel and Patriot). The Optical Time Domain Reflectometer will be used to test fiber optic cables used to connect computer networks. The TS-4549 Radio Test Set will be used to test, troubleshoot and repair Army radios. It supports both ground and air communications systems. Future acquisitions for this program will include the CM-523 Signal Generator. By using a streamlined acquisition process, the TEMOD program realizes discounts of up to 55 percent from the manufacturers' suggested retail prices.

Army Acquisition Objective (AAO): Telecommunications System Test Set - 343; Oscilloscope (High End) - 495; Oscilloscope (Low End) - 1294; RF Power Meter Test Set - 586; Optical Time Domain Reflectometer - 455; Radio Test Set - 1869

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	199	617	219	-	219	175	131	78	68
	Total Obligation Authority	3.539	4.184	11.313	-	11.313	3.358	4.338	3.054	2.721
ANG	Quantity	155	540	192	-	192	153	113	68	60
	Total Obligation Authority	2.756	3.662	3.343	-	3.343	2.936	3.742	2.662	2.401
AR	Quantity	83	289	101	-	101	82	61	37	32
	Total Obligation Authority	1.476	1.960	1.759	-	1.759	1.574	2.020	1.448	1.281

**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 03: Other Support Equipment / BSA 80: Test Measure and Dig Equipment (TMD)	<b>P-1 Line Item Number / Title:</b> 0600N11000 / Test Equipment Modernization (TEMOD)
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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> 0604746A
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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	437	1,446	512	-	512	410	305	183	160
<b>Secondary Distribution</b>	Total Obligation Authority	7.771	9.806	16.415	-	16.415	7.868	10.100	7.164	6.403

**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 03: Other Support Equipment / BSA 80: Test Measure and Dig Equipment (TMD) **P-1 Line Item Number / Title:** 0600N11000 / Test Equipment Modernization (TEMOD)

**ID Code** (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0604746A

**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	N11000 / Test Equipment Modernization (TEMOD)	P-5a, P-21	A		704 / 331.950	437 / 7.771	1,446 / 9.806	512 / 16.415	- / -	512 / 16.415
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>704 / 331.950</b>	<b>437 / 7.771</b>	<b>1,446 / 9.806</b>	<b>512 / 16.415</b>	<b>- / -</b>	<b>512 / 16.415</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 \$16.415 million support initial acquisition of the Optical Time Domain Reflectometer (OTDR) and the Radio Test Set, and additional quantities of the Telecommunications System Test Set, the RF Power Meter, and the Low End Oscilloscope. TEMOD uses multi-year Indefinite Delivery, Indefinite Quantity, Firm Fixed Price contracts. Procurements in FY 2020 include (20) TS-4558 OTDRs, (95) TS-4544 Telecommunication Systems Test Sets, (90) TS-4548 RF Power Meter Test Sets, (307) OS-307 Oscilloscopes, and (83) TS-4549 Radio Test Sets. All these procurements are needed based on the approved Army Acquisition Objectives. Lack of capabilities provided by this equipment will impact unit readiness levels and incur unnecessary risks for Army personnel and equipment. The increase in FY 2020 funding will begin full-rate production of the TS-4549 to replace the GRM-122 which will be unsupported by FY 2021. The TS-4549 will support 645,822 legacy radio systems and new radios as they come on line; and, it will be able to test, reprogram and update Software Defined Radios (SDR) the GRM-122 cannot support. (System issues prevented inclusion of the quantity for the TS-4549 Radio Test Set in the Resource Summary and Gross/Weapon System Unit Cost totals. The correct FY 2020 Base quantity for this line item is 595.)

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 / 03 / 80	<b>P-1 Line Item Number / Title:</b> 0600N11000 / Test Equipment Modernization (TEMOD)	<b>Item Number / Title [DODIC]:</b> N11000 / Test Equipment Modernization (TEMOD)

<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)	704	437	1,446	512	-	512
Gross/Weapon System Cost (\$ in Millions)	331.950	7.771	9.806	16.415	-	16.415
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	331.950	7.771	9.806	16.415	-	16.415
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>331.950</b>	<b>7.771</b>	<b>9.806</b>	<b>16.415</b>	<b>-</b>	<b>16.415</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)	471.520	17.783	6.781	32.061	-	32.061

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>																		
Telecommunications System Test Set <sup>(†)</sup>	-	-	-	35.000	20	0.700	-	-	-	35.000	95	3.325	-	-	-	35.000	95	3.325
Oscilloscope High End, OS-305 <sup>(†)</sup>	3.550	20	0.071	3.556	27	0.096	3.549	448	1.590	-	-	-	-	-	-	-	-	-
Radio Frequency (RF) Power Meter Test Set <sup>(†)</sup>	5.950	20	0.119	-	-	-	5.933	476	2.824	5.933	90	0.534	-	-	-	5.933	90	0.534
Oscilloscope Low End, OS-307 <sup>(†)</sup>	4.200	20	0.084	4.180	300	1.254	4.178	522	2.181	4.179	307	1.283	-	-	-	4.179	307	1.283
Radio Test Set, AN/PRM-36	1.700	8,642	14.691	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Optical Time Domain Reflectometer, TS-4558 <sup>(†)</sup>	-	-	-	-	-	-	-	-	-	9.000	20	0.180	-	-	-	9.000	20	0.180
Radio Test Set, TS-4549 <sup>(†)</sup>	-	-	-	-	-	-	-	-	-	66.265	83	5.500	-	-	-	66.265	83	5.500
Maintenance Fixtures	-	-	3.988	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Support Equipment	429.307	616	264.453	-	-	0.562	-	-	-	-	-	-	-	-	-	-	-	-
<b>Subtotal: Recurring Cost</b>	<b>-</b>	<b>-</b>	<b>283.407</b>	<b>-</b>	<b>-</b>	<b>2.612</b>	<b>-</b>	<b>-</b>	<b>6.595</b>	<b>-</b>	<b>-</b>	<b>10.822</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>10.822</b>
<b>Subtotal: Hardware Cost</b>	<b>-</b>	<b>-</b>	<b>283.407</b>	<b>-</b>	<b>-</b>	<b>2.612</b>	<b>-</b>	<b>-</b>	<b>6.595</b>	<b>-</b>	<b>-</b>	<b>10.822</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>10.822</b>
<b>Package 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 / 03 / 80						<b>P-1 Line Item Number / Title:</b> 0600N11000 / Test Equipment Modernization (TEMOD)						<b>Item Number / Title [DODIC]:</b> N11000 / Test Equipment Modernization (TEMOD)					
<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>Recurring Cost</b>																		
New Equipment Training/Fielding Support	-	-	2.946	-	-	-	-	-	0.030	-	-	0.200	-	-	-	-	-	0.200
<i>Subtotal: Recurring Cost</i>	-	-	2.946	-	-	-	-	-	0.030	-	-	0.200	-	-	-	-	-	0.200
<i>Subtotal: Package Fielding Cost</i>	-	-	2.946	-	-	-	-	-	0.030	-	-	0.200	-	-	-	-	-	0.200
<b>Logistics Cost</b>																		
<b>Recurring Cost</b>																		
Logistics Services/Support	-	-	1.192	-	-	0.728	-	-	0.743	-	-	1.258	-	-	-	-	-	1.258
<i>Subtotal: Recurring Cost</i>	-	-	1.192	-	-	0.728	-	-	0.743	-	-	1.258	-	-	-	-	-	1.258
<i>Subtotal: Logistics Cost</i>	-	-	1.192	-	-	0.728	-	-	0.743	-	-	1.258	-	-	-	-	-	1.258
<b>Support - Acceptance Testing Cost</b>																		
Acceptance Test	-	-	-	-	-	-	-	-	-	-	-	0.300	-	-	-	-	-	0.300
<i>Subtotal: Support - Acceptance Testing Cost</i>	-	-	-	-	-	-	-	-	-	-	-	0.300	-	-	-	-	-	0.300
<b>Support - Data Cost</b>																		
Technical Publications	-	-	5.766	-	-	-	-	-	-	-	-	0.400	-	-	-	-	-	0.400
<i>Subtotal: Support - Data Cost</i>	-	-	5.766	-	-	-	-	-	-	-	-	0.400	-	-	-	-	-	0.400
<b>Support - Engineering Change Proposals Cost</b>																		
Engineering Change Proposals	-	-	0.915	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - Engineering Change Proposals Cost</i>	-	-	0.915	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Support - Initial Spares and Repair Parts Cost</b>																		
Initial Spares and Repair Parts	-	-	2.084	-	-	0.040	-	-	0.030	-	-	0.030	-	-	-	-	-	0.030
<i>Subtotal: Support - Initial Spares and Repair Parts Cost</i>	-	-	2.084	-	-	0.040	-	-	0.030	-	-	0.030	-	-	-	-	-	0.030
<b>Support - Production Engineering Cost</b>																		
Production Engineering	-	-	5.517	-	-	2.074	-	-	1.449	-	-	1.738	-	-	-	-	-	1.738
<i>Subtotal: Support - Production Engineering Cost</i>	-	-	5.517	-	-	2.074	-	-	1.449	-	-	1.738	-	-	-	-	-	1.738
<b>Support - Program Management 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 / 03 / 80	<b>P-1 Line Item Number / Title:</b> 0600N11000 / Test Equipment Modernization (TEMOD)	<b>Item Number / Title [DODIC]:</b> N11000 / Test Equipment Modernization (TEMOD)

<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)
Government Management	-	-	22.152	-	-	1.126	-	-	0.279	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - Program Management Cost</i>	-	-	<b>22.152</b>	-	-	<b>1.126</b>	-	-	<b>0.279</b>	-	-	-	-	-	-	-	-	-
Support - Quality Assurance Cost																		
Quality Assurance	-	-	0.400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - Quality Assurance Cost</i>	-	-	<b>0.400</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Support - System Technical Support (STS) Cost																		
System Technical Support (STS)	-	-	7.572	-	-	1.191	-	-	0.679	-	-	1.667	-	-	-	-	-	1.667
<i>Subtotal: Support - System Technical Support (STS) Cost</i>	-	-	<b>7.572</b>	-	-	<b>1.191</b>	-	-	<b>0.679</b>	-	-	<b>1.667</b>	-	-	-	-	-	<b>1.667</b>
<b>Gross/Weapon System Cost</b>	<b>471.520</b>	<b>704</b>	<b>331.950</b>	<b>17.783</b>	<b>437</b>	<b>7.771</b>	<b>6.781</b>	<b>1,446</b>	<b>9.806</b>	<b>32.061</b>	<b>512</b>	<b>16.415</b>	-	-	-	<b>32.061</b>	<b>512</b>	<b>16.415</b>

**Remarks:**  
System issues prevented the correct population of quantities in the P-5 Resource Summary header and Gross/Weapon System Unit Cost totals for FY 2020 Base. The Cost Element detail of the P-5 (Hardware) provides planned procurement quantities associated with FY 2020 Base funding.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	199	617	219	-	219
	Total Obligation Authority	3.539	4.184	11.313	-	11.313
ANG	Quantity	155	540	192	-	192
	Total Obligation Authority	2.756	3.662	3.343	-	3.343
AR	Quantity	83	289	101	-	101
	Total Obligation Authority	1.476	1.960	1.759	-	1.759
<b>Total:</b>	<b>Quantity</b>	<b>437</b>	<b>1,446</b>	<b>512</b>	-	<b>512</b>
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	<b>7.771</b>	<b>9.806</b>	<b>16.415</b>	-	<b>16.415</b>

(†) 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 / 03 / 80			<b>P-1 Line Item Number / Title:</b> 0600N11000 / Test Equipment Modernization (TEMOD)					<b>Item Number / Title [DODIC]:</b> N11000 / Test Equipment Modernization (TEMOD)			

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
Telecommunications System Test Set		2018	TBS-1 / TBD	C / FFP	ACC-New Jersey	Jun 2019	Sep 2019	20	35.000	Y		Jan 2019
Telecommunications System Test Set		2020	TBS-1 / TBD	C / FFP	ACC-New Jersey	Feb 2020	Jun 2020	95	35.000	Y		
Oscilloscope High End, OS-305		2018	Keysight Technologies, Inc. / Englewood, CO	C / FFP	ACC-Redstone	Apr 2019	Aug 2019	27	3.556	Y		
Oscilloscope High End, OS-305		2019	Keysight Technologies, Inc. / Englewood, CO	C / FFP	ACC-Redstone	Jan 2020	May 2020	448	3.549	Y		
Radio Frequency (RF) Power Meter Test Set		2019	Anritsu Company / Morgan Hill, CA	C / FFP	ACC-Redstone	Dec 2019	Mar 2020	476	5.933	Y		
Radio Frequency (RF) Power Meter Test Set		2020	Anritsu Company / Morgan Hill, CA	C / FFP	ACC-Redstone	May 2020	Sep 2020	90	5.933	Y		
Oscilloscope Low End, OS-307		2018	Keysight Technologies, Inc. / Englewood, CO	C / FFP	ACC-Redstone	Apr 2019	Jul 2019	300	4.180	Y		
Oscilloscope Low End, OS-307		2019	Keysight Technologies, Inc. / Englewood, CO	C / FFP	ACC-Redstone	Feb 2020	Jun 2020	522	4.178	Y		
Oscilloscope Low End, OS-307		2020	Keysight Technologies, Inc. / Englewood, CO	C / FFP	ACC-Redstone	Sep 2020	Dec 2020	307	4.179	Y		
Optical Time Domain Reflectometer, TS-4558		2020	TBS-2 / TBD	C / FFP	ACC-Redstone	Nov 2019	Mar 2020	20	9.000	Y		Jul 2019
Radio Test Set, TS-4549 <sup>(†)</sup>		2020	TBS-3 / TBD	C / FFP	ACC-New Jersey	Jun 2020	Dec 2020	83	66.265	Y		Apr 2018

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

**Remarks:**  
The Telecommunications System Test Set, the High End Oscilloscope, the RF Power Meter Test Set, the Low End Oscilloscope and the Optical Time Domain Reflectometer are commercial off-the-shelf (COTS) items.







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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 / 03 / 80		<b>P-1 Line Item Number / Title:</b> 0600N11000 / Test Equipment Modernization (TEMOD)
		<b>Item Number / Title [DODIC]:</b> N11000 / Test Equipment Modernization (TEMOD)

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-3 - TBD	1	50	250	20	8	7	15	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 03: Other Support Equipment / BSA 90: Other Support Equipment	<b>P-1 Line Item Number / Title:</b> 0000M62550 / M25 STABILIZED BINOCULAR
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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> )	378	589	769	-	-	-	-	-	-	-	Continuing	Continuing
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	16.437	3.956	4.368	-	-	-	-	-	-	-	Continuing	Continuing
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	16.437	3.956	4.368	-	-	-	-	-	-	-	Continuing	Continuing
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>16.437</b>	<b>3.956</b>	<b>4.368</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> )	43.484	6.716	5.680	-	-	-	-	-	-	-	Continuing	Continuing

**Description:**

The Stabilized Binocular provides the Soldier, both mounted and dismounted, with enhanced target acquisition capability. The M25 is a high powered (14X magnification), hand held binocular which uses a gyro stabilizer to compensate for resolution degrading effects of using a hand held high powered optic and/or certain moving vehicular scenarios. The M25A1 is a smaller, lighter weight stabilized binocular which will allow the warfighter to more effectively perform mission than with the heavier version of the M25. The authorized Army Acquisition Objective (AAO) is 11,654.

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	589	769	-	-	-	-	-	-	-
Total Obligation Authority	3.956	4.368	-	-	-	-	-	-	-
<b>Total:</b>	<b>589</b>	<b>769</b>	-	-	-	-	-	-	-
<b>Secondary Distribution</b>	<b>3.956</b>	<b>4.368</b>	-	-	-	-	-	-	-

**Justification:**

No FY 2020 BES 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 03: Other Support Equipment / BSA 90: Other Support Equipment	<b>P-1 Line Item Number / Title:</b> 0017M80101 / Rapid Equipping Soldier Support 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> )	2,637.680	13.500	29.879	9.877	24.122	33.999	33.999	9.878	9.879	9.899	-	2,778.713
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	2,637.680	13.500	29.879	9.877	24.122	33.999	33.999	9.878	9.879	9.899	-	2,778.713
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>2,637.680</b>	<b>13.500</b>	<b>29.879</b>	<b>9.877</b>	<b>24.122</b>	<b>33.999</b>	<b>33.999</b>	<b>9.878</b>	<b>9.879</b>	<b>9.899</b>	-	<b>2,778.713</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 REF is the Army's Quick Reaction Capability (QRC) with the ability to acquire, integrate and sustain Commercial-Off-The Shelf (COTS), Government Off-The-Shelf (GOTS), Non-Developmental Item (NDI), and Non-Standard Equipment (NSE) solutions to meet urgent combat requirements for globally employed forces. It inserts selected future force technologies, capabilities, and surrogate materiel solutions into deployed, deploying, select-prepared to deploy, and transformational forces for operational evaluation, assessment, and evolutionary development. The REF assesses the provided capabilities to improve future solutions to inform materiel development for the future Army capability requirements and to potentially transition the capability to an Army acquisition program.

The Rapid Equipping Force (REF) supports Combatant Command (COCOMs)/Army Service Component Command (ASCCs) based on emerging rapid equipment requirements. The REF is an enduring organization (Base funded) per Memorandum, Under Secretary of the Army, 30 Jan 2014, subject: Implementation Plan for Stabilization of the Rapid Equipping Force (REF).

The REF bridges the gap between the Army's traditional acquisition process and immediate equipping needs. The REF pursues tangible solutions that can be equipped rapidly with a goal of 180 days. The REF focuses on finding immediate and effective game-changing capabilities to increase U.S. Army Force readiness, effectiveness, protection, and lethality in any operational environment. The REF 10-Liner process provides the ability to react quickly to an ever-changing enemy who changes in days and months, not years in a complex world. The REF coordinates with the COCOMs/ASCCs in theater to fully understand their urgent needs, for which the REF acquisition capability may identify, procure, deliver, and sustain solutions to the deployed units. Although the REF works directly with Operational Commanders at all levels, it focuses on Brigade level and below to equip solutions to identified capability gaps.

The Army Acquisition Executive designated Program Executive Office (PEO) Soldier as the Milestone Decision Authority (MDA) to institutionalize the acquisition authorities in support of the REF and to provide proper acquisition oversight while enhancing visibility of these efforts. The MDA will ensure flexibility and speed focused on the needs of Soldiers serviced by the dedicated REF Program Management Office (PMO). This establishes a formal acquisition reporting chain that leverages existing reporting venues to ensure appropriate Assistant Secretary of the Army /Acquisition Logistics/Technology (ASA (ALT)) visibility, oversight, and direction.

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	13.500	29.879	9.877	24.122	33.999	33.999	9.878	9.879	9.899

**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 03: Other Support Equipment / BSA 90: Other Support Equipment					<b>P-1 Line Item Number / Title:</b> 0017M80101 / Rapid Equipping Soldier Support Equipment				
<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>	13.500	29.879	9.877	24.122	33.999	33.999	9.878	9.879	9.899

**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 03: Other Support Equipment / BSA 90: Other Support Equipment

**P-1 Line Item Number / Title:**  
0017M80101 / Rapid Equipping Soldier Support Equipment

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

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

Exhibits Schedule					Prior Years	FY 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	M80101 / Rapid Equipping Soldier Support Equipment				- / 2,637.680	- / 13.500	- / 29.879	- / 9.877	- / 24.122	- / 33.999
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 2,637.680</b>	<b>- / 13.500</b>	<b>- / 29.879</b>	<b>- / 9.877</b>	<b>- / 24.122</b>	<b>- / 33.999</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 \$9.877 million meets urgently needed technology for immediate warfighter needs for deployed and pre-deploying forces across all ASCCs of the COCOMs and the Global Response Force (GRF).

