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

March 2019



Air Force

Justification Book Volume 1 of 1

Other Procurement, Air Force

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Air Force • Budget Estimates FY 2020 • Procurement

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Appropriation Language
Fiscal Year (FY) 2020 President's Budget
Other Procurement, Air Force

For procurement and modification of equipment (including ground guidance and electronic control equipment, and ground electronic and communication equipment), and supplies, materials, and spare parts therefor, not otherwise provided for; the purchase of passenger motor and expansion of public and private plants, Government-owned equipment and installation thereof in such plants, erection of structures, and acquisition of land, for the foregoing purposes, and such lands and interests therein, may be acquired, and construction prosecuted thereon, prior to approval of title; reserve plant and Government, contractor-owned equipment layaway, and overseas contingency operations, \$24,880,955,000 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 (\$42,367,000): Direct War costs are those combat or direct combat support costs that will not continue to be expended once combat operations end at major contingency locations.
- OCO for Enduring Requirements (\$3,495,731,000): OCO for Enduring Requirements are enduring in-theater and in-CONUS costs that will likely remain after combat operations cease, and have previously been funded in OCO.
- OCO for Base Requirements (\$655,000,000): 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 Air Force
 FY 2020 President's Budget
 Exhibit P-1 FY 2020 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

19 Feb 2019

Appropriation: Other Procurement, Air Force

Budget Activity -----	FY 2018 (Base + OCO) -----	FY 2019 Base Enacted -----	FY 2019 OCO Enacted -----	FY 2019 Total Enacted -----
02. Vehicular Equipment	369,726	337,416	145,108	482,524
03. Electronics and Telecommunications Equip	1,680,558	1,385,532	116,287	1,501,819
04. Other Base Maintenance and Support