FY 2020 OCO procurement dollars in the amount of \$24.122 million is required to support emerging requirements to meet capability gaps in Operation Freedom Sentinel (OFS), Operation Inherent Resolve (OIR), Operation Atlantic Resolve (OAR), Horn of Africa (HOA), and all other OCO funded operations/regions. Funding supports meeting urgently needed technology for immediate warfighter needs for deployed and pre-deploying forces across all ASCCs of the COCOMs and the Global Response Force (GRF).

The REF capabilities cross all Warfighter Functions:

1. Mission Command
2. Movement and Maneuver
3. Intelligence
4. Fires
5. Sustainment
6. Protection

**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 / 03 / 90	<b>P-1 Line Item Number / Title:</b> 0017M80101 / Rapid Equipping Soldier Support Equipment	<b>Item Number / Title [DODIC]:</b> M80101 / Rapid Equipping Soldier Support 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>	-	-	-	-	-	-
Gross/Weapon System Cost <i>(\$ in Millions)</i>	2,637.680	13.500	29.879	9.877	24.122	33.999
Less PY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-
Net Procurement (P-1) <i>(\$ in Millions)</i>	2,637.680	13.500	29.879	9.877	24.122	33.999
Plus CY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-
<b>Total Obligation Authority</b> <i>(\$ in Millions)</i>	<b>2,637.680</b>	<b>13.500</b>	<b>29.879</b>	<b>9.877</b>	<b>24.122</b>	<b>33.999</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																		
Dismounted IED Defeat	-	-	401.335	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mission Command	-	-	4.494	-	-	2.033	-	-	2.042	-	-	0.305	-	-	0.746	-	-	1.051
Movement and Maneuver	-	-	8.867	-	-	4.043	-	-	5.266	-	-	1.986	-	-	4.849	-	-	6.835
Intelligence	-	-	3.875	-	-	1.617	-	-	8.276	-	-	2.953	-	-	7.212	-	-	10.165
Fires	-	-	0.317	-	-	0.147	-	-	0.215	-	-	-	-	-	-	-	-	-
Sustainment	-	-	4.301	-	-	1.887	-	-	3.654	-	-	1.120	-	-	2.735	-	-	3.855
Protection	-	-	8.649	-	-	3.773	-	-	10.426	-	-	3.513	-	-	8.580	-	-	12.093
Small COP/PB Sustainment	-	-	3.389	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Small COP/PB Force Protection	-	-	470.283	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dismounted Operations Support	-	-	348.798	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ISR Shortfalls In Inhospitable OE's	-	-	356.468	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dismounted Blue Force Tracking Mission	-	-	1.500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other (Current Requirements)	-	-	1,025.404	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**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 / 03 / 90	<b>P-1 Line Item Number / Title:</b> 0017M80101 / Rapid Equipping Soldier Support Equipment	<b>Item Number / Title [DODIC]:</b> M80101 / Rapid Equipping Soldier Support Equipment
<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: Recurring Cost</i>	-	-	2,637.680	-	-	13.500	-	-	29.879	-	-	9.877	-	-	24.122	-	-	33.999
<i>Subtotal: Flyaway Cost</i>	-	-	2,637.680	-	-	13.500	-	-	29.879	-	-	9.877	-	-	24.122	-	-	33.999
<b>Gross/Weapon System Cost</b>	-	-	2,637.680	-	-	13.500	-	-	29.879	-	-	9.877	-	-	24.122	-	-	33.999

**Remarks:**  
Items are COTs/GOTs items.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	-	-	-	-	-
	Total Obligation Authority	13.500	29.879	9.877	24.122	33.999
<b>Total:</b>	Quantity	-	-	-	-	-
<b>Secondary Distribution</b>	Total Obligation Authority	13.500	29.879	9.877	24.122	33.999

**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 03: Other Support Equipment / BSA 90:  
 Other Support Equipment **P-1 Line Item Number / Title:**  
 0050MA0780 / Physical Security Systems (OPA3)

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

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

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	1,942.529	58.208	53.836	82.158	10.016	92.174	79.606	91.813	100.075	99.602	-	2,517.843
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	1,942.529	58.208	53.836	82.158	10.016	92.174	79.606	91.813	100.075	99.602	-	2,517.843
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>1,942.529</b>	<b>58.208</b>	<b>53.836</b>	<b>82.158</b>	<b>10.016</b>	<b>92.174</b>	<b>79.606</b>	<b>91.813</b>	<b>100.075</b>	<b>99.602</b>	-	<b>2,517.843</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:**

Physical Security Systems (MA0780) protect vulnerable critical assets and infrastructure from determined, highly motivated and skilled intruders. Physical Security Systems include the Standard Intrusion Detection Systems (SIDS) (MA0781), the Commercial Intrusion Detection System (CIDS) (MA0782) and Other Physical Security Measures Equipment (MA0783). SIDS includes the Integrated Commercial Intrusion Detection System (ICIDS) program. Other Physical Security Measures Equipment includes the Automated Installation Entry (AIE) program and other efforts consistent with Office of Provost Marshal General (OPMG) security measures.

The Physical Security program's goal is to provide enhanced security to Units, Installations and Facilities. The Physical Security/Force Protection programs minimize risks and vulnerabilities by providing Commanders with the appropriate levels of protection through the use of available technology to safeguard personnel and Army assets. By increasing protection to personnel, facilities and equipment, the program supports unit readiness and deployment by reducing the vulnerability of Units and Installations from intruder and terrorist threats.

The ICIDS program consists of commercially available interior and exterior sensors, response, entry control, electronic surveillance and command and control devices. ICIDS protects critical national assets, special compartmented information facilities, conventional munitions storage areas, non-nuclear missiles and rockets in a ready to fire configuration, sensitive munitions and other mission essential assets. ICIDS provides the capability for Commanders to detect, assess and respond to unauthorized entry or attempted intrusion into their facilities. The system provides security to Units, Installations and Facilities while minimizing the number of security guards required. Additionally, the item includes ICIDS at new or modified facilities. ICIDS supports a balanced investment strategy for the Army approved force structure and requirements.

CIDS provides security measures for conventional arms, ammunition and explosive storage facilities, sensitive compartment information facilities, areas designed as mission essential and vulnerable and other high risk targets. Risks and vulnerabilities are minimized by providing Commanders with the appropriate levels of protection through the use of available technology to safeguard personnel and Army assets. Equipment also protects personnel, facilities and equipment from terrorist or criminal threats. The program supports unit readiness and deployment by reducing Unit and Installation vulnerability and supports the upgrades of the IDS for arms, ammunition and explosives arms vaults and ammunition supply point bunkers for National Guard Facilities that are non-compliant with current Army Directives. Additionally, the item includes IDSs at new or modified facilities. CIDS supports a balanced investment strategy for the Army's approved force structure and requirements. Equipment further protects personnel, facilities and equipment from terrorist or criminal threats. The program supports Unit readiness and deployment by reducing Unit and Installation vulnerability.

**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 03: Other Support Equipment / BSA 90: Other Support Equipment	<b>P-1 Line Item Number / Title:</b> 0050MA0780 / Physical Security Systems (OPA3)
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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

Other Physical Security Measures Equipment includes the Automated Installation Entry (AIE) system which complies with DTM 09-012 for Access Control Standards that includes identity proofing and vetting to determine fitness of an individual requesting and/or requiring access to Installations and issuance of local access credentials. AIE satisfies the OPMG's Automated Access Control Standards. Installation of AIE will also meet recommendation 3.9 of the DOD Independent Review related to Ft Hood, TX.

Note: These are non-standard programs and do not have AAO's.

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	58.208	53.836	82.158	10.016	92.174	79.606	91.813	100.075	99.602
<b>Total:</b> Secondary Distribution	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	<b>58.208</b>	<b>53.836</b>	<b>82.158</b>	<b>10.016</b>	<b>92.174</b>	<b>79.606</b>	<b>91.813</b>	<b>100.075</b>	<b>99.602</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 03: Other Support Equipment / BSA 90: Other Support Equipment

**P-1 Line Item Number / Title:**  
0050MA0780 / Physical Security Systems (OPA3)

**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	MA0781 / Standardized Intrusion Detection Systems	P-5a, P-21	A		- / 330.746	- / 18.955	- / 10.665	- / 27.494	- / 7.916	- / 35.410
P-5	MA0782 / Commercial Intrusion Detection Systems (IDS)	P-5a			- / 256.865	- / 6.130	- / 4.763	- / 10.963	- / -	- / 10.963
P-5	MA0783 / Other Physical Security Measures Equip	P-5a, P-21			- / 1,354.918	- / 33.123	- / 38.408	- / 43.701	- / 2.100	- / 45.801
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 1,942.529</b>	<b>- / 58.208</b>	<b>- / 53.836</b>	<b>- / 82.158</b>	<b>- / 10.016</b>	<b>- / 92.174</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:**  
FY2020 Base procurement funding in the amount of \$82.158 million provides funding for SIDS (MA0781) in the amount of \$27.494 million, CIDS (MA0782) in the amount of \$10.963 million and Other Physical Security Measures Equipment in the amount of \$43.701 million:

-\$27.494 million provides installation of ICIDS (MA0781) at three (3) sites: Pine Bluff Arsenal, AR; Anniston, AL; and Fort Buchanan, PR and Windows 10 conversions for all non-compliant ICIDS. Funding supports a balanced investment strategy for the Army approved force structure and requirements. All quantities and funding is for Active Components.

-\$10.963 million for CIDS (MA0782) supports procuring six (6) sites of modernized integrated physical security equipment for intrusion detection and assessment, access control, electronic surveillance and force protection equipment at Army Reserve and National Guard Facilities and some Active Army locations. Funding provides security measures for conventional arms, ammunition and explosive storage facilities, sensitive compartment information facilities and other areas containing assets for which policy requires Intrusion Detection Systems. Risks and vulnerabilities are minimized by providing Commanders with the appropriate levels of protection through the use of available technology to safeguard personnel and Army assets. Funding supports a balanced investment strategy for the Army's approved force structure and requirements. All quantities and funding is for Active Components.

-\$43.701 million procures AIE (MA0783) systems at thirty four (34) Tier II sites: Carlisle Brks, PA; Tobyhanna AD, PA; Adelphi Lab, MD; Gowen Fid, ID; Milan AAP, TN; Hawthorne AD, NV; JSMC Lima, OH; Sierra AD, CA; Iowa AAP, IA; Yuma PG, AZ; Scranton AAP, PA; Miami, FL; Camp Ripley, MN; Camp Blanding, FL; Fort Pickett, VA; Natick, MA; Red River AD, TX; Camp Dodge, IA; Camp Dawson, WV; and ERDC, Vicksburg, MS with remaining fourteen (14) sites to be prioritized by OPMG. The AIE systems will be installed to protect Army force projection platforms and high priority Installations. The system complies with DTM 09-112 for Access Control Standards that include identity validation and vetting to determine fitness of an individual requesting and/or requiring access to installations. The AIE system satisfies the OPMG's Automated Access Control Standards. Installation of the AIE will also meet recommendation 3.9 of the DOD Independent Review related to Fort Hood, TX. ACEPEP provides standardized access control point configurations. All quantities and funding are for Active Components.

FY2020 OCO procurement funding in the amount of \$10.016 million will procure five Expeditionary LIDS (E-LIDS), ten Mobile-LIDS (M-LIDS) Radar Vehicles and ten M-LIDS Electronic Warfare (EW) Vehicles. Additionally, these funds will procure man-carried systems and integrate upgraded (Multi Mission Radars, Electronic Warfare, and Command and Control) components into the LIDS architecture, kinetic defeat hardware and software components; spares, conducts NET, and provides shipping, transportation, and repairs for deployed systems. Expansion increases the number of CENTCOM sites requiring protection against Groups 1 and 2 Commercial-Off-The-Shelf (COTS) UAS from 18 sites to 90 sites.

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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 / 03 / 90	<b>P-1 Line Item Number / Title:</b> 0050MA0780 / Physical Security Systems (OPA3)	<b>Item Number / Title [DODIC]:</b> MA0781 / Standardized Intrusion Detection Systems

<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)	330.746	18.955	10.665	27.494	7.916	35.410
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	330.746	18.955	10.665	27.494	7.916	35.410
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>330.746</b>	<b>18.955</b>	<b>10.665</b>	<b>27.494</b>	<b>7.916</b>	<b>35.410</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																		
Hardware <sup>(†)</sup>	12,190.667	3	36.572	2,956.600	5	14.783	1,576.750	4	6.307	7,060.000	3	21.180	-	-	7.916	9,698.667	3	29.096
Government Program Management Support	-	-	5.641	-	-	1.393	-	-	1.436	-	-	2.441	-	-	-	-	-	2.441
SETA Contract Support	-	-	3.312	-	-	1.223	-	-	1.335	-	-	2.270	-	-	-	-	-	2.270
Prime Contractor PM	-	-	3.792	-	-	1.556	-	-	1.587	-	-	1.603	-	-	-	-	-	1.603
<i>Subtotal: Recurring Cost</i>	-	-	<i>49.317</i>	-	-	<i>18.955</i>	-	-	<i>10.665</i>	-	-	<i>27.494</i>	-	-	<i>7.916</i>	-	-	<i>35.410</i>
<i>Subtotal: Flyaway Cost</i>	-	-	<i>49.317</i>	-	-	<i>18.955</i>	-	-	<i>10.665</i>	-	-	<i>27.494</i>	-	-	<i>7.916</i>	-	-	<i>35.410</i>
Support - Data Cost																		
Support Data Data	-	-	281.429	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - Data Cost</i>	-	-	<i>281.429</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Gross/Weapon System Cost</b>	-	-	<b>330.746</b>	-	-	<b>18.955</b>	-	-	<b>10.665</b>	-	-	<b>27.494</b>	-	-	<b>7.916</b>	-	-	<b>35.410</b>

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	-	-	-	-	-
	Total Obligation Authority	18.955	10.665	27.494	7.916	35.410
<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 / 03 / 90	<b>P-1 Line Item Number / Title:</b> 0050MA0780 / Physical Security Systems (OPA3)	<b>Item Number / Title [DODIC]:</b> MA0781 / Standardized Intrusion Detection Systems

<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
Secondary Distribution	Total Obligation Authority	18.955	10.665	27.494	7.916	35.410

(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 / 03 / 90			<b>P-1 Line Item Number / Title:</b> 0050MA0780 / Physical Security Systems (OPA3)				<b>Item Number / Title [DODIC]:</b> MA0781 / Standardized Intrusion Detection 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 <i>(Each)</i>	Unit Cost <i>(\$ K)</i>	Specs Avail Now?	Date Revision Available	RFP Issue Date
Hardware <sup>(†)</sup>		2018	Minuteman Security Solutions / New Bern, NC	Option / IDDQ	Ft. Belvoir, VA	Mar 2018	Jul 2019	5	2,956.600	Y		
Hardware <sup>(†)</sup>		2019	Minuteman Security Solutions / New Bern, NC	Option / IDIQ	Ft. Belvoir, VA	Mar 2019	Jul 2020	4	1,576.750	Y		
Hardware <sup>(†)</sup>		2020	Minuteman Security Solutions / New Bern, NC	Option / IDIQ	Ft. Belvoir, VA	Mar 2020	Nov 2020	3	9,698.667	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 / 03 / 90										<b>P-1 Line Item Number / Title:</b> 0050MA0780 / Physical Security Systems (OPA3)										<b>Item Number / Title [DODIC]:</b> MA0781 / Standardized Intrusion Detection Systems									

Cost Elements <i>(Units in Each)</i>					Fiscal Year 2020															Fiscal Year 2021												BALANCE		
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2019	BAL DUE AS OF 1 OCT	Calendar Year 2020															Calendar Year 2021												
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P				
Hardware																																		
Prior Years Deliveries: 3																																		
1		2018	ARMY	5	3	2	1	-	-	1																			0					
1		2019	ARMY	4	0	4	-	-	-	-	-	-	-	-	2	-	1	-	-	-	1								0					
1		2020	ARMY	3	0	3																						0						
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P				

**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 / 03 / 90		<b>P-1 Line Item Number / Title:</b> 0050MA0780 / Physical Security Systems (OPA3)
		<b>Item Number / Title [DODIC]:</b> MA0781 / Standardized Intrusion Detection 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	Minuteman Security Solutions - New Bern, NC	1	1	10	0	4	6	10	0	0	0	0

**Remarks:**  
 Contract Option years are awarded in Mar of the FY. ICIDS Installations take approximately 12 to 18 months to complete from award of Task Order, extremely large installations can take up to 30 months to complete.  
 A = Active Component (COMPO1)  
 ANG = National Guard (COMPO2)  
 AR = Army Reserve (COMPO3)

"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 / 03 / 90	<b>P-1 Line Item Number / Title:</b> 0050MA0780 / Physical Security Systems (OPA3)	<b>Item Number / Title [DODIC]:</b> MA0782 / Commercial Intrusion Detection Systems (IDS)

<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> )				256.865	6.130	4.763	10.963	-	10.963
Less PY Advance Procurement ( <i>\$ in Millions</i> )				-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )				256.865	6.130	4.763	10.963	-	10.963
Plus CY Advance Procurement ( <i>\$ in Millions</i> )				-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )				<b>256.865</b>	<b>6.130</b>	<b>4.763</b>	<b>10.963</b>	<b>-</b>	<b>10.963</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)
Flyaway Cost																		
Recurring Cost																		
Hardware <sup>(t)</sup>	19,758.846	13	256.865	1,021.667	6	6.130	793.833	6	4.763	1,827.167	6	10.963	-	-	-	1,827.167	6	10.963
<i>Subtotal: Recurring Cost</i>	-	-	256.865	-	-	6.130	-	-	4.763	-	-	10.963	-	-	-	-	-	10.963
<i>Subtotal: Flyaway Cost</i>	-	-	256.865	-	-	6.130	-	-	4.763	-	-	10.963	-	-	-	-	-	10.963
<b>Gross/Weapon System Cost</b>	-	-	256.865	-	-	6.130	-	-	4.763	-	-	10.963	-	-	-	-	-	10.963

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	-	-	-	-	-
	Total Obligation Authority	6.130	4.763	10.963	-	10.963
<b>Total: Secondary Distribution</b>	<b>Quantity</b>	-	-	-	-	-
	<b>Total Obligation Authority</b>	<b>6.130</b>	<b>4.763</b>	<b>10.963</b>	<b>-</b>	<b>10.963</b>

<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 / 03 / 90			<b>P-1 Line Item Number / Title:</b> 0050MA0780 / Physical Security Systems (OPA3)				<b>Item Number / Title [DODIC]:</b> MA0782 / Commercial Intrusion Detection Systems (IDS)					

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		2018	TBS / TBS	C / Various	Various	Mar 2018	Dec 2018	6	1,021.667	Y		
Hardware		2019	TBS / TBS	C / Various	Various	Mar 2019	Apr 2019	6	793.833	Y		
Hardware		2020	TBS / TBS	C / Various	Various	Mar 2020	Apr 2020	6	1,827.167	Y		

**Remarks:**  
Procurement items are Commercial Off The Shelf (COTS) from various vendors TBD.

**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 / 03 / 90	<b>P-1 Line Item Number / Title:</b> 0050MA0780 / Physical Security Systems (OPA3)	<b>Item Number / Title [DODIC]:</b> MA0783 / Other Physical Security Measures Equip

<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)	1,354.918	33.123	38.408	43.701	2.100	45.801
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	1,354.918	33.123	38.408	43.701	2.100	45.801
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>1,354.918</b>	<b>33.123</b>	<b>38.408</b>	<b>43.701</b>	<b>2.100</b>	<b>45.801</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																		
AIE Hardware <sup>(†)</sup>	83,680.688	16	1,338.891	3,334.500	8	26.676	3,247.875	8	25.983	2,249.438	16	35.991	-	-	2.100	2,380.688	16	38.091
Government Program Management Support	-	-	6.820	-	-	2.997	-	-	2.721	-	-	3.265	-	-	-	-	-	3.265
SETA Contract Support	-	-	4.222	-	-	2.396	-	-	2.654	-	-	3.185	-	-	-	-	-	3.185
ACPEP	-	-	4.985	-	-	1.054	-	-	1.050	-	-	1.260	-	-	-	-	-	1.260
Advantor camera upgrade	-	-	-	-	-	-	-	-	6.000	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	<i>1,354.918</i>	-	-	<i>33.123</i>	-	-	<i>38.408</i>	-	-	<i>43.701</i>	-	-	<i>2.100</i>	-	-	<i>45.801</i>
<i>Subtotal: Flyaway Cost</i>	-	-	<i>1,354.918</i>	-	-	<i>33.123</i>	-	-	<i>38.408</i>	-	-	<i>43.701</i>	-	-	<i>2.100</i>	-	-	<i>45.801</i>
<b>Gross/Weapon System Cost</b>	-	-	<b>1,354.918</b>	-	-	<b>33.123</b>	-	-	<b>38.408</b>	-	-	<b>43.701</b>	-	-	<b>2.100</b>	-	-	<b>45.801</b>

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	-	-	-	-	-
	Total Obligation Authority	33.123	38.408	43.701	2.100	45.801
<b>Total: Secondary Distribution</b>	Quantity	-	-	-	-	-
	Total Obligation Authority	33.123	38.408	43.701	2.100	45.801

**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 / 03 / 90	<b>P-1 Line Item Number / Title:</b> 0050MA0780 / Physical Security Systems (OPA3)	<b>Item Number / Title [DODIC]:</b> MA0783 / Other Physical Security Measures Equip
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :		<b>MDAP/MAIS Code:</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 / 03 / 90			<b>P-1 Line Item Number / Title:</b> 0050MA0780 / Physical Security Systems (OPA3)				<b>Item Number / Title [DODIC]:</b> MA0783 / Other Physical Security Measures Equip					

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
AIE Hardware <sup>(†)</sup>		2018	Leidos Inc / Reston, VA	Option / IDDQ	Ft. Belvoir, VA	Jun 2018	Mar 2019	8	3,334.500	Y		
AIE Hardware <sup>(†)</sup>		2019	Leidos Inc / Reston, VA	Option / IDIQ	Ft. Belvoir, VA	Jun 2019	Oct 2020	8	3,247.875	Y		
AIE Hardware <sup>(†)</sup>		2020	Leidos Inc / Reston, VA	Option / IDIQ	Ft. Belvoir, VA	Jun 2020	Oct 2021	16	2,380.688	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 / 03 / 90										<b>P-1 Line Item Number / Title:</b> 0050MA0780 / Physical Security Systems (OPA3)										<b>Item Number / Title [DODIC]:</b> MA0783 / Other Physical Security Measures Equip									

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 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 9	B A L 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					
AIE Hardware																																		
Prior Years Deliveries: 16																																		
1	2018	ARMY	8	8	0																								0					
1	2019	ARMY	8	0	8	-	-	-	-	-	-	-	-	-	-	2	2	2	2										0					
1	2020	ARMY	16	0	16									A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16					
						O C T	N O V	D E C	J A N	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 / 03 / 90				<b>P-1 Line Item Number / Title:</b> 0050MA0780 / Physical Security Systems (OPA3)				<b>Item Number / Title [DODIC]:</b> MA0783 / Other Physical Security Measures Equip				
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	Leidos Inc - Reston, VA	1	1	20	0	8	0	8	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 03: Other Support Equipment / BSA 90: Other Support Equipment	<b>P-1 Line Item Number / Title:</b> 0312MB7000 / Base Level Common 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> )	549.144	13.239	8.713	15.340	-	15.340	15.256	15.522	15.813	15.961	-	648.988
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	549.144	13.239	8.713	15.340	-	15.340	15.256	15.522	15.813	15.961	-	648.988
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>549.144</b>	<b>13.239</b>	<b>8.713</b>	<b>15.340</b>	<b>-</b>	<b>15.340</b>	<b>15.256</b>	<b>15.522</b>	<b>15.813</b>	<b>15.961</b>	<b>-</b>	<b>648.988</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 procures Base-level commercially available equipment from a list authorized by the Table of Distribution and Allowances (TDA) for Army activities but is not Army centrally managed or purchased. The equipment supports recurring and generic activities typically performed by garrisons, such as material and cargo handling, engineering and public works, port and terminal operations support. Procures new investment items or replacements for existing equipment that is over-aged, obsolete, or beyond economical repair.

Installation Management Commands existing BCE fleet is fifteen to forty years old and exceeds overall programmed life expectancy and Army set Maintenance Expenditure Limits (MEL). This program enables the Army to repair equipment after years of continual heavy use and repair parts not available due to discontinuation by the manufacturer. Continued maintenance is increasingly cost prohibitive and competes with other critical Base Operations Services for resources. When new procurement is not possible, garrisons turn to leasing equipment at an extremely high cost, over 45% more expensive over the life of the vehicle, to meet mission requirements.

Funds enable CID to purchase life cycle replacements for Scanning Electron Microscope -w/Energy Dispersive X-ray Spectrometer w/Wavelength Dispersive Spectrometer (SEM-EDS/WDS). This requirement is part of the US Army Criminal Investigation Laboratory continuing effort to modernize and advance its forensic capability. This instrument allows for the investigation of elemental and crystalline structure compounds. By using x-rays, the instrument is able to develop patterns of the x-ray bending properties of compounds, better known as "diffraction patterns". This instrument combines the areas of high magnification microscopy with the ability to conduct analysis of detectable energies in the form of x-rays.

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	13.239	8.713	15.340	-	15.340	15.256	15.522	15.813	15.961
<b>Total:</b>									
<b>Secondary Distribution</b>									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	13.239	8.713	15.340	-	15.340	15.256	15.522	15.813	15.961

**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 03: Other Support Equipment / BSA 90: Other Support Equipment

**P-1 Line Item Number / Title:**  
 0312MB7000 / Base Level Common Equipment

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

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

Exhibits Schedule					Prior Years	FY 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	MB7000 / Base Level Common Equipment				- / 549.144	- / 13.239	- / 8.713	- / 15.340	- / -	- / 15.340
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 549.144</b>	<b>- / 13.239</b>	<b>- / 8.713</b>	<b>- / 15.340</b>	<b>- / -</b>	<b>- / 15.340</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 funding in the amount of \$15.340 million procures the following:

In FY 2020, Installation Management Command (IMCOM) will use \$14.340 million to procure 45 essential equipment items. This includes Road Graders (11), Front End Loaders (6), Tractors (8), Cranes (1), Street Sweepers (13), Excavators (4), Ditching Machine (1), and Bulldozer/Compactor (1). These items will be used to meet the immediate/daily needs of 32 Installations.

US Army Criminal Investigation Command (USACIDC) funds (\$1.0M) will be used to obtain:

Item 1: The Inductively Coupled Plasma - Mass Spectrometry (ICP-MS) (\$0.35M): The DFSC's Trace Evidence Branch utilizes this instrument for identification and quantitative analysis of elements in materials. USACIL would use it specifically for bulk gunshot (GSR), glass, paint, metal, and elemental analysis.

If the lifecycle replacement is not funded, the USACIDC assumes unacceptable risk of equipment failure. Upon equipment failure, all evidence testing associated with this instrumentation would cease thereby impacting the investigative and judicial communities ability to complete criminal investigations and to prosecute known criminals.

Item 2: Criminal Records Storage Capabilities (\$0.65M): The MCIO are required to send digital fingerprint file submissions of subjects apprehended worldwide through the USACIDC Store and Forward Server to the FBI. Also included in the file submissions are palm prints, booking photographs (mugshots), and digital signatures, all of which are mandated by law to be maintained for a minimum of 10 years. The USACIDC is currently consuming ~15 terabytes (TB) annually for records retention and will exceed current storage capacity within two years.

The organizational impact if not funded is non-compliance with federal mandates as we will be unable to retain the required 10 years of records absent a minimum SAN capacity of 150 TB.

Funding is COTS/GOTS.

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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 / 03 / 90	<b>P-1 Line Item Number / Title:</b> 0312MB7000 / Base Level Common Equipment	<b>Item Number / Title [DODIC]:</b> MB7000 / Base Level Common 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 (Units in Each)	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	549.144	13.239	8.713	15.340	-	15.340
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	549.144	13.239	8.713	15.340	-	15.340
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>549.144</b>	<b>13.239</b>	<b>8.713</b>	<b>15.340</b>	<b>-</b>	<b>15.340</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.

<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																		
Ammunition Cranes	9,750.000	2	19.500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rough Terrain Forklifts	430.000	2	0.860	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Loader Transport	402.000	1	0.402	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BCE Equipment	-	-	527.476	-	-	12.768	355.826	23	8.184	-	-	15.340	-	-	-	-	-	15.340
Crane Truck Mounted	352.500	2	0.705	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CID Microscope	201.000	1	0.201	-	-	0.471	529.000	1	0.529	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	549.144	-	-	13.239	-	-	8.713	-	-	15.340	-	-	-	-	-	15.340
<i>Subtotal: Flyaway Cost</i>	-	-	549.144	-	-	13.239	-	-	8.713	-	-	15.340	-	-	-	-	-	15.340
<b>Gross/Weapon System Cost</b>	-	-	549.144	-	-	13.239	-	-	8.713	-	-	15.340	-	-	-	-	-	15.340

**Remarks:**  
Funding is COTS/GOTS.

<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	13.239	8.713	15.340	-	15.340
<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 / 03 / 90	<b>P-1 Line Item Number / Title:</b> 0312MB7000 / Base Level Common Equipment	<b>Item Number / Title [DODIC]:</b> MB7000 / Base Level Common Equipment

<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	13.239	8.713	15.340	-	15.340

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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 03: Other Support Equipment / BSA 90: Other Support Equipment	<b>P-1 Line Item Number / Title:</b> 1110MA4500 / Modification Of In-Svc Equipment (OPA-3)
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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> )	1,211.067	52.265	65.389	50.458	33.354	83.812	58.817	27.252	25.806	17.104	-	1,541.512
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	1,211.067	52.265	65.389	50.458	33.354	83.812	58.817	27.252	25.806	17.104	-	1,541.512
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>1,211.067</b>	<b>52.265</b>	<b>65.389</b>	<b>50.458</b>	<b>33.354</b>	<b>83.812</b>	<b>58.817</b>	<b>27.252</b>	<b>25.806</b>	<b>17.104</b>	<b>-</b>	<b>1,541.512</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> )	402.348	23.833	42.051	82.990	106.562	91.001	167.570	534.353	573.467	2,138.000	-	189.515

**Description:**

This budget line funds Modifications of In-Service Equipment programs. It is used to develop and document material solutions and also to procure hardware, materials, and the hardware installation cost required to complete the modification. Modifications are performed to correct safety deficiencies; increase mission capabilities and interoperability; extend the useful life; improve supportability; upgrade existing technology; increase efficiency; improve readiness; modernization of legacy communications equipment and links; address obsolescence issues; and to meet new and/or changing statutory and regulatory requirements. By modifying existing equipment, the Army maintains a ready, supportable inventory of equipment that meets current requirements and regulations at a cost considerably below that of buying new equipment.

The Army Watercraft Systems (AWS) Modification of In-Service Equipment program funds system modifications and modernization initiatives across the AWS portfolio to ensure that the fleet can perform its Title 10 mission and provide the Army Combatant Commander with a waterborne transportation capability to deliver tracked and wheeled vehicles, containers, and personnel as a ship to shore or shore to shore connector. Watercraft bridges the gap between strategic sealift and sustains lethality in littoral areas or where mature ports and road networks are unavailable. Specifically, initiatives ensure seaworthiness, safety, and survivability while increasing the lethality, tactical mobility, and operational capability of the Army Mariner. Vessel lethality/Escalation of Force measures have increasingly become an area of vital concern to the Combatant Commanders (CCDR) given the requirement to preserve "freedom of the seas" access in all areas of the world, particularly the littorals, to support maneuver operations in all Areas of Responsibility.

Army Watercraft Systems are categorized under Landing Craft, Towing and Terminal Operations, Ship-to-Shore Enablers and Watercraft Operations Support. Landing Craft consist of Logistic Support Vessels (LSV), Landing Craft Utility 2000 (LCU-2000), Landing Craft Mechanized 8 (LCM-8) MOD 1, and LCM-8 MOD 2 (Watercraft Operations Support). Towing and Terminal Operations consist of Large Tug 800 (LT-800), Small Tug 900 (ST-900), and Barge Derrick Crane 115-ton (BD-115). Ship-to-Shore Enablers consist of Modular Causeway Systems (MCS) [each MCS includes Roll-On/Roll-Off Discharge Facilities (RRDF), Modular Warping Tugs (MWT), Causeway Ferry (CF), Floating Causeway (FC)].

The Construction Equipment (CE) Modification of In-Service Equipment program funds system modifications and modernization initiatives across the CE portfolio, to include the High Mobility Engineer Excavator (HMEE); Engineer Rapid Airfield Construction Capability (ERACC) for Dozers, Graders, Scrapers; Family of Loaders (FOL); Skid Steer Loader (SSL); Tractor Full Tracked; Grader; All Terrain Crane; Scrapers; and Hydraulic Excavators (HYEX). These programs serve as critical enablers in support of the National Defense Strategy and to the operational force by providing the capabilities necessary (1) to conduct overhead lift, bridge and barrier emplacement, container movement and stacking, resupply activities and general construction tasks; (2) to construct, maintain and repair airfields, runways, main supply routes, logistical facilities, roads, helipads, and ports of entry/debarkation; (3) to repair and keep open Line of Communications resulting in increased force mobility, maneuverability, deployability, sustainability; and (4) to enhance force infrastructure protection across a range of military operations. These improvements will decrease rising sustainment costs and bridge the gap until new system procurement in future years.



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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 03: Other Support Equipment / BSA 90: Other Support Equipment		<b>P-1 Line Item Number / Title:</b> 1110MA4500 / Modification Of In-Svc Equipment (OPA-3)
<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		

The Material Handling Equipment (MHE) Modification of In-Service Equipment program funds system modifications and modernization initiatives across the MHE portfolio, to include the Rough Terrain Container Handler (RTCH); All-Terrain Lifter, Army System (ATLAS); and Light Capability Rough Terrain Forklift (LCRTF). These improvements will decrease rising sustainment costs and bridge the gap until new system procurement in future years. These programs serve as critical enablers in support of the National Defense Strategy and to the operational force by providing the capabilities necessary to (1) clear landing zones of supplies and equipment, load and unload combat vehicles and aircraft as well as moving some artillery assets, ammunition and supplies and (2) perform port opening operations, logistics movement, and unloading and loading of containers that handle break-bulk cargo at seaports, railheads, and airports. The LCRTF is the only rugged forklift in the U.S. Army's inventory which can rapidly enter, pack, and unpack ISO containers, load and unload tactical vehicles and trailers, and lift and move light equipment and cargo. The RTCH represents a key enabler during Joint Logistics Over the Shore Operations (JLOTS) and lifts, moves, and stacks 20- and 40-foot ISO freight containers. In addition, program funds support the procurement and fielding of RTCH Special Tools Kits required to meet Field Level Maintenance requirements per the current Technical Manual for the aging legacy fleet.

Modification kits provide proven capabilities to reduce logistical, resource and operational energy burdens in forward deployed Force Provider base camps resulting in a significant impact on Soldier safety by reducing dangerous and risky resupply missions that result in casualties. In addition to saving lives, this is a fiscally responsible investment as these capabilities have a quick return on investment in sustained operations. For example: Energy Efficiency modifications to shelters reduce solar loading by 85% and cooling and heating demands in turn reducing the fuel demand by 35% to power environmental control-ROI is within 180 days; the Power distribution Micro-grid component provides auto on/off capabilities for generators based upon load demand, reducing fuel consumed by over 30%-ROI is with 150 days; and the solid waste disposal piece will provide a safe and efficient capability to dispose of waste generated in the base camp.

The Food Sanitation Center (FSC) will correct safety and operational shortfalls identified by the user and combat developer by retrofitting older FSCs with improvements from the current version. The modification kit includes automatic thermostatic water temperature control and a transfer pump. These modifications will improve operator safety, and overall sanitation effectiveness while reducing water consumption and environmental impact.

The Explosive Ordnance Disposal (EOD) Modification of In-Service Equipment will be used to modify tool kits approved for EOD use. The EOD Response Tool Kit (RTK) has not been modified or upgraded for more than 25 years. The kits contain special tools and equipment that EOD units use to render safe explosive ordnance. The modification will include adding the capability to provide decontamination for teams, as well as individuals, during suspected or confirmed exposure to chemical elements, adding the capability to locate and render safe Improvised Explosive Devices (IEDs), and modifying the kit packaging into smaller, mission unique kits to provide EOD technicians the ability to perform dismounted operations. The tool kits will be fielded throughout the active Army and National Guard units. The Army Acquisition Objective (AAO) for the EOD Response Tool Kit modification is 548.

As a new start in FY 2020, the EOD Modification of In-Service Equipment will also be used to modify the EOD Platoon Supplemental Kit (PSK), which has not been modified or upgraded for more than 25 years. The PSK augments the EOD Response Tool Kit (RTK) to enable the EOD Heavy Team to perform missions beyond the capability of the RTK, such as EOD munitions with chemical or biological fill. The expanded capabilities include special expendable charge containers that can be packed with C4 or detonation cord for vehicle entry and disruption of improvised explosive devices, up-to-date borescope, and large image capture. The Army Acquisition Objective (AAO) for the EOD Platoon Supplemental Kit modification is 220.

In addition, the Explosive Ordnance Disposal (EOD) Modification of In-Service Equipment will be used to procure the Dismounted Reconnaissance Sets, Kits and Outfits (DR SKO). The CBRN DR SKO provides CBRN Warfighters with a comprehensive suite of protection, detection, identification, sample collection, hazard marking, decontamination, and other support capabilities for use during explosive ordnance render safe operations. The Warfighter will use the CBRN DRS respiratory and percutaneous protection to prevent potential contamination while conducting operations, sensor capabilities to find CBRN and toxic industrial hazards to determine the appropriate action during operations, and the decontamination kit to remove contamination from personnel and equipment.

The AN/PSS-14C (HSTAMIDS) upgrade will correct safety and reliability/maintainability shortfalls of the system identified by the combat developer and depot operations responsible for the reset and overhaul of this system. The modifications will include retrofitting fielded systems with previously purchased upgrade kits that include new electronic boards, hand controller hardware, and updated software to address the safety performance of the system. These upgrades will require training/fielding of the system to address changes in the system operation from current software/hardware configuration.

The M41 Protection Assessment Test System (PATS) is a military version of a commercial device - TSI's "Model 8020M PortaCount Respirator Fit Tester" with accessories and carrying case comprise a system designed to check the readiness of protective masks. The M41 PATS is one man portable, approximately 200 cubic inches in size, weighs 4 pounds, and is based on a miniature Condensation Nucleus Counter

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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 03: Other Support Equipment / BSA 90: Other Support Equipment		<b>P-1 Line Item Number / Title:</b> 1110MA4500 / Modification Of In-Svc Equipment (OPA-3)
<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>that continuously samples and counts individual particles naturally occurring in the surrounding air. The M41 PATS measures the concentration of these particles inside and outside the mask and calculates a Fit Factor (FF). The PATS is designed to verify that a protective mask, while worn by a Soldier, is capable of providing a minimum Army requirement FF of 1667. The PATS verifies: (1) the fit of the mask to the soldiers' face is acceptable, and (2) there are no critical leaks in the mask system. In addition to these features, the PATS can also be used to help screen for unserviceable masks, assist in determining if Preventive Maintenance Checks and Services (PMCS) have been conducted properly on critical components, and assist in training personnel on the proper wearing of the mask. A modernized PATS is needed as the legacy system is no longer manufactural due to technological obsolescence of critical calibration components. The modernized M41 PATS will have modern technologies and updated components, such as circuit boards, rendering them producible, manufactural and can be maintained into FY2035.</p> <p>The M139 Volcano Mine Dispensing System is a mine delivery system. Volcano was originally fielded for use on tactical vehicles from the 1980s along with the UH-60M Blackhawk aircraft. The prime movers for the system have been replaced and currently lack required safety certifications for safe usage. The in-service modification will complete initial engineering activities and complete system life extension modifications for worldwide ground and air use. Configuration and interface issues with the Class VII components of the Mine Clearing Line Charge (MCLIC) system (MK155 Mod 3 Launcher and M200 trailer) will also be addressed. The MCLIC system is used to breach vehicle-wide paths through minefields and to counter Improvised Explosive Device (IED) arrays. Funding will support rectifying interface issues between the launcher and new production M200 trailers, and other initial engineering activities in preparation for life extension modifications.</p> <p>The Dry Support Bridge (DSB) is the Multi-Role Bridging Company's mobile tactical bridging platform. The DSB is employed in tactical and assault contingency situations when a longer bridging span is required to maintain forward momentum of joint maneuver forces. The 40 meter DSB can span a 40 meter gap or two 20 meter gaps. The 46 meter bridge can span a 46 meter gap or two 28 meter gaps (with 46 meter retrofit upgrade). Both have a crossing weight capability of Military Load Class (MLC) 96 normal/120 under caution (Wheeled) and MLC 80 (Tracked). The DSB has a road width of 4.3 meters and an emplacement time of 90 minutes or less, with little or no site preparation.</p> <p>The Rapidly Emplaced Bridge System (REBS) is a self-deployable/retrievable bridge that provides the SBCT and IBCTs with an organic tactical gap crossing capability. The REBS can be employed by two Soldiers in less than ten minutes and is air transportable by C-130. The system is transported across the battlefield by a CBT and is comprised of two bridge halves and a pallet that is utilized to launch and retrieve the bridge. REBS is capable of crossing a 13 meter gap with an MLC of 40 normal and 50 caution.</p> <p>Comments: In accordance with Section 1815 of the FY 2008 National Defense Authorization Act (P.L. 110-181), this item is necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestics 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 03: Other Support Equipment / BSA 90: Other Support Equipment

**P-1 Line Item Number / Title:**  
1110MA4500 / Modification Of In-Svc Equipment (OPA-3)

**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-3a	MA4501 / - (-)				- / 907.183	- / 20.980	- / 25.201	- / 34.587	- / 4.234	- / 38.821
P-3a	MA4502 / - (-)				- / 237.700	- / 23.233	- / 12.278	- / 5.438	- / -	- / 5.438
P-3a	MA4504 / Bridging (Equipment Upgrade)				- / 60.045	- / 4.502	- / 2.912	- / 10.433	- / -	- / 10.433
P-3a	R01121 / Explosive Ordnance Disposal (EOD) Equipment R01121 (Equipment Upgrade)				- / 6.139	- / 3.550	- / 24.998	- / -	- / 29.120	- / 29.120
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 1,211.067</b>	<b>- / 52.265</b>	<b>- / 65.389</b>	<b>- / 50.458</b>	<b>- / 33.354</b>	<b>- / 83.812</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	MA4501 / - (-)				- / 16.407	- / 16.840	- / 16.354	- / 17.393	- / -	- / 1,049.179
P-3a	MA4502 / - (-)				- / 5.434	- / 2.792	- / 2.954	- / 2.955	- / -	- / 292.784
P-3a	MA4504 / Bridging (Equipment Upgrade)				- / 7.856	- / 7.620	- / 6.498	- / 6.756	- / -	- / 106.622
P-3a	R01121 / Explosive Ordnance Disposal (EOD) Equipment R01121 (Equipment Upgrade)				- / 29.120	- / -	- / -	- / -	- / -	- / 92.927
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 58.817</b>	<b>- / 27.252</b>	<b>- / 25.806</b>	<b>- / 17.104</b>	<b>- / -</b>	<b>- / 1,541.512</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 \$50.458 million Base and \$33.354 million OCO support the following efforts:

**MA4501:**

Modification Items #1 Material Handling Equipment (MHE) Technical Insertion (PEO CS & CSS) - FY 2020 Base procurement dollars for Material Handling Equipment (MHE) in the amount of \$0.243 million provides RTCH Special Tools, upgrade modifications to the ATLAS, RTCH and other MHE systems, and Program Support costs. In addition to the base description above, the Material Handling Equipment (MHE) Modification of In-Service Equipment program funds system modifications and modernization initiatives across the MHE portfolio, to include the Rough Terrain Container Handler (RTCH); All-Terrain Lifter, Army System (ATLAS); and Light Capability Rough Terrain Forklift (LCRTF). These improvements (e.g. new control units) will decrease rising sustainment costs and bridge the gap until new system procurement in future years.

Modification Item #2 Construction Equipment (CE) Tech Insertion (PEO CS & CSS) - There is no FY 2020 funding for this modification item.

Modification Item #3 Army Watercraft Systems (PEO CS & CSS) - FY 2020 Base procurement dollars in the amount of \$21.548 million supports pier side modifications of all outstanding and emerging Engineering Change Proposals (ECP) and Modification Work Orders (MWO) across the watercraft fleet. Application of ECPs/MWOs will regain fleet configuration control, improve operational readiness, correct safety and regulatory deficiencies, comply with changing federal statutory and regulatory mandates, comply with safety of life at sea (SOLAS) requirements and comply with all necessary environmental requirements. Funding also supports Program Management/Matrix Support, and upgrades/modifications to Army Watercraft Systems which are completed as required to resolve any survivability / force

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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 03: Other Support Equipment / BSA 90: Other Support Equipment		<b>P-1 Line Item Number / Title:</b> 1110MA4500 / Modification Of In-Svc Equipment (OPA-3)
<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>protection - lethal and non-lethal Escalation of Force (EoF) issues, and technical insertions. Program Management/Matrix Support includes Program Management and System Engineering, Logistics oversight required to manage the program and provide contractor oversight.</p> <p>Modification Item #4 M139 Volcano Mine Dispensing System (JPEO A&amp;A) - FY 2020 Base procurement dollars in the amount of \$6.450 million supports modification of 24 volcano systems. The M139 Volcano Mine Dispensing System is a mine delivery system. Volcano was originally fielded for use on tactical vehicles from the 1980s along with the UH-60M Blackhawk aircraft. The prime movers for the system have been replaced and currently lack required safety certifications for safe usage. The in-service modification will complete initial engineering activities and complete system life extension modifications for worldwide ground and air use.</p> <p>Modification Item #5 Mine Clearing Line Charge (MICLEC) (JPEO A&amp;A) - There is no FY 2020 funding for this modification item.</p> <p>Modification Item #6 CBRN Soldier P.133-3.608-protection M41 PATS (PEO Joint Program Office Biological Defense) - FY2020 Base procurement dollars in the amount of \$6.346 million supports the procurement of 554 M41 Protection Assessment Test Systems (PATS) to include fielding and training of delivered systems to sustain the Army's chemical and biological protection mask fit assessment capability and mitigate obsolescence. \$4.234M of FY2020 OCO funding will procure and field 378 M41 PATS systems to units that will deploy in support of Operation Spartan Shield.</p> <p>Modification Item #7 Force Provider (PEO CS &amp; CSS) - There is no FY 2020 funding for this modification item.</p> <p>Modification Item #8 Food Sanitation Center (PEO CS &amp; CSS) - There is no FY 2020 funding for this modification item.</p> <p>MA4502: Modification Item #1 Petroleum and Water Systems (PEO CS &amp; CSS) - There is no FY 2020 funding for this modification item.</p> <p>Modification Item #2 Army Watercraft Systems (PEO CS &amp; CSS) - FY 2020 Base procurement dollars in the amount of \$3.438 million supports completion of pier side modifications of all outstanding and emerging Engineering Change Proposals (ECP) and Modification Work Orders (MWO) across the watercraft fleet. Application of ECPs/MWOs will regain fleet configuration control, improve operational readiness, correct safety and regulatory deficiencies, comply with changing federal statutory and regulatory mandates, comply with safety of life at sea (SOLAS) requirements and comply with all necessary environmental requirements. Funding also supports Program Management/Matrix Support, and upgrades/modifications to Army Watercraft Systems which are completed as required to resolve any survivability / force protection - lethal and non-lethal Escalation of Force (EoF) issues, and technical insertions. Program Management/Matrix Support includes Program Management and System Engineering, Logistics oversight required to manage the program and provide contractor oversight.</p> <p>Modification Items #3 AN/PSS-14C (PEO Ammunition) - FY 2020 Base procurement dollars in the amount of \$2.000 million supports activities associated with the upgrade of AN/PSS-14C systems using previously purchased upgrade kits . Additionally, it will resource training lane installation(s), New Equipment Training for 440 systems, and engineering changes to address obsolescence that will correct maintainability shortfalls for the AN/PSS-14C (HSTAMIDS), which will extend the service life of this system, currently used in both the Continental United States (CONUS) and Outside the Continental Unites States (OCONUS).</p> <p>MA4504: Modification Item #1: Bridging (PEO CS &amp; CSS) FY 2020 Base procurement dollars in the amount of \$7.981 million supports the Dry Support Bridge (DSB) 46 meter retrofit upgrade kits enabling the fielded 40 meter DSB Systems the capability to bridge gaps up to 46 meters, increasing its gap crossing capability by 15%.</p> <p>Modification Item #2: Bridging (PEO CS &amp; CSS) FY 2020 Base procurement dollars in the amount of \$1.655 million supports the Dry Support Bridge (DSB) the Hydraulic Adapter Kit is a Dry Support Bridge Operational Readiness improvement that decreases system downtime by providing field parts for common failures. The kit fixes any hydraulic leak for the DSB onsite in the field with hoses and adapters that convert European hydraulic fittings to American.</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 03: Other Support Equipment / BSA 90: Other Support Equipment		<b>P-1 Line Item Number / Title:</b> 1110MA4500 / Modification Of In-Svc Equipment (OPA-3)
<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>Modification Item #3: Bridging (PEO CS &amp; CSS) FY 2020 Base procurement dollars in the amount of \$.797 million supports the Rapidly Emplaced Bridge System (REBS) V3 Kits and technical manuals to support REBS modifications and modernization through installation of a heating device for the winch, decentralization of the hydraulic valves to shorten the distance between valves and cylinders, and installation of a hydraulic power pack to use CBT as the main power source. This modification increased the reliability and durability of the REBS launcher.</p> <p>R01121: Modification Item #1 and #3 Explosive Ordnance Disposal (EOD) Equipment (JPEO A&amp;A) - FY 2020 OCO procurement dollars in the amount of \$29.120 million procures modifications to 180 EOD Response Tool Kits (RTKs) and 182 Platoon Supplemental Kits (PSKs) in support of Operation Inherent Resolve for ISIL. This modernized equipment will increase operational capabilities of EOD units, as well as enhance the safety of EOD soldiers.</p> <p>Modification Item #2 DR SKO (Joint Program Office Biological Defense) - There is no FY 2020 funding for this modification item.</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-3a, Individual Modification: PB 2020 Army</b>		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 03 / 90	<b>P-1 Line Item Number / Title:</b> 1110MA4500 / Modification Of In-Svc Equipment (OPA-3)	<b>Modification Number / Title:</b> MA4501 / -

<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>	<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> )	907.183	20.980	25.201	34.587	4.234	38.821	16.407	16.840	16.354	7.393	-	1,049.179
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	907.183	20.980	25.201	34.587	4.234	38.821	16.407	16.840	16.354	7.393	-	1,049.179
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>907.183</b>	<b>20.980</b>	<b>25.201</b>	<b>34.587</b>	<b>4.234</b>	<b>38.821</b>	<b>16.407</b>	<b>16.840</b>	<b>16.354</b>	<b>7.393</b>	-	<b>1,049.179</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> )	460.032	48.791	48.557	58.325	-	65.465	631.038	421.000	442.000	-	-	290.069

**Description:**

This budget line funds Modifications of In-Service Equipment programs. It is used to develop material solutions and also to procure hardware and materials required to complete the modification. Modifications are performed to correct safety deficiencies; increase mission capabilities and interoperability; extend the useful life; improve supportability; upgrade existing technology; increase efficiency; improve readiness; modernization of legacy communications equipment and links; address obsolescence issues; and to meet new and/or changing statutory and regulatory requirements. By modifying existing equipment, the Army maintains a ready, supportable inventory of equipment that meets current requirements and regulations at a cost considerably below that of buying new equipment.

Modification Items #1 Material Handling Equipment (MHE) Technical Insertion (PEO CS & CSS) - FY 2020 Base procurement dollars for Material Handling Equipment (MHE) in the amount of \$0.243 million provides RTCH Special Tools, upgrade modifications to the ATLAS, RTCH and other MHE systems, and Program Support costs. In addition to the base description above, the Material Handling Equipment (MHE) Modification of In-Service Equipment program funds system modifications and modernization initiatives across the MHE portfolio, to include the Rough Terrain Container Handler (RTCH); All-Terrain Lifter, Army System (ATLAS); and Light Capability Rough Terrain Forklift (LCRTF). These improvements (e.g. new control units) will decrease rising sustainment costs and bridge the gap until new system procurement in future years.

Modification Item #2 Construction Equipment (CE) Tech Insertion (PEO CS & CSS) - There is no FY 2020 funding for this modification item.

Modification Item #3 Army Watercraft Systems (PEO CS & CSS) - FY 2020 Base procurement dollars in the amount of \$21.548 million supports pier side modifications of all outstanding and emerging Engineering Change Proposals (ECP) and Modification Work Orders (MWO) across the watercraft fleet. Application of ECPs/MWOs will regain fleet configuration control, improve operational readiness, correct safety and regulatory deficiencies, comply with changing federal statutory and regulatory mandates, comply with safety of life at sea (SOLAS) requirements and comply with all necessary environmental requirements. Funding also supports Program Management/Matrix Support, and upgrades/modifications to Army Watercraft Systems which are completed as required to resolve any survivability / force protection - lethal and non-lethal Escalation of Force (EoF) issues, and technical insertions. Program Management/Matrix Support includes Program Management and System Engineering, Logistics oversight required to manage the program and provide contractor oversight.

Modification Item #4 M139 Volcano Mine Dispensing System (JPEO A&A) - FY 2020 Base procurement dollars in the amount of \$6.450 million supports modification of 24 volcano systems. The M139 Volcano Mine Dispensing System is a mine delivery system. Volcano was originally fielded for use on tactical vehicles from the 1980s along with the UH-60M Blackhawk aircraft. The prime movers for the system have been replaced and currently lack required safety certifications for safe usage. The in-service modification will complete initial engineering activities and complete system life extension modifications for worldwide ground and air use.

Modification Item #5 Mine Clearing Line Charge (MICLIC) (JPEO A&A) - There is no FY 2020 funding for this modification item.

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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 / 03 / 90	<b>P-1 Line Item Number / Title:</b> 1110MA4500 / Modification Of In-Svc Equipment (OPA-3)	<b>Modification Number / Title:</b> MA4501 / -
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :		<b>MDAP/MAIS Code:</b>
<p>Modification Item #6 CBRN Soldier Protection M41 PATS (PEO Joint Program Office Biological Defense) - FY2020 Base procurement dollars in the amount of \$6.346 million supports the procurement of 554 M41 Protection Assessment Test Systems (PATS) to include fielding and training of delivered systems to sustain the Army's chemical and biological protection mask fit assessment capability and mitigate obsolescence. FY2020 OCO procurement dollars in the amount of \$4.234 million supports the procurement of 378 M41 Protection Assessment Test Systems (PATS) to include fielding and training of delivered systems to sustain the Army's chemical and biological protection mask fit assessment capability and mitigate obsolescence.</p> <p>Modification Item #7 Force Provider (PEO CS &amp; CSS) - There is no FY 2020 funding for this modification item.</p> <p>Modification Item #8 Food Sanitation Center (PEO CS &amp; CSS) - There is no FY 2020 funding for this modification item.</p>		

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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 / 03 / 90					<b>P-1 Line Item Number / Title:</b> 1110MA4500 / Modification Of In-Svc Equipment (OPA-3)					<b>Modification Number / Title:</b> MA4501 / -			
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :							<b>MDAP/MAIS Code:</b>						
<b>Models of Systems Affected: -</b>				<b>Modification Type: -</b>				<b>Related RDT&amp;E PEs:</b>					
Financial Plan	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
<b>Procurement</b>													
<b>Modification Item 1 of 8: Material Handling Equipment Technical Insertion</b>													
A Kits													
Recurring													
Other (RTCH Special Tools, Program Spt)	- / 0.541	- / 0.117	- / 0.141	- / 0.243	- / -	- / 0.243	- / 0.250	- / 0.261	- / 0.266	- / 0.188	- / 0.000	- / 2.007	
<b>Subtotal: Recurring</b>	<b>- / 0.541</b>	<b>- / 0.117</b>	<b>- / 0.141</b>	<b>- / 0.243</b>	<b>- / -</b>	<b>- / 0.243</b>	<b>- / 0.250</b>	<b>- / 0.261</b>	<b>- / 0.266</b>	<b>- / 0.188</b>	<b>- / -</b>	<b>- / 2.007</b>	
<b>Subtotal: Material Handling Equipment Technical Insertion</b>	<b>- / 0.541</b>	<b>- / 0.117</b>	<b>- / 0.141</b>	<b>- / 0.243</b>	<b>- / -</b>	<b>- / 0.243</b>	<b>- / 0.250</b>	<b>- / 0.261</b>	<b>- / 0.266</b>	<b>- / 0.188</b>	<b>- / -</b>	<b>- / 2.007</b>	
<b>Modification Item 2 of 8: Construction Equipment Technical Insertion</b>													
A Kits													
Recurring													
Other	- / 29.947	- / 4.196	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 34.143	
<b>Subtotal: Recurring</b>	<b>- / 29.947</b>	<b>- / 4.196</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / 34.143</b>	
B Kits													
Recurring													
Scraper Armor Kits	- / -	- / -	12 / 2.856	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	12 / 2.856	
Blade Levelling Kits	95 / 8.274	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	95 / 8.274	
Other	- / 17.160	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 17.160	
<b>Subtotal: Recurring</b>	<b>95 / 15.434</b>	<b>- / -</b>	<b>12 / 2.856</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>107 / 18.290</b>	
<b>Subtotal: Construction Equipment Technical Insertion</b>	<b>95 / 45.381</b>	<b>- / 4.196</b>	<b>12 / 2.856</b>	<b>- / 0.000</b>	<b>- / -</b>	<b>- / 0.000</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>107 / 52.433</b>	
<b>Modification Item 3 of 8: Army Watercraft Systems</b>													
A Kits													
Recurring													
AWS Modifications	- / -	- / -	- / -	- / 13.238	- / -	- / 13.238	- / -	- / -	- / -	- / -	- / 0.000	- / 13.238	
Safety/Environmental MWO's/PQDR's/ECP's	- / 12.957	- / 2.053	- / 3.211	- / 3.781	- / -	- / 3.781	- / 4.001	- / 3.450	- / 3.401	- / 3.401	- / 0.000	- / 36.255	
C4ISR	- / 23.700	- / -	- / 2.100	- / 1.890	- / -	- / 1.890	- / 1.481	- / 1.392	- / 1.602	- / 1.601	- / 0.000	- / 33.766	
Matrix Support	- / 8.613	- / 2.462	- / 2.218	- / 1.800	- / -	- / 1.800	- / 1.799	- / 1.605	- / 1.790	- / 1.799	- / 0.000	- / 22.086	
Program Management	- / 3.519	- / 0.995	- / 0.739	- / 0.839	- / -	- / 0.839	- / 0.886	- / 0.602	- / 0.414	- / 0.404	- / 0.000	- / 18.398	
Training Equipment	- / 608.689	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 608.689	
<b>Subtotal: Recurring</b>	<b>- / 657.478</b>	<b>- / 5.510</b>	<b>- / 8.268</b>	<b>- / 21.548</b>	<b>- / -</b>	<b>- / 21.548</b>	<b>- / 8.167</b>	<b>- / 17.049</b>	<b>- / 17.207</b>	<b>- / 17.205</b>	<b>- / -</b>	<b>- / 722.432</b>	
<b>Subtotal: Army Watercraft Systems</b>	<b>- / 657.478</b>	<b>- / 5.510</b>	<b>- / 8.268</b>	<b>- / 21.548</b>	<b>- / -</b>	<b>- / 21.548</b>	<b>- / 8.167</b>	<b>- / 17.049</b>	<b>- / 17.207</b>	<b>- / 17.205</b>	<b>- / -</b>	<b>- / 722.432</b>	



**UNCLASSIFIED**

<b>Exhibit P-3a, Individual Modification: PB 2020 Army</b>										<b>Date: March 2019</b>			
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 03 / 90				<b>P-1 Line Item Number / Title:</b> 1110MA4500 / Modification Of In-Svc Equipment (OPA-3)						<b>Modification Number / Title:</b> MA4501 / -			
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :							<b>MDAP/MAIS Code:</b>						
<b>Models of Systems Affected: -</b>				<b>Modification Type: -</b>				<b>Related RDT&amp;E PEs:</b>					
Financial Plan	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
<b>Modification Item 4 of 8: M139 Volcano Mine Dispersing System</b>													
A Kits													
Recurring													
M139 Volcano Mine Dispersing System	- / -	- / -	33 / 8.154	24 / 6.450	- / -	24 / 6.450	30 / 7.990	36 / 9.530	34 / 8.881	- / -	- / 0.000	157 / 41.005	
<i>Subtotal: Recurring</i>	- / -	- / -	33 / 8.154	24 / 6.450	- / -	24 / 6.450	30 / 7.990	36 / 9.530	34 / 8.881	- / -	- / -	157 / 41.005	
<i>Subtotal: M139 Volcano Mine Dispersing System</i>	- / -	- / -	33 / 8.154	24 / 6.450	- / -	24 / 6.450	30 / 7.990	36 / 9.530	34 / 8.881	- / -	- / -	157 / 41.005	
<b>Modification Item 5 of 8: Mine Clearing Line Charge (MCLIC)</b>													
A Kits													
Non-Recurring													
MCLIC (Mine Clearing Charge)	- / -	- / -	- / 0.500	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 0.500	
<i>Subtotal: Non-Recurring</i>	- / -	- / -	- / 0.500	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.500	
<i>Subtotal: Mine Clearing Line Charge (MCLIC)</i>	- / -	- / -	- / 0.500	- / 0.000	- / -	- / 0.000	- / -	- / -	- / -	- / -	- / -	- / 0.500	
<b>Modification Item 6 of 8: CBRN Soldier Protection M41 PATS</b>													
A Kits													
Recurring													
M41 8020M Systems	420 / 4.113	427 / 3.435	445 / 4.496	554 / 6.202	378 / 4.234	932 / 10.436	- / -	- / -	- / -	- / -	- / 0.000	2,224 / 22.480	
Tech Data	- / 0.337	- / 0.130	- / 0.130	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 0.597	
Program Management	- / 0.248	- / 0.335	- / 0.656	- / 0.144	- / -	- / 0.144	- / -	- / -	- / -	- / -	- / 0.000	- / 1.383	
<i>Subtotal: Recurring</i>	420 / 4.698	427 / 3.900	445 / 5.282	554 / 6.346	378 / 4.234	932 / 10.580	- / -	- / -	- / -	- / -	- / -	2,224 / 24.460	
<i>Subtotal: CBRN Soldier Protection M41 PATS</i>	420 / 4.698	427 / 3.900	445 / 5.282	554 / 6.346	378 / 4.234	932 / 10.580	- / -	- / -	- / -	- / -	- / -	2,224 / 24.460	
<b>Modification Item 7 of 8: Force Provider</b>													
A Kits													
Recurring													
Other	- / 180.904	- / 7.257	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 188.161	
<i>Subtotal: Recurring</i>	- / 180.904	- / 7.257	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 188.161	
<i>Subtotal: Force Provider</i>	- / 180.904	- / 7.257	- / -	- / 0.000	- / -	- / 0.000	- / -	- / -	- / -	- / -	- / -	- / 188.161	
<b>Modification Item 8 of 8: Food Sanitation Center</b>													
A Kits													
Recurring													

**UNCLASSIFIED**

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

**Appropriation / Budget Activity / Budget Sub Activity:** 2035A / 03 / 90 **P-1 Line Item Number / Title:** 1110MA4500 / Modification Of In-Svc Equipment (OPA-3) **Modification Number / Title:** MA4501 / -

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

**Models of Systems Affected: -** **Modification Type: -** **Related RDT&E PEs:**

Financial Plan	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Other	- / 15.069	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 15.069
<i>Subtotal: Recurring</i>	- / 15.069	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 15.069
<i>Subtotal: Food Sanitation Center</i>	- / 15.069	- / -	- / -	- / 0.000	- / -	- / 0.000	- / -	- / -	- / -	- / -	- / -	- / 15.069
<i>Subtotal: Procurement, All Modification Items</i>	515 / 904.071	427 / 20.980	490 / 25.201	578 / 34.587	378 / 4.234	956 / 38.821	30 / 16.407	36 / 16.840	34 / 16.354	- / 7.393	- / -	2,488 / 1,046.067

**Installation**

<b>Modification Item 6 of 8:</b> CBRN Soldier Protection M41 PATS	420 / 0.000	427 / 0.000	445 / 0.000	554 / 0.000	- / -	554 / 0.000	- / -	- / -	- / -	- / -	- / -	1,846 / 0.000
<b>Modification Item 7 of 8:</b> Force Provider	- / 1.880	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 1.880
<b>Modification Item 8 of 8:</b> Food Sanitation Center	- / 1.232	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 1.232
<i>Subtotal: Installation</i>	420 / 3.112	427 / 0.000	445 / 0.000	554 / 0.000	- / -	554 / 0.000	- / -	- / -	- / -	- / -	- / -	1,846 / 3.112

**Total**

<b>Total Cost (Procurement + Support + Installation)</b>	<b>907.183</b>	<b>20.980</b>	<b>25.201</b>	<b>34.587</b>	<b>4.234</b>	<b>38.821</b>	<b>16.407</b>	<b>16.840</b>	<b>16.354</b>	<b>7.393</b>	<b>-</b>	<b>1,049.179</b>
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**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 03 / 90	<b>P-1 Line Item Number / Title:</b> 1110MA4500 / Modification Of In-Svc Equipment (OPA-3)	<b>Modification Number / Title:</b> MA4501 / -
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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 8:** Material Handling Equipment Technical Insertion

**Manufacturer Information**

Manufacturer Name: Various	Manufacturer Location: Various
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Administrative Leadtime (in Months):	Production Leadtime (in Months):
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Dates	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Contract Dates							
Delivery Dates							

**Installation Information**

**Method of Implementation:** Various

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						
In	112	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	112
Out	112	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	112

**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 / 03 / 90			<b>P-1 Line Item Number / Title:</b> 1110MA4500 / Modification Of In-Svc Equipment (OPA-3)			<b>Modification Number / Title:</b> MA4501 / -	
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :					<b>MDAP/MAIS Code:</b>		
<b>Modification Item 2 of 8:</b> Construction Equipment Technical Insertion							
<b>Manufacturer Information</b>							
Manufacturer Name: Various				Manufacturer Location: Various			
Administrative Leadtime (in Months): 4				Production Leadtime (in Months): 2			
<b>Dates</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
Contract Dates	Dec 2017	Dec 2018					
Delivery Dates	Mar 2018	Mar 2019					
<b>Installation Information</b>							
<b>Method of Implementation (Organic):</b> Various					<b>Installation Quantity:</b> 0		

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 03 / 90	<b>P-1 Line Item Number / Title:</b> 1110MA4500 / Modification Of In-Svc Equipment (OPA-3)	<b>Modification Number / Title:</b> MA4501 / -
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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**Modification Item 3 of 8:** Army Watercraft Systems

**Manufacturer Information**

Manufacturer Name: Various	Manufacturer Location: Various
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Administrative Leadtime (in Months):	Production Leadtime (in Months):
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Dates	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Contract Dates							
Delivery Dates							

**Installation Information**

**Method of Implementation:** -

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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
Out	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 03 / 90	<b>P-1 Line Item Number / Title:</b> 1110MA4500 / Modification Of In-Svc Equipment (OPA-3)	<b>Modification Number / Title:</b> MA4501 / -
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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 8:** M139 Volcano Mine Dispersing System

**Manufacturer Information**

Manufacturer Name: To Be Selected	Manufacturer Location: To Be Selected
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Administrative Leadtime (in Months):	Production Leadtime (in Months):
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Dates	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Contract Dates							
Delivery Dates							

**Installation Information**

**Method of Implementation:** To Be Selected

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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
Out	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 03 / 90	<b>P-1 Line Item Number / Title:</b> 1110MA4500 / Modification Of In-Svc Equipment (OPA-3)	<b>Modification Number / Title:</b> MA4501 / -
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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 8:** Mine Clearing Line Charge (MICLIC)

**Manufacturer Information**

Manufacturer Name: To Be Selected	Manufacturer Location: To Be Selected
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Administrative Leadtime (in Months):	Production Leadtime (in Months):
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Dates	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Contract Dates							
Delivery Dates							

**Installation Information**

**Method of Implementation:** To Be Selected

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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
Out	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1

**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 / 03 / 90	<b>P-1 Line Item Number / Title:</b> 1110MA4500 / Modification Of In-Svc Equipment (OPA-3)	<b>Modification Number / Title:</b> MA4501 / -

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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**Modification Item 6 of 8:** CBRN Soldier Protection M41 PATS

**Manufacturer Information**

Manufacturer Name: Manufacturer Name: TSI, Inc.	Manufacturer Location: Shoreview, MN
Administrative Leadtime (in Months): 2	Production Leadtime (in Months): 7

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

**Installation Information**

**Method of Implementation:** Contract

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	420 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	420 / 0.000
FY 2019	0 / 0.000	427 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	427 / 0.000
FY 2020	0 / 0.000	- / -	445 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	445 / 0.000
FY 2021	0 / 0.000	- / -	- / -	554 / 0.000	- / -	554 / 0.000	- / -	- / -	- / -	- / -	- / -	554 / 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	420 / 0.000	427 / 0.000	445 / 0.000	554 / 0.000	- / -	554 / 0.000	- / -	- / -	- / -	- / -	- / -	1,846 / 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	-	420	-	-	427	-	-	-	445	-	-	932	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,224
Out	-	-	-	-	-	150	150	150	150	150	150	150	300	300	300	274	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,224



**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 / 03 / 90	<b>P-1 Line Item Number / Title:</b> 1110MA4500 / Modification Of In-Svc Equipment (OPA-3)	<b>Modification Number / Title:</b> MA4501 / -

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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**Modification Item 7 of 8:** Force Provider

**Manufacturer Information**

Manufacturer Name: Letterkenny Army Depot	Manufacturer Location: Chambersburg, PA
Administrative Leadtime (in Months): 2	Production Leadtime (in Months):

Dates	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Contract Dates	Dec 2016						
Delivery Dates	Aug 2017						

**Installation Information**

**Method of Implementation:** MIPR

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 / 1.880	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 1.880
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 / 1.880	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 1.880

**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	676	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	700
Out	585	31	30	30	4	4	4	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	700

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 03 / 90	<b>P-1 Line Item Number / Title:</b> 1110MA4500 / Modification Of In-Svc Equipment (OPA-3)	<b>Modification Number / Title:</b> MA4501 / -
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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 8:** Food Sanitation Center

**Manufacturer Information**

Manufacturer Name: Sotera Defesnse	Manufacturer Location: Easton, MD
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Administrative Leadtime (in Months): 1	Production Leadtime (in Months): 7
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Dates	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Contract Dates							
Delivery Dates							

**Installation Information**

**Method of Implementation:** C/FP

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 / 1.232	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 1.232
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>	0 / 1.232	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 1.232

**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	2,277	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,277
Out	2,277	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,277

**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 / 03 / 90	<b>P-1 Line Item Number / Title:</b> 1110MA4500 / Modification Of In-Svc Equipment (OPA-3)	<b>Modification Number / Title:</b> MA4502 / -

<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>	<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> )	237.700	23.233	12.278	5.438	-	5.438	5.434	2.792	2.954	2.955	-	292.784
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	237.700	23.233	12.278	5.438	-	5.438	5.434	2.792	2.954	2.955	-	292.784
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>237.700</b>	<b>23.233</b>	<b>12.278</b>	<b>5.438</b>	<b>-</b>	<b>5.438</b>	<b>5.434</b>	<b>2.792</b>	<b>2.954</b>	<b>2.955</b>	<b>-</b>	<b>292.784</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> )	264.111	13.547	13.921	-	-	-	-	-	-	-	-	83.724

**Description:**

This budget line funds Modifications of In-Service Equipment programs. It is used to procure the hardware installation cost required to complete the modification. Modifications are performed to correct safety deficiencies; increase mission capabilities and interoperability; extend the useful life; improve supportability; upgrade existing technology; increase efficiency; improve readiness; modernization of legacy communications equipment and links; address obsolescence issues; and to meet new and/or changing statutory and regulatory requirements. By modifying existing equipment, the Army maintains a ready, supportable inventory of equipment that meets current requirements and regulations at a cost considerably below that of buying new equipment.

Modification Item #1 Petroleum and Water Systems (PEO CS & CSS) - There is no FY 2020 funding for this modification item.

Modification Item #2 Army Watercraft Systems (PEO CS & CSS) - FY 2020 Base procurement dollars in the amount of \$3.438 million supports completion of pier side modifications of all outstanding and emerging Engineering Change Proposals (ECP) and Modification Work Orders (MWO) across the watercraft fleet. Application of ECPs/MWOs will regain fleet configuration control, improve operational readiness, correct safety and regulatory deficiencies, comply with changing federal statutory and regulatory mandates, comply with safety of life at sea (SOLAS) requirements and comply with all necessary environmental requirements. Funding also supports Program Management/Matrix Support, and upgrades/modifications to Army Watercraft Systems which are completed as required to resolve any survivability / force protection - lethal and non-lethal Escalation of Force (EoF) issues, and technical insertions. Program Management/Matrix Support includes Program Management and System Engineering, Logistics oversight required to manage the program and provide contractor oversight.

Modification Items #3 AN/PSS-14C (PEO Ammunition) - FY 2020 Base procurement dollars in the amount of \$2.000 million supports activities associated with the upgrade of AN/PSS-14C systems using previously purchased upgrade kits. Additionally, it will resource training lane installation(s), New Equipment Training for 440 systems, and engineering changes to address obsolescence that will correct maintainability shortfalls for the AN/PSS-14C (HSTAMIDS), which will extend the service life of this system, currently used in both the Continental United States (CONUS) and Outside the Continental United States (OCONUS).

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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 / 03 / 90				<b>P-1 Line Item Number / Title:</b> 1110MA4500 / Modification Of In-Svc Equipment (OPA-3)						<b>Modification Number / Title:</b> MA4502 / -			
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :							<b>MDAP/MAIS Code:</b>						
<b>Models of Systems Affected: -</b>				<b>Modification Type: -</b>				<b>Related RDT&amp;E PEs:</b>					
Financial Plan	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
<b>Procurement</b>													
<b>Modification Item 1 of 4: Petroleum/Water Systems PEO-CS-CSS</b>													
A Kits													
Recurring													
Other	- / 2.995	- / 0.123	- / 0.133	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 3.251	
<b>Subtotal: Recurring</b>	<b>- / 2.995</b>	<b>- / 0.123</b>	<b>- / 0.133</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / 3.251</b>	
<b>Subtotal: Petroleum/Water Systems PEO-CS-CSS</b>	<b>- / 2.995</b>	<b>- / 0.123</b>	<b>- / 0.133</b>	<b>- / 0.000</b>	<b>- / -</b>	<b>- / 0.000</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / 3.251</b>	
<b>Modification Item 2 of 4: Army Watercraft Systems</b>													
<b>Subtotal: Army Watercraft Systems</b>	<b>- / -</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>- / 0.000</b>	
<b>Modification Item 3 of 4: AN/PSS-14 (HSTAMIDS)</b>													
A Kits													
Recurring													
AN/PSS-14C	6,138 / 39.480	1,066 / 11.692	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	7,204 / 51.172	
HMDS	- / 1.252	- / 7.488	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 8.740	
<b>Subtotal: Recurring</b>	<b>6,138 / 40.732</b>	<b>1,066 / 19.180</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>7,204 / 59.912</b>	
Non-Recurring													
AN/PSS-14C	- / 2.818	- / 0.615	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 3.433	
HMDS	- / 0.148	- / 0.443	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 0.591	
<b>Subtotal: Non-Recurring</b>	<b>- / 2.966</b>	<b>- / 1.058</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / 4.024</b>	
<b>Subtotal: AN/PSS-14 (HSTAMIDS)</b>	<b>6,138 / 43.698</b>	<b>1,066 / 20.238</b>	<b>- / -</b>	<b>- / 0.000</b>	<b>- / -</b>	<b>- / 0.000</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>7,204 / 63.936</b>	
<b>Modification Item 4 of 4: Adjustments</b>													
A Kits													
Non-Recurring													
Adjustments	- / 171.459	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 171.459	
<b>Subtotal: Non-Recurring</b>	<b>- / 171.459</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / 171.459</b>	
<b>Subtotal: Adjustments</b>	<b>- / 171.459</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>- / 171.459</b>	
<b>Subtotal: Procurement, All Modification Items</b>	<b>6,138 / 218.152</b>	<b>1,066 / 20.361</b>	<b>- / 0.133</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>7,204 / 238.646</b>	
<b>Installation</b>													
<b>Modification Item 2 of 4: Army Watercraft Systems</b>	<b>- / 19.548</b>	<b>- / 2.872</b>	<b>- / -</b>	<b>- / 3.438</b>	<b>- / -</b>	<b>- / 3.438</b>	<b>- / 3.578</b>	<b>- / 2.792</b>	<b>- / 2.954</b>	<b>- / 2.955</b>	<b>- / -</b>	<b>- / 38.137</b>	
<b>Modification Item 3 of 4: AN/PSS-14 (HSTAMIDS)</b>	<b>- / -</b>	<b>- / -</b>	<b>- / 12.145</b>	<b>- / 2.000</b>	<b>- / -</b>	<b>- / 2.000</b>	<b>- / 1.856</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / 16.001</b>	

**UNCLASSIFIED**

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

**Appropriation / Budget Activity / Budget Sub Activity:** 2035A / 03 / 90 **P-1 Line Item Number / Title:** 1110MA4500 / Modification Of In-Svc Equipment (OPA-3) **Modification Number / Title:** MA4502 / -

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

**Models of Systems Affected: -** **Modification Type: -** **Related RDT&E PEs:**

Financial Plan	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
<i>Subtotal: Installation</i>	0 / 19.548	0 / 2.872	0 / 12.145	0 / 5.438	- / -	0 / 5.438	0 / 5.434	0 / 2.792	0 / 2.954	0 / 2.955	- / -	0 / 54.138
<b>Total</b>												
<b>Total Cost (Procurement + Support + Installation)</b>	<b>237.700</b>	<b>23.233</b>	<b>12.278</b>	<b>5.438</b>	<b>-</b>	<b>5.438</b>	<b>5.434</b>	<b>2.792</b>	<b>2.954</b>	<b>2.955</b>	<b>-</b>	<b>292.784</b>



**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 03 / 90	<b>P-1 Line Item Number / Title:</b> 1110MA4500 / Modification Of In-Svc Equipment (OPA-3)	<b>Modification Number / Title:</b> MA4502 / -
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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 4: Army Watercraft Systems**

**Manufacturer Information**

Manufacturer Name: Various	Manufacturer Location: Various
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Administrative Leadtime (in Months):	Production Leadtime (in Months):
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Dates	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Contract Dates							
Delivery Dates							

**Installation Information**

**Method of Implementation: -**

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 / 1.492	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 1.492
FY 2018	0 / 11.050	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 11.050
FY 2019	0 / 7.006	0 / 2.872	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 9.878
FY 2020	- / -	- / -	- / -	0 / 3.438	- / -	0 / 3.438	- / -	- / -	- / -	- / -	- / -	0 / 3.438
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	0 / 3.578	- / -	- / -	- / -	- / -	0 / 3.578
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 2.792	- / -	- / -	- / -	0 / 2.792
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 2.954	- / -	- / -	0 / 2.954
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 2.955	- / -	0 / 2.955
To Complete	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
<b>Total</b>	<b>0 / 19.548</b>	<b>0 / 2.872</b>	<b>- / -</b>	<b>0 / 3.438</b>	<b>- / -</b>	<b>0 / 3.438</b>	<b>0 / 3.578</b>	<b>0 / 2.792</b>	<b>0 / 2.954</b>	<b>0 / 2.955</b>	<b>- / -</b>	<b>0 / 38.137</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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
Out	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 03 / 90	<b>P-1 Line Item Number / Title:</b> 1110MA4500 / Modification Of In-Svc Equipment (OPA-3)	<b>Modification Number / Title:</b> MA4502 / -
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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**Modification Item 3 of 4: AN/PSS-14 (HSTAMIDS)**

**Manufacturer Information**

Manufacturer Name: L3 CyTerra	Manufacturer Location: Orlando, Fl
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Administrative Leadtime (in Months):	Production Leadtime (in Months):
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Dates	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Contract Dates	Dec 2017	Dec 2018					
Delivery Dates	Apr 2018	Aug 2019					

**Installation Information**

**Method of Implementation: -**

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 / 12.145	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 12.145
FY 2020	- / -	- / -	- / -	0 / 2.000	- / -	0 / 2.000	- / -	- / -	- / -	- / -	- / -	0 / 2.000
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	0 / 1.856	- / -	- / -	- / -	- / -	0 / 1.856
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 / 12.145	0 / 2.000	- / -	0 / 2.000	0 / 1.856	- / -	- / -	- / -	- / -	0 / 16.001

**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	6,138	900	-	-	-	166	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7,204
Out	4,932	464	464	464	464	250	-	-	166	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7,204



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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 / 03 / 90			<b>P-1 Line Item Number / Title:</b> 1110MA4500 / Modification Of In-Svc Equipment (OPA-3)			<b>Modification Number / Title:</b> MA4502 / -	
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :					<b>MDAP/MAIS Code:</b>		
<b>Modification Item 4 of 4:</b> Adjustments							
<b>Manufacturer Information</b>							
Manufacturer Name: -				Manufacturer Location: -			
Administrative Leadtime (in Months):				Production Leadtime (in Months):			
<b>Dates</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
Contract Dates							
Delivery Dates							
<b>Installation Information</b>							
<b>Method of Implementation (Organic):</b> -					<b>Installation Quantity:</b> 0		

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<b>Exhibit P-3a, Individual Modification:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 03 / 90	<b>P-1 Line Item Number / Title:</b> 1110MA4500 / Modification Of In-Svc Equipment (OPA-3)	<b>Modification Number / Title:</b> MA4504 / Bridging

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

<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> )	60.045	4.502	2.912	10.433	-	10.433	7.856	7.620	6.498	6.756	-	106.622
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	60.045	4.502	2.912	10.433	-	10.433	7.856	7.620	6.498	6.756	-	106.622
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>60.045</b>	<b>4.502</b>	<b>2.912</b>	<b>10.433</b>	<b>-</b>	<b>10.433</b>	<b>7.856</b>	<b>7.620</b>	<b>6.498</b>	<b>6.756</b>	<b>-</b>	<b>106.622</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> )	3,335.833	409.273	-	695.533	-	695.533	654.667	692.727	812.250	844.500	-	1,284.602

**Description:**

Bridging (PEO CS & CSS) - FY 2020 Base procurement dollars in the amount of \$10.433 million supports the following Bridging upgrades:

Modification Item #1: FY 2020 Base procurement dollars in the amount of \$7.981 million supports the Dry Support Bridge (DSB) 46 meter retrofit upgrade kits enabling the fielded 40 meter DSB Systems the capability to bridge gaps up to 46 meters, increasing its gap crossing capability by 15%.

Modification Item #2: FY 2020 Base procurement dollars in the amount of \$1.655 million supports the purchase of 27 Dry Support Bridge (DSB) Hydraulic Adapter Kit. The Dry Support Bridge (DSB) Hydraulic Adapter Kit is a Dry Support Bridge Operational Readiness improvement that decreases system downtime by providing field parts for common failures. The kit fixes any hydraulic leak for the DSB onsite in the field with hoses and adapters that convert European hydraulic fittings to American.

Modification Item #3: FY 2020 Base procurement dollars in the amount of \$.797 million supports the Rapidly Emplaced Bridge System (REBS) V3 Kits and technical manuals to support REBS modifications and modernization through installation of a heating device for the winch, decentralization of the hydraulic valves to shorten the distance between valves and cylinders, and installation of a hydraulic power pack to use CBT as the main power source. This modification increased the reliability and durability of the REBS launcher.

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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 / 03 / 90					<b>P-1 Line Item Number / Title:</b> 1110MA4500 / Modification Of In-Svc Equipment (OPA-3)					<b>Modification Number / Title:</b> MA4504 / Bridging			
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :							<b>MDAP/MAIS Code:</b>						
<b>Models of Systems Affected:</b> Dry Support Bridge				<b>Modification Type:</b> Equipment Upgrade				<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 4:</b> Tactical Bridging Mods - DSB 46M Upgrades													
A Kits													
Recurring													
DSB 46 Meter Bridge	52 / 56.414	11 / 4.030	- / -	15 / 6.387	- / -	15 / 6.387	10 / 4.386	9 / 4.066	- / -	- / -	- / 0.000	97 / 75.283	
<i>Subtotal: Recurring</i>	52 / 56.414	11 / 4.030	- / -	15 / 6.387	- / -	15 / 6.387	10 / 4.386	9 / 4.066	- / -	- / -	- / -	97 / 75.283	
<i>Subtotal: Tactical Bridging Mods - DSB 46M Upgrades</i>	52 / 56.414	11 / 4.030	- / -	15 / 6.387	- / -	15 / 6.387	10 / 4.386	9 / 4.066	- / -	- / -	- / -	97 / 75.283	
<b>Modification Item 2 of 4:</b> Tactical Bridging Mods -DSB Hydraulic Adapter Kits													
A Kits													
Non-Recurring													
Tactical Bridging Mods - DSB Hydraulic A	- / -	- / -	- / -	27 / 1.655	- / -	27 / 1.655	- / -	- / -	- / -	- / -	- / 0.000	27 / 1.655	
<i>Subtotal: Non-Recurring</i>	- / -	- / -	- / -	27 / 1.655	- / -	27 / 1.655	- / -	- / -	- / -	- / -	- / -	27 / 1.655	
<i>Subtotal: Tactical Bridging Mods -DSB Hydraulic Adapter Kits</i>	- / -	- / -	- / -	27 / 1.655	- / -	27 / 1.655	- / -	- / -	- / -	- / -	- / -	27 / 1.655	
<b>Modification Item 3 of 4:</b> Tactical Bridging Mods - REBS V3 Kits													
A Kits													
Recurring													
Rapidly Emplaced Bridge V3 Kits	- / -	- / -	- / -	- / -	- / -	- / -	2 / 1.058	2 / 1.151	8 / 2.746	8 / 3.107	- / 0.000	20 / 8.062	
<i>Subtotal: Recurring</i>	- / -	- / -	- / -	- / -	- / -	- / -	2 / 1.058	2 / 1.151	8 / 2.746	8 / 3.107	- / -	20 / 8.062	
Non-Recurring													
Rapidly Emplaced Bridge V3 Kits	- / 1.389	- / -	- / -	- / -	- / -	- / -	- / 0.181	- / -	- / -	- / -	- / 0.000	- / 1.570	
<i>Subtotal: Non-Recurring</i>	- / 1.389	- / -	- / -	- / -	- / -	- / -	- / 0.181	- / -	- / -	- / -	- / -	- / 1.570	
<i>Subtotal: Tactical Bridging Mods - REBS V3 Kits</i>	- / 1.389	- / -	- / -	- / 0.000	- / -	- / 0.000	2 / 1.239	2 / 1.151	8 / 2.746	8 / 3.107	- / -	20 / 9.632	
<b>Modification Item 4 of 4:</b> Tactical Bridging Mods - REBS V3 Tech Manual Revis													
A Kits													
Non-Recurring													
REBS V3 Tech Manual Revision	- / -	- / -	- / 1.494	- / 0.797	- / -	- / 0.797	- / -	- / -	- / -	- / -	- / 0.000	- / 2.291	
<i>Subtotal: Non-Recurring</i>	- / -	- / -	- / 1.494	- / 0.797	- / -	- / 0.797	- / -	- / -	- / -	- / -	- / -	- / 2.291	

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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 / 03 / 90				<b>P-1 Line Item Number / Title:</b> 1110MA4500 / Modification Of In-Svc Equipment (OPA-3)						<b>Modification Number / Title:</b> MA4504 / Bridging		
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :							<b>MDAP/MAIS Code:</b>					
<b>Models of Systems Affected:</b> Dry Support Bridge			<b>Modification Type:</b> Equipment Upgrade					<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>
<i>Subtotal: Tactical Bridging Mods - REBS V3 Tech Manual Revis</i>	- / -	- / -	- / 1.494	- / 0.797	- / -	- / 0.797	- / -	- / -	- / -	- / -	- / -	- / 2.291
<i>Subtotal: Procurement, All Modification Items</i>	52 / 57.803	11 / 4.030	- / 1.494	42 / 8.839	- / -	42 / 8.839	12 / 5.625	11 / 5.217	8 / 2.746	8 / 3.107	- / -	144 / 88.861
<b>Installation</b>												
<i>Modification Item 1 of 4: Tactical Bridging Mods - DSB 46M Upgrades</i>	52 / 2.242	11 / 0.472	13 / 1.418	15 / 1.594	- / -	15 / 1.594	10 / 1.554	9 / 1.345	- / 1.172	- / -	- / -	110 / 9.797
<i>Modification Item 3 of 4: Tactical Bridging Mods - REBS V3 Kits</i>	- / -	- / -	- / -	- / -	- / -	- / -	3 / 0.677	5 / 1.058	13 / 2.580	17 / 3.649	- / -	38 / 7.964
<i>Subtotal: Installation</i>	52 / 2.242	11 / 0.472	13 / 1.418	15 / 1.594	- / -	15 / 1.594	13 / 2.231	14 / 2.403	13 / 3.752	17 / 3.649	- / -	148 / 17.761
<b>Total</b>												
<b>Total Cost (Procurement + Support + Installation)</b>	<b>60.045</b>	<b>4.502</b>	<b>2.912</b>	<b>10.433</b>	<b>-</b>	<b>10.433</b>	<b>7.856</b>	<b>7.620</b>	<b>6.498</b>	<b>6.756</b>	<b>-</b>	<b>106.622</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 / 03 / 90	<b>P-1 Line Item Number / Title:</b> 1110MA4500 / Modification Of In-Svc Equipment (OPA-3)	<b>Modification Number / Title:</b> MA4504 / Bridging

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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**Modification Item 1 of 4:** Tactical Bridging Mods - DSB 46M Upgrades

**Manufacturer Information**

Manufacturer Name: W F E L LTD	Manufacturer Location: UK
Administrative Leadtime (in Months): 3	Production Leadtime (in Months): 7

Dates	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Contract Dates	Dec 2017	Dec 2018	Dec 2019	Dec 2020	Dec 2021		
Delivery Dates	Jul 2018	Jul 2019	Jul 2020	Jul 2121	Jul 2022		

**Installation Information**

**Method of Implementation:** Firm Fixed Price Contract

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	40 / 1.942	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	40 / 1.942
FY 2018	12 / 0.300	11 / 0.472	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	23 / 0.772
FY 2019	- / -	- / -	13 / 1.418	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	13 / 1.418
FY 2020	- / -	- / -	- / -	15 / 1.594	- / -	15 / 1.594	- / -	- / -	- / -	- / -	- / -	15 / 1.594
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	10 / 1.554	- / -	- / -	- / -	- / -	10 / 1.554
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	9 / 1.345	- / -	- / -	- / -	9 / 1.345
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 1.172	- / -	- / -	0 / 1.172
FY 2024	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
To Complete	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
Total	52 / 2.242	11 / 0.472	13 / 1.418	15 / 1.594	- / -	15 / 1.594	10 / 1.554	9 / 1.345	0 / 1.172	- / -	- / -	110 / 9.797

**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	52	3	3	3	2	-	-	-	-	4	4	4	3	3	3	2	2	3	2	2	2	-	-	-	-	-	-	-	-	-	-	97
Out	52	3	3	3	2	-	-	-	-	4	4	4	3	3	3	2	2	3	2	2	2	-	-	-	-	-	-	-	-	-	-	97



**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 03 / 90	<b>P-1 Line Item Number / Title:</b> 1110MA4500 / Modification Of In-Svc Equipment (OPA-3)	<b>Modification Number / Title:</b> MA4504 / Bridging
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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**Modification Item 3 of 4:** Tactical Bridging Mods - REBS V3 Kits

**Manufacturer Information**

Manufacturer Name: GENERAL DYNAMICS EUROPEAN LAND SYST	Manufacturer Location: Kaiserslautern, Germany
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Administrative Leadtime (in Months):	Production Leadtime (in Months): 4
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Dates	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Contract Dates				Dec 2020	Dec 2021	Dec 2022	Dec 2023
Delivery Dates				Jul 2021	Jul 2022	Jul 2023	Jul 2024

**Installation Information**

**Method of Implementation:** Firm Fixed Price Contract

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	- / -	- / -	- / -	- / -	- / -	- / -	3 / 0.677	- / -	- / -	- / -	- / -	3 / 0.677
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	5 / 1.058	- / -	- / -	- / -	5 / 1.058
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	13 / 2.580	- / -	- / -	13 / 2.580
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	17 / 3.649	- / -	17 / 3.649
To Complete	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
Total	- / -	- / -	- / -	- / -	- / -	- / -	3 / 0.677	5 / 1.058	13 / 2.580	17 / 3.649	- / -	38 / 7.964

**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	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	1	1	-	-	2	2	2	2	2	2	2	2	-	20
Out	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	1	1	-	-	2	2	2	2	2	2	2	2	-	20

**UNCLASSIFIED**

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

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 03 / 90	<b>P-1 Line Item Number / Title:</b> 1110MA4500 / Modification Of In-Svc Equipment (OPA-3)	<b>Modification Number / Title:</b> MA4504 / Bridging
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**ID Code** (A=Service Ready, B=Not Service Ready) : **MDAP/MAIS Code:**

**Modification Item 4 of 4:** Tactical Bridging Mods - REBS V3 Tech Manual Revis

**Manufacturer Information**

Manufacturer Name: GENERAL DYNAMICS EUROPEAN LAND SYST Manufacturer Location: Kaiserslautern, Germany

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

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

**Installation Information**

**Method of Implementation:** Firm Fixed Price Contract

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	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Out	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1



**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 / 03 / 90	<b>P-1 Line Item Number / Title:</b> 1110MA4500 / Modification Of In-Svc Equipment (OPA-3)	<b>Modification Number / Title:</b> R01121 / Explosive Ordnance Disposal (EOD) Equipment R01121

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	6.139	3.550	24.998	-	29.120	29.120	29.120	-	-	-	-	92.927
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	6.139	3.550	24.998	-	29.120	29.120	29.120	-	-	-	-	92.927
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>6.139</b>	<b>3.550</b>	<b>24.998</b>	-	<b>29.120</b>	<b>29.120</b>	<b>29.120</b>	-	-	-	-	<b>92.927</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> )	51.158	95.946	162.325	-	93.035	93.035	93.035	-	-	-	-	99.175

**Description:**

The Explosive Ordnance Disposal (EOD) (JPEO A&A) Modification of In-Service Equipment will be used to modify tool kits approved for EOD use. The EOD Response Tool Kit (RTK) has not been modified or upgraded for more than 25 years. The kits contain special tools and equipment that EOD units use to render safe explosive ordnance. The modification will include adding the capability to provide decontamination for teams, as well as individuals, during suspected or confirmed exposure to chemical elements, adding the capability to locate and render safe Improvised Explosive Devices (IEDs), and modifying the kit packaging into smaller, mission unique kits to provide EOD technicians the ability to perform dismounted operations. The tool kits will be fielded throughout the active Army and National Guard units. The Army Acquisition Objective (AAO) for the EOD Response Tool Kit modification is 548.

As a new start in FY 2020, the EOD Modification of In-Service Equipment (JPEO A&A) will also be used to modify the EOD Platoon Supplemental Kit (PSK), which has not been modified or upgraded for more than 25 years. The PSK augments the EOD Response Tool Kit (RTK) to enable the EOD Team to perform missions beyond the capability of the RTK, such as EOD munitions with chemical or biological fill. The expanded capabilities include special expendable charge containers that can be packed with C4 or detonation cord for vehicle entry and disruption of improvised explosive devices, up-to-date borescope, and large image capture. The Army Acquisition Objective (AAO) for the EOD Platoon Supplemental Kit modification is 220.

In addition, the Explosive Ordnance Disposal (EOD) Modification of In-Service Equipment will be used to procure the Dismounted Reconnaissance Sets, Kits and Outfits (DR SKO). The CBRN DR SKO provides CBRN Warfighters with a comprehensive suite of protection, detection, identification, sample collection, hazard marking, decontamination, and other support capabilities for use during explosive ordnance render safe operations. The Warfighter will use the CBRN DRS respiratory and percutaneous protection to prevent potential contamination while conducting operations, sensor capabilities to find CBRN and toxic industrial hazards to determine the appropriate action during operations, and the decontamination kit to remove contamination from personnel and equipment.

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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 / 03 / 90				<b>P-1 Line Item Number / Title:</b> 1110MA4500 / Modification Of In-Svc Equipment (OPA-3)						<b>Modification Number / Title:</b> R01121 / Explosive Ordnance Disposal (EOD) Equipment R01121		
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :							<b>MDAP/MAIS Code:</b>					
<b>Models of Systems Affected:</b> Explosive Ordnance Disposal Equipment			<b>Modification Type:</b> Equipment Upgrade					<b>Related RDT&amp;E PEs:</b>				
Financial Plan	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
<b>Procurement</b>												
<b>Modification Item 1 of 3: EOD Response Tool Kits (RTK)</b>												
A Kits												
Recurring												
EOD Response Tool Kits (RTK)	- / -	- / -	154 / 9.172	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	154 / 9.172
EOD Response Tool Kit (RTK) Hardware	121 / 5.945	65 / 3.439	- / -	0 / 0.000	180 / 10.247	180 / 10.247	180 / 10.247	- / -	- / -	- / -	- / 0.000	546 / 29.878
EOD RTK Engineering & Program Support	- / 0.172	- / 0.088	- / -	- / 0.000	- / 0.947	- / 0.947	- / 0.947	- / -	- / -	- / -	- / 0.000	- / 2.154
<b>Subtotal: Recurring</b>	<b>121 / 6.117</b>	<b>65 / 3.527</b>	<b>154 / 9.172</b>	<b>- / -</b>	<b>180 / 11.194</b>	<b>180 / 11.194</b>	<b>180 / 11.194</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>700 / 41.204</b>
Non-Recurring												
EOD RTK Shipping/New Equipment Training	- / 0.022	- / 0.023	- / 0.448	- / 0.000	- / 0.201	- / 0.201	- / 0.201	- / -	- / -	- / -	- / 0.000	- / 0.895
<b>Subtotal: Non-Recurring</b>	<b>- / 0.022</b>	<b>- / 0.023</b>	<b>- / 0.448</b>	<b>- / -</b>	<b>- / 0.201</b>	<b>- / 0.201</b>	<b>- / 0.201</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / 0.895</b>
<b>Subtotal: EOD Response Tool Kits (RTK)</b>	<b>121 / 6.139</b>	<b>65 / 3.550</b>	<b>154 / 9.620</b>	<b>- / 0.000</b>	<b>180 / 11.395</b>	<b>180 / 11.395</b>	<b>180 / 11.395</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>700 / 42.099</b>
<b>Modification Item 2 of 3: DR SKO</b>												
A Kits												
Recurring												
DR SKO	- / -	- / -	9 / 15.378	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	9 / 15.378
<b>Subtotal: Recurring</b>	<b>- / -</b>	<b>- / -</b>	<b>9 / 15.378</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>9 / 15.378</b>
<b>Subtotal: DR SKO</b>	<b>- / -</b>	<b>- / -</b>	<b>9 / 15.378</b>	<b>- / 0.000</b>	<b>- / -</b>	<b>- / 0.000</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>9 / 15.378</b>
<b>Modification Item 3 of 3: EOD Platoon Supplemental Kits (PSK)</b>												
A Kits												
Recurring												
EOD Platoon Suppl. Kit (PSK) Hardware	- / -	- / -	- / -	0 / 0.000	182 / 15.930	182 / 15.930	182 / 15.930	- / -	- / -	- / -	- / 0.000	364 / 31.860
EOD PSK Engineering & Program Support	- / -	- / -	- / -	- / 0.000	- / 11.481	- / 11.481	- / 11.481	- / -	- / -	- / -	- / 0.000	- / 12.962
<b>Subtotal: Recurring</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>182 / 17.411</b>	<b>182 / 17.411</b>	<b>182 / 17.411</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>364 / 34.822</b>
Non-Recurring												
EOD PSK Shipping/New Equipment Training	- / -	- / -	- / -	- / 0.000	- / 0.314	- / 0.314	- / 0.314	- / -	- / -	- / -	- / 0.000	- / 0.628
<b>Subtotal: Non-Recurring</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / 0.314</b>	<b>- / 0.314</b>	<b>- / 0.314</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / 0.628</b>
<b>Subtotal: EOD Platoon Supplemental Kits (PSK)</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / 0.000</b>	<b>182 / 17.725</b>	<b>182 / 17.725</b>	<b>182 / 17.725</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>364 / 35.450</b>

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<b>Exhibit P-3a, Individual Modification:</b> PB 2020 Army		<b>Date:</b> March 2019
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 2035A / 03 / 90	<b>P-1 Line Item Number / Title:</b> 1110MA4500 / Modification Of In-Svc Equipment (OPA-3)	<b>Modification Number / Title:</b> R01121 / Explosive Ordnance Disposal (EOD) Equipment R01121

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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<b>Models of Systems Affected:</b> Explosive Ordnance Disposal Equipment	<b>Modification Type:</b> Equipment Upgrade	<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)
<i>Subtotal: Procurement, All Modification Items</i>	121 / 6.139	65 / 3.550	163 / 24.998	- / -	362 / 29.120	362 / 29.120	362 / 29.120	- / -	- / -	- / -	- / -	1,073 / 92.927
<b>Installation</b>												
<i>Modification Item 1 of 3: EOD Response Tool Kits (RTK)</i>	121 / 0.000	37 / 0.000	154 / 0.000	- / -	180 / 0.000	180 / 0.000	180 / 0.000	- / -	- / -	- / -	- / -	672 / 0.000
<i>Modification Item 2 of 3: DR SKO</i>	- / -	- / -	9 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	9 / 0.000
<i>Modification Item 3 of 3: EOD Platoon Supplemental Kits (PSK)</i>	- / -	- / -	- / -	- / -	182 / 0.000	182 / 0.000	182 / 0.000	- / -	- / -	- / -	- / -	364 / 0.000
<i>Subtotal: Installation</i>	121 / 0.000	37 / 0.000	163 / 0.000	- / -	362 / 0.000	362 / 0.000	362 / 0.000	- / -	- / -	- / -	- / -	1,045 / 0.000
<b>Total</b>												
<b>Total Cost (Procurement + Support + Installation)</b>	<b>6.139</b>	<b>3.550</b>	<b>24.998</b>	<b>-</b>	<b>29.120</b>	<b>29.120</b>	<b>29.120</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>92.927</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 / 03 / 90	<b>P-1 Line Item Number / Title:</b> 1110MA4500 / Modification Of In-Svc Equipment (OPA-3)	<b>Modification Number / Title:</b> R01121 / Explosive Ordnance Disposal (EOD) Equipment R01121

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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**Modification Item 1 of 3:** EOD Response Tool Kits (RTK)

**Manufacturer Information**

Manufacturer Name: Mithix Pro	Manufacturer Location: Farmersville, TX
Administrative Leadtime (in Months): 6	Production Leadtime (in Months): 6

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

**Installation Information**

**Method of Implementation:** TBD

Installation Cost	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	121 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	121 / 0.000
FY 2018	0 / 0.000	37 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	37 / 0.000
FY 2019	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
FY 2020	0 / 0.000	- / -	154 / 0.000	0 / 0.000	180 / 0.000	180 / 0.000	- / -	- / -	- / -	- / -	- / -	334 / 0.000
FY 2021	0 / 0.000	- / -	- / -	- / -	- / -	- / -	180 / 0.000	- / -	- / -	- / -	- / -	180 / 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	121 / 0.000	37 / 0.000	154 / 0.000	- / -	180 / 0.000	180 / 0.000	180 / 0.000	- / -	- / -	- / -	- / -	672 / 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	60	30	31	9	9	9	10	38	38	39	39	50	50	51	51	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	514
Out	-	30	30	30	31	9	9	9	10	38	38	39	39	50	50	51	51	-	-	-	-	-	-	-	-	-	-	-	-	-	-	514

**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 / 03 / 90	<b>P-1 Line Item Number / Title:</b> 1110MA4500 / Modification Of In-Svc Equipment (OPA-3)	<b>Modification Number / Title:</b> R01121 / Explosive Ordnance Disposal (EOD) Equipment R01121

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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**Modification Item 2 of 3:** DR SKO

**Manufacturer Information**

Manufacturer Name: Pine Bluff Arsenal	Manufacturer Location: Pine Bluff Arsenal, AK
Administrative Leadtime (in Months): 8	Production Leadtime (in Months): 7

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

**Installation Information**

**Method of Implementation:** Manufacture, Production & Delivery

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	- / -	9 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	9 / 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	- / -	9 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	9 / 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	-	-	-	-	-	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Out	-	-	-	-	-	-	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

**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 / 03 / 90	<b>P-1 Line Item Number / Title:</b> 1110MA4500 / Modification Of In-Svc Equipment (OPA-3)	<b>Modification Number / Title:</b> R01121 / Explosive Ordnance Disposal (EOD) Equipment R01121

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>MDAP/MAIS Code:</b>
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**Modification Item 3 of 3:** EOD Platoon Supplemental Kits (PSK)

**Manufacturer Information**

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

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

**Installation Information**

**Method of Implementation:** TBD

Installation Cost	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2018	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
FY 2019	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
FY 2020	0 / 0.000	- / -	- / -	0 / 0.000	182 / 0.000	182 / 0.000	- / -	- / -	- / -	- / -	- / -	182 / 0.000
FY 2021	0 / 0.000	- / -	- / -	- / -	- / -	- / -	182 / 0.000	- / -	- / -	- / -	- / -	182 / 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	- / -	- / -	- / -	182 / 0.000	182 / 0.000	182 / 0.000	- / -	- / -	- / -	- / -	364 / 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	-	-	-	-	-	-	-	-	-	-	-	45	45	46	46	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	182
Out	-	-	-	-	-	-	-	-	-	-	-	-	-	45	45	46	46	-	-	-	-	-	-	-	-	-	-	-	-	-	-	182

**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 03: Other Support Equipment / BSA 90: Other Support Equipment	<b>P-1 Line Item Number / Title:</b> 1220MA0450 / Production Base Support (OTH)
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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> )	241.000	2.271	2.301	-	-	-	-	-	-	-	-	245.572
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	241.000	2.271	2.301	-	-	-	-	-	-	-	-	245.572
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>241.000</b>	<b>2.271</b>	<b>2.301</b>	-	-	-	-	-	-	-	-	<b>245.572</b>

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

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

**Description:**

This program provides funding to the Army Test and Evaluation Command (ATEC) to establish, modernize, expand or replace test facilities used in production testing of general support equipment (including trucks, trailers, generators, soldier support equipment, etc.). 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.

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	2.271	2.301	-	-	-	-	-	-	-
<b>Total:</b>									
<b>Secondary Distribution</b>									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	2.271	2.301	-	-	-	-	-	-	-

**Justification:**

There is no FY 2020 PB 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 03: Other Support Equipment / BSA 90: Other Support Equipment	<b>P-1 Line Item Number / Title:</b> 1500MA9160 / BUILDING, PRE-FAB, RELOCATABLE
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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> )	995.812	-	-	14.400	62.654	77.054	46.269	44.163	45.046	45.947	-	1,254.291
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	995.812	-	-	14.400	62.654	77.054	46.269	44.163	45.046	45.947	-	1,254.291
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>995.812</b>	<b>-</b>	<b>-</b>	<b>14.400</b>	<b>62.654</b>	<b>77.054</b>	<b>46.269</b>	<b>44.163</b>	<b>45.046</b>	<b>45.947</b>	<b>-</b>	<b>1,254.291</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 Building, Pre-Fab, Relocatable Program (MA9160) funding line acquires the relocatable building Restoration and Modernization (RM) activity. This is a new start effort. This supports the capability to emplace and lifecycle relocatable buildings in the CENTCOM region. Restoration and Modernization (RM) provides resources which support Facilities Restoration and Modernization, Demolition, and Utilities Restoration & Modernization.

MA9160 / Relocatable Building Program Base & Overseas Contingency Operations (OCO) OCONUS:

This funding line includes Base and OCO funding. The funding line emplaces and modernizes relocatable buildings at multiple locations across Southwest Asia supporting multiple operations including Operation Spartan Shield (OSS), Operation Inherent Resolve (OIR), and Operation Freedom Sentinel (OFS).

Base (OCO to Base): In FY20 the Army is transitioning from contingency operations to enduring bases and must emplace and replace relocatable buildings that comprise a portion of the facilities in which troops work and live.

OCO: In FY20 the Army is replacing relocatable buildings that comprise a large portion of the facilities in which troops work and live for the Operation Freedom Sentinel (OFS) mission and emplacing relocatable buildings for billeting at LSA Danger on Erbil International Airport, Iraq and LSA Union III, Iraq for US personnel in support of Operation Inherent Resolve (OIR).

\*\*This is a new start effort.\*\*

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All funding goes to the Active Component.

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	-	-	14.400	62.654	77.054	46.269	44.163	45.046	45.947



**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 03: Other Support Equipment / BSA 90: Other Support Equipment					<b>P-1 Line Item Number / Title:</b> 1500MA9160 / BUILDING, PRE-FAB, RELOCATABLE				
<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>	Quantity	-	-	-	-	-	-	-	-	-
Secondary Distribution	Total Obligation Authority	-	-	14.400	62.654	77.054	46.269	44.163	45.046	45.947

**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 03: Other Support Equipment / BSA 90: Other Support Equipment

**P-1 Line Item Number / Title:**  
1500MA9160 / BUILDING, PRE-FAB, RELOCATABLE

**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	MA9160 / BUILDING, PRE-FAB, RELOCATABLE	P-5a			- / 995.812	- / -	- / -	- / 14.400	- / 62.654	- / 77.054
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 995.812</b>	<b>- / -</b>	<b>- / -</b>	<b>- / 14.400</b>	<b>- / 62.654</b>	<b>- / 77.054</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 \$14.400 million procures up to 65 relocatable buildings to emplace and lifecycle needed facilities for modernization in the Southwest Asia (SWA) Area of Responsibility (AOR) in support of Operation Spartan Shield (OSS) at Army locations. This is a new start effort. These procurements include offices, armories, and billeting in enduring locations within countries such as Kuwait, Qatar and U.A.E. The buildings are needed to provide and/or replace working and living facilities for troops in the enduring locations. Without the new buildings, troops would continue to live and work in expeditionary facilities and tents in enduring locations with exceptionally hot climates creating safety and health risks. Without the ability to replace relocatable buildings that are beyond life cycle, troops would continue to live in buildings that will become unrepairable and expose them to potential electrical dangers. There are several thousand relocatable buildings within the Operation Spartan Shield (OSS) footprint that will be included in this life cycle program.

FY2020 OCO procurement dollars in the amount of \$62.654 million procures up to 283 relocatable buildings to replace facilities for the Operation Freedom Sentinel (OFS) mission and to emplace needed facilities at LSA Danger on Erbil International Airport, Iraq and LSA Union III, Iraq for US personnel in support of Operation Inherent Resolve (OIR). Without the new buildings, troops would continue to live in buildings that will become unrepairable and expose them to potential electrical dangers and troops would continue to live and work in expeditionary facilities and tents in locations with exceptionally hot climates creating safety and health risks.

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All funding goes to 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 / 03 / 90	<b>P-1 Line Item Number / Title:</b> 1500MA9160 / BUILDING, PRE-FAB, RELOCATABLE	<b>Item Number / Title [DODIC]:</b> MA9160 / BUILDING, PRE-FAB, RELOCATABLE

<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)	995.812	-	-	14.400	62.654	77.054
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	995.812	-	-	14.400	62.654	77.054
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>995.812</b>	<b>-</b>	<b>-</b>	<b>14.400</b>	<b>62.654</b>	<b>77.054</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)
Hardware Cost																		
Recurring Cost																		
Relocatable Buildings for BASE Program <sup>(f)</sup>	-	-	995.812	-	-	-	-	-	-	221.538	65	14.400	-	-	-	221.538	65	14.400
Relocatable Buildings for OCO Program <sup>(f)</sup>	-	-	-	-	-	-	-	-	-	-	-	-	221.392	283	62.654	221.392	283	62.654
<i>Subtotal: Recurring Cost</i>	-	-	<i>995.812</i>	-	-	-	-	-	-	-	-	<i>14.400</i>	-	-	<i>62.654</i>	-	-	<i>77.054</i>
<i>Subtotal: Hardware Cost</i>	-	-	<i>995.812</i>	-	-	-	-	-	-	-	-	<i>14.400</i>	-	-	<i>62.654</i>	-	-	<i>77.054</i>
<b>Gross/Weapon System Cost</b>	-	-	<b>995.812</b>	-	-	-	-	-	-	-	-	<b>14.400</b>	-	-	<b>62.654</b>	-	-	<b>77.054</b>

**Remarks:**

The Building, Pre-Fab, Relocatable Program (MA9160) funding line acquires the relocatable building Restoration and Modernization (RM) activity. This is a new start effort. This supports the capability to emplace and lifecycle relocatable buildings in the CENTCOM region. Restoration and Modernization (RM) provides resources which support Facilities Restoration and Modernization, Demolition, and Utilities Restoration & Modernization as well each projects O&M and OPA tails required for beneficial occupancy of R&M projects. Resources are primarily Operations and Maintenance (O&M) for all three components with most tails being resourced in OPA. RM excludes undertakings financed by military construction funds or categorized as a BRAC effort.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	-	-	-	-	-
	Total Obligation Authority	-	-	14.400	62.654	77.054
<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 / 03 / 90	<b>P-1 Line Item Number / Title:</b> 1500MA9160 / BUILDING, PRE-FAB, RELOCATABLE	<b>Item Number / Title [DODIC]:</b> MA9160 / BUILDING, PRE-FAB, RELOCATABLE

<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	-	-	14.400	62.654	77.054

(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 / 03 / 90			<b>P-1 Line Item Number / Title:</b> 1500MA9160 / BUILDING, PRE-FAB, RELOCATABLE				<b>Item Number / Title [DODIC]:</b> MA9160 / BUILDING, PRE-FAB, RELOCATABLE				

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
Relocatable Buildings for BASE Program		2020	TBD / TBD	C / FFP	408th Contracting Cmd, Kuwait	Dec 2019	Mar 2020	65	221.538	N		
Relocatable Buildings for OCO Program	✓	2020	TBD / TBD	C / FFP	408th Contracting Cmd, Kuwait	Dec 2019	Mar 2020	283	221.392	N		

**Remarks:**  
 The Building, Pre-Fab, Relocatable Program (MA9160) funding line acquires the relocatable building Restoration and Modernization (RM) activity. This is a new start effort. This supports the capability to emplace and lifecycle relocatable buildings in the CENTCOM region. Restoration and Modernization (RM) provides resources which support Facilities Restoration and Modernization, Demolition, and Utilities Restoration & Modernization as well each projects O&M and OPA tails required for beneficial occupancy of R&M projects. Resources are primarily Operations and Maintenance (O&M) for all three components with most tails being resourced in OPA. RM excludes undertakings financed by military construction funds or categorized as a BRAC effort.

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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 03: Other Support Equipment / BSA 90: Other Support Equipment	<b>P-1 Line Item Number / Title:</b> 1572MA6700 / Special Equipment For User Testing
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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> )	647.715	14.319	11.608	9.821	-	9.821	39.478	45.980	53.516	51.624	-	874.061
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	647.715	14.319	11.608	9.821	-	9.821	39.478	45.980	53.516	51.624	-	874.061
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>647.715</b>	<b>14.319</b>	<b>11.608</b>	<b>9.821</b>	<b>-</b>	<b>9.821</b>	<b>39.478</b>	<b>45.980</b>	<b>53.516</b>	<b>51.624</b>	<b>-</b>	<b>874.061</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> )	64,771.500	1,301.727	967.333	755.462	-	755.462	1,644.917	3,065.333	2,326.783	2,244.522	-	6,672.221

**Description:**

Special Equipment for User Testing is comprised of multiple programs for the Major Operational Testing Instrumentation and Army Threat Simulator Program. Program provides funding for Major Operational Testing Instrumentation, Major Field Instrumentation for Operational Testing (OT), Force Development Testing and Experimentation (FDTE), and Army Warfighting Experiments (AWE). Initiatives are tied to tactical and instrumentation systems that support each of the five joint functional concepts outlined in the Army Modernization Plan (Force Application; Protection; Focused Logistics; Battlespace Awareness; Command and Control). The Army Threat Simulator Program procures actual foreign hardware and Non-Developmental Items (NDI) (e.g., chassis, subsystems, commercial equipment, or actual threat weapons), which are integrated into a threat simulator design for user testing and training. The program also procures a variety of test assets, such as Threat Battle Command Force, Threat Operations, Advanced Jammer Suite, and Advanced Electronic Support Sensor Suite.

Special Equipment for User Testing programs provides support at: Army Test and Evaluation Command (ATEC) and Operational Test Command (OTC) facilities to include Transformation Technology Directorate (TTD) at Fort Hood, TX; Fire Support Test Directorate (FSTD) at Fort Sill, OK; Airborne Special Operations Test Directorate (ABSOTD) at Fort Bragg, NC; Air Defense Artillery Test Directorate (ADATD) and Electronic Proving Ground (EPG) at Fort Huachuca, AZ; Aberdeen Test Center (ATC); Redstone Test Center (RTC); White Sands Test Center (WSTC); and Yuma Test Center (YTC).

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	14.319	11.608	9.821	-	9.821	39.478	45.980	53.516	51.624
<b>Total:</b>									
<b>Secondary Distribution</b>									
Quantity	-	-	-	-	-	-	-	-	-
Total Obligation Authority	<b>14.319</b>	<b>11.608</b>	<b>9.821</b>	<b>-</b>	<b>9.821</b>	<b>39.478</b>	<b>45.980</b>	<b>53.516</b>	<b>51.624</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 03: Other Support Equipment / BSA 90: Other Support Equipment

**P-1 Line Item Number / Title:**  
1572MA6700 / Special Equipment For User Testing

**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	MA6700 / Special Equipment For User Testing	P-5a			- / 647.715	- / 14.319	- / 11.608	- / 9.821	- / -	- / 9.821
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 647.715</b>	<b>- / 14.319</b>	<b>- / 11.608</b>	<b>- / 9.821</b>	<b>- / -</b>	<b>- / 9.821</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 \$9.821 million procures multiple threat systems (Electronic Warfare (EW), Command, Control, and Communications, and Advanced Jamming) required to support developmental and operational testing and training of network centric threat scenarios. These threat scenarios are critical to integrating digital battlefield data collection and analysis tools that support the establishment of robust command and control capabilities. These tools will collect, store, and analyze data from this new dimension of digital command and control battlefield warfare capabilities. The Army will field Advanced Jammer capabilities to fulfill developmental and operational test requirements for ongoing Army Warfighter Assessments and Network Integration Evaluation events. Validated threat jammers are a critical element to maintaining threat EW density and realism required by Director, Operational Test and Evaluation to provide operationally relevant environments for Test and Evaluation (T&E) and training. Fielded threat capabilities are operated, maintained, and sustained as one integrated threat electronic warfare force in support of Army T&E activities, such as the Network Integration Evaluation.

**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 / 03 / 90	<b>P-1 Line Item Number / Title:</b> 1572MA6700 / Special Equipment For User Testing	<b>Item Number / Title [DODIC]:</b> MA6700 / Special Equipment For User Testing

<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)	647.715	14.319	11.608	9.821	-	9.821
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	647.715	14.319	11.608	9.821	-	9.821
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>647.715</b>	<b>14.319</b>	<b>11.608</b>	<b>9.821</b>	<b>-</b>	<b>9.821</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)	64,771.500	1,301.727	967.333	755.462	-	755.462

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																		
Threat Battle Command Force <sup>(†)</sup>	3,683.833	6	22.103	-	-	-	345.889	9	3.113	350.778	9	3.157	-	-	-	350.778	9	3.157
Threat Operations <sup>(†)</sup>	3,637.615	13	47.289	1,361.000	1	1.361	2,963.000	1	2.963	3,529.000	1	3.529	-	-	-	3,529.000	1	3.529
Advanced Jammer Suite <sup>(†)</sup>	1,174.200	5	5.871	395.800	10	3.958	2,766.000	2	5.532	1,067.500	2	2.135	-	-	-	1,067.500	2	2.135
Threat Signal Injection Jammer	2,256.781	251	566.452	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Advanced Electronic Support Sensor Suite <sup>(†)</sup>	-	-	-	-	-	-	-	-	-	1,000.000	1	1.000	-	-	-	1,000.000	1	1.000
<i>Subtotal: Recurring Cost</i>	-	-	641.715	-	-	5.319	-	-	11.608	-	-	9.821	-	-	-	-	-	9.821
Non Recurring Cost																		
NOSC Equipment	188.000	1	0.188	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Red Team Infrastructure Equipment	2,598.000	1	2.598	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Red Team Training Equipment	3,214.000	1	3.214	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Congressional Add for Regional Service Delivery Points	-	-	-	-	-	9.000	-	-	-	-	-	-	-	-	-	-	-	-



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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 / 03 / 90	<b>P-1 Line Item Number / Title:</b> 1572MA6700 / Special Equipment For User Testing	<b>Item Number / Title [DODIC]:</b> MA6700 / Special Equipment For User Testing
<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>	-	-	6.000	-	-	9.000	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Flyaway Cost</i>	-	-	<b>647.715</b>	-	-	<b>14.319</b>	-	-	<b>11.608</b>	-	-	<b>9.821</b>	-	-	-	-	-	<b>9.821</b>
<b>Gross/Weapon System Cost</b>	<b>64,771.500</b>	-	<b>647.715</b>	<b>1,301.727</b>	-	<b>14.319</b>	<b>967.333</b>	-	<b>11.608</b>	<b>755.462</b>	-	<b>9.821</b>	-	-	-	<b>755.462</b>	-	<b>9.821</b>

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	-	-	-	-	-
	Total Obligation Authority	14.319	11.608	9.821	-	9.821
<b>Total:</b>	Quantity	-	-	-	-	-
<b>Secondary Distribution</b>	Total Obligation Authority	<b>14.319</b>	<b>11.608</b>	<b>9.821</b>	-	<b>9.821</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 / 03 / 90			<b>P-1 Line Item Number / Title:</b> 1572MA6700 / Special Equipment For User Testing				<b>Item Number / Title [DODIC]:</b> MA6700 / Special Equipment For User Testing				

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
Threat Battle Command Force		2019	General Dynamics C4 Sys / Scottsdale, AZ	C / CPFF	PEO STRI, Orlando, FL	Jan 2019	Jul 2019	9	345.889	N		
Threat Battle Command Force		2020	General Dynamics C4 Sys / Scottsdale, AZ	C / CPFF	PEO STRI, Orlando, FL	Jan 2020	Jul 2020	9	350.778	N		
Threat Operations		2018	Test & Evaluation Ser&Tech LLC / Herndon, VA	C / CPFF	PEO STRI, Orlando, FL	Dec 2017	Dec 2018	1	1,361.000	Y		
Threat Operations		2019	Test & Evaluation Ser&Tech LLC / Herndon, VA	C / CPFF	PEO STRI, Orlando, FL	Dec 2018	Dec 2019	1	2,963.000	Y		
Threat Operations		2020	TBD / TBD	C / CPFF	PEO STRI, Orlando, FL	Dec 2019	Dec 2020	1	3,529.000	Y		
Advanced Jammer Suite		2018	General Dynamics C4 Sys / Scottsdale, AZ	C / CPFF	PEO STRI, Orlando, FL	Jan 2018	Sep 2018	10	395.800	Y		
Advanced Jammer Suite		2019	General Dynamics C4 Sys / Scottsdale, AZ	C / CPFF	PEO STRI, Orlando, FL	Jan 2019	Oct 2019	2	2,766.000	N		
Advanced Jammer Suite		2020	General Dynamics C4 Sys / Scottsdale, AZ	C / CPFF	PEO STRI, Orlando, FL	Jan 2020	Oct 2020	2	1,067.500	N		
Advanced Electronic Support Sensor Suite		2020	TBD / TBD	C / CPFF	PEO STRI, Orlando, FL	Dec 2019	Dec 2020	1	1,000.000	N		

**Remarks:**

Threat Operations costs fluctuate from year to year based on asset usage, spare part needs, tech refresh, and requirements.

Advanced Jammer Suite - Unit costs (comprised of prime movers, hardware and software to support Cyber Electromagnetic Activity (CEMA) and Electronic Warfare (EW)) varies due to the complexity and number of tests required for each suite. Threat requirements change rapidly based on intelligence estimates and may result in differences between procurement cycles and variations with individual articles within the same procurement cycle. The Advanced Jammer Suite provides current validated threat representative open air electronic attack capability that includes Frequency Follower jamming, Digital Radio Frequency Memory (DRFM) jamming, and advanced Position, Navigation and Timing (PNT) jamming in support of Army operational test and evaluation.

**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 03: Other Support Equipment / BSA 90: Other Support Equipment	<b>P-1 Line Item Number / Title:</b> 9219MA8975 / TRACTOR YARD
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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> )	128.864	5.935	4.956	-	-	-	-	-	-	-	-	139.755
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	128.864	5.935	4.956	-	-	-	-	-	-	-	-	139.755
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>128.864</b>	<b>5.935</b>	<b>4.956</b>	-	-	-	-	-	-	-	-	<b>139.755</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 is reported in accordance with Title 10, United States Code, Section 119(a)(1) in the Special Access Program Annual Report to Congress

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Army	Quantity	-	-	-	-	-	-	-	-
	Total Obligation Authority	5.935	4.956	-	-	-	-	-	-
<b>Total:</b> Secondary Distribution	Quantity	-	-	-	-	-	-	-	-
	Total Obligation Authority	<b>5.935</b>	<b>4.956</b>	-	-	-	-	-	-

**Justification:**

This program is reported in accordance with Title 10, United States Code, Section 119(a)(1) in the Special Access Program Annual Report to Congress.

**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 04: Spare and Repair Parts / BSA 20: OPA2 **P-1 Line Item Number / Title:** 0200BS9100 / INITIAL SPARES - C&E

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

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

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	233.314	12.334	9.817	9.757	-	9.757	9.961	10.157	10.270	10.444	Continuing	Continuing
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	233.314	12.334	9.817	9.757	-	9.757	9.961	10.157	10.270	10.444	Continuing	Continuing
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>233.314</b>	<b>12.334</b>	<b>9.817</b>	<b>9.757</b>	<b>-</b>	<b>9.757</b>	<b>9.961</b>	<b>10.157</b>	<b>10.270</b>	<b>10.444</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> )	-	13.952	13.338	32.523	-	32.523	35.575	47.242	43.151	33.156	Continuing	Continuing

**Description:**

The Defense SATCOM Systems Spares (SPACE) funding line supports the Army's Network Modernization Strategy Line of Effort (LOE) 1 (Unified Network).

Program provides for procurement of spares to support initial fielding of new or modified end items. Spares are broken out as follows:

BS9716 / Non-PEO Spares: Procures Depot Level Repairable (DLR) secondary items from the Supply Management, Army activity of the Army Working Capital Fund. To provide initial support, funds are normally required in the same year that end items are fielded.

BS9721 / Defense SATCOM Sys Spares (SPACE): Spares support six projects under Defense Enterprise Wideband SATCOM Systems (DEWSS) Program. Spares support the modernization and upgrade to the Modernization of Enterprise Terminals (MET) systems, Enterprise Wideband Satellite Payload Control Systems, and Digital Communications Satellite Subsystems. The projects currently supported are as follows: Radio Frequency Modulated Orderwire (RFMOW), Wideband Remote Monitoring Sensor (WRMS), Modernization of Enterprise Terminals (MET), Wideband Operation Management System (WSOMS), Common Network Planning System (CNPS), and Wideband Training and Certification System (WTCS).

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	12.334	9.817	9.757	-	9.757	9.961	10.157	10.270	10.444
<b>Total:</b> Secondary Distribution	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	<b>12.334</b>	<b>9.817</b>	<b>9.757</b>	<b>-</b>	<b>9.757</b>	<b>9.961</b>	<b>10.157</b>	<b>10.270</b>	<b>10.444</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 04: Spare and Repair Parts / BSA 20: OPA2 **P-1 Line Item Number / Title:** 0200BS9100 / INITIAL SPARES - C&E

**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	BS9710 / MCS SPARES				- / 28.324	600 / 2.869	- / -	- / -	- / -	- / -
P-5	BS9716 / NON PEO-SPARES		A		- / 55.764	- / 3.135	- / 3.131	- / 3.857	- / -	- / 3.857
P-5	BS9721 / DEFENSE SATCOM SYS SPARES (SPACE)				- / 149.226	- / 6.330	- / 6.686	- / 5.900	- / -	- / 5.900
<b>P-40</b>	<b>Total Gross/Weapon System Cost</b>				<b>- / 233.314</b>	<b>- / 12.334</b>	<b>- / 9.817</b>	<b>- / 9.757</b>	<b>- / -</b>	<b>- / 9.757</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 Defense SATCOM Systems Spares (SPACE) funding line supports the Army's Network Modernization Strategy Line of Effort (LOE) 1 (Unified Network).

FY 2020 Base procurement funding in the amount of \$9.757 million procures Depot Level Repairable (DLR) secondary items from the Supply Management, Army activity of the Army Working Capital Fund.

BS9716 / Non-PEO Spares: FY 2020 Base procurement dollars in the amount of \$3.857 million procures Depot Level Repairable (DLR) secondary items from the Supply Management, Army activity of the Army Working Capital Fund. To provide initial support, funds are normally required in the same year that end items are fielded.

BS9721 / Defense SATCOM Sys Spares (SPACE): FY 2020 Base procurement dollars in the amount of \$5.900 million procures spares for Modernization of Enterprise Terminals (MET) systems, Enterprise Wideband Satellite Payload Control Systems, and Digital Communications Satellite Subsystems.

**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 / 04 / 20		<b>P-1 Line Item Number / Title:</b> 0200BS9100 / INITIAL SPARES - C&E
		<b>Item Number / Title [DODIC]:</b> BS9710 / MCS SPARES

<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> )	-	600	-	-	-	-
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	28.324	2.869	-	-	-	-
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-
Net Procurement (P-1) ( <i>\$ in Millions</i> )	28.324	2.869	-	-	-	-
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	<b>28.324</b>	<b>2.869</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> )	-	4.782	-	-	-	-

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																		
Work Stations	3.557	4,567	16.245	1.907	600	1.144	-	-	-	-	-	-	-	-	-	-	-	-
Other Hardware	-	-	12.079	-	-	1.725	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	28.324	-	-	2.869	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Hardware Cost</i>	-	-	<b>28.324</b>	-	-	<b>2.869</b>	-	-	-	-	-	-	-	-	-	-	-	-
<b>Gross/Weapon System Cost</b>	-	-	<b>28.324</b>	<b>4.782</b>	<b>600</b>	<b>2.869</b>	-	-	-	-	-	-	-	-	-	-	-	-

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	600	-	-	-	-
Total Obligation Authority	2.869	-	-	-	-
<b>Total:</b>	<b>600</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Secondary Distribution</b>	<b>2.869</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 / 04 / 20	<b>P-1 Line Item Number / Title:</b> 0200BS9100 / INITIAL SPARES - C&E	<b>Item Number / Title [DODIC]:</b> BS9716 / NON PEO-SPARES

<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)	55.764	3.135	3.131	3.857	-	3.857
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	55.764	3.135	3.131	3.857	-	3.857
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>55.764</b>	<b>3.135</b>	<b>3.131</b>	<b>3.857</b>	<b>-</b>	<b>3.857</b>

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

Initial Spares (\$ in Millions)	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Thousands)	-	11.039	4.254	12.857	-	12.857

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																		
INE Procurement	-	-	-	7.785	144	1.121	13.850	113	1.565	16.009	226	3.618	-	-	-	16.009	226	3.618
SV Procurement	-	-	-	3.000	80	0.240	3.656	32	0.117	2.988	80	0.239	-	-	-	2.988	80	0.239
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	1.361	-	-	1.682	-	-	3.857	-	-	-	-	-	3.857
<i>Subtotal: Hardware Cost</i>	-	-	-	-	-	1.361	-	-	1.682	-	-	3.857	-	-	-	-	-	3.857
<b>Support - Initial Spares and Repair Parts Cost</b>																		
Initial Spares and Repair Parts	-	-	55.764	-	-	1.774	-	-	1.449	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - Initial Spares and Repair Parts Cost</i>	-	-	55.764	-	-	1.774	-	-	1.449	-	-	-	-	-	-	-	-	-
<b>Gross/Weapon System Cost</b>	-	-	55.764	11.039	-	3.135	4.254	-	3.131	12.857	-	3.857	-	-	-	12.857	-	3.857

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	-	-	-	-	-
	Total Obligation Authority	3.135	3.131	3.857	-	3.857
<b>Total:</b>	<b>Quantity</b>	-	-	-	-	-
<b>Secondary Distribution</b>	<b>Total Obligation Authority</b>	3.135	3.131	3.857	-	3.857

**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 / 04 / 20	<b>P-1 Line Item Number / Title:</b> 0200BS9100 / INITIAL SPARES - C&E	<b>Item Number / Title [DODIC]:</b> BS9721 / DEFENSE SATCOM SYS SPARES (SPACE)

<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)	149.226	6.330	6.686	5.900	-	5.900
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	149.226	6.330	6.686	5.900	-	5.900
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>149.226</b>	<b>6.330</b>	<b>6.686</b>	<b>5.900</b>	<b>-</b>	<b>5.900</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																		
Radio Frequency Modulated Orderwire (RFMOW)	-	-	45.298	-	-	-	-	-	0.072	-	-	0.032	-	-	-	-	-	0.032
Wideband Remote Monitoring Sensor (WRMS)	-	-	42.372	-	-	-	-	-	0.047	-	-	0.400	-	-	-	-	-	0.400
Modernization of Enterprise Terminals (MET)	-	-	60.936	-	-	3.010	-	-	4.023	-	-	4.086	-	-	-	-	-	4.086
Wideband Operational Mgmt System (WSOMS)	-	-	0.620	-	-	3.320	-	-	0.018	-	-	1.000	-	-	-	-	-	1.000
Replacement Patch Test Facility (RPTF)	-	-	-	-	-	-	-	-	0.032	-	-	-	-	-	-	-	-	-
Replacement Radio Frequency Interconnecting Subsystem (RRFIS)	-	-	-	-	-	-	-	-	0.363	-	-	-	-	-	-	-	-	-
Global Terrestrial Critical Control Circuit System (GTC3S)	-	-	-	-	-	-	-	-	0.506	-	-	-	-	-	-	-	-	-
Remote Monitoring and Control Equipment (RMCE)	-	-	-	-	-	-	-	-	0.402	-	-	-	-	-	-	-	-	-



**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 / 04 / 20	<b>P-1 Line Item Number / Title:</b> 0200BS9100 / INITIAL SPARES - C&E	<b>Item Number / Title [DODIC]:</b> BS9721 / DEFENSE SATCOM SYS SPARES (SPACE)
<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)
Joint SATCOM Engineering Center (JSEC)	-	-	-	-	-	-	-	-	0.082	-	-	-	-	-	-	-	-	-
Joint Management and Operations System (JMOS)	-	-	-	-	-	-	-	-	0.292	-	-	-	-	-	-	-	-	-
Global Satellite Configuration Control Element (GSCCE)	-	-	-	-	-	-	-	-	0.232	-	-	-	-	-	-	-	-	-
Common Network Planning System (CNPS)	-	-	-	-	-	-	-	-	0.507	-	-	0.200	-	-	-	-	-	0.200
Wideband Training and Certification System (WTCS)	-	-	-	-	-	-	-	-	0.110	-	-	0.182	-	-	-	-	-	0.182
<i>Subtotal: Recurring Cost</i>	-	-	149.226	-	-	6.330	-	-	6.686	-	-	5.900	-	-	-	-	-	5.900
<i>Subtotal: Flyaway Cost</i>	-	-	149.226	-	-	6.330	-	-	6.686	-	-	5.900	-	-	-	-	-	5.900
<b>Gross/Weapon System Cost</b>	-	-	149.226	-	-	6.330	-	-	6.686	-	-	5.900	-	-	-	-	-	5.900

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Army	Quantity	-	-	-	-	-
	Total Obligation Authority	6.330	6.686	5.900	-	5.900
<b>Total: Secondary Distribution</b>	Quantity	-	-	-	-	-
	Total Obligation Authority	6.330	6.686	5.900	-	5.900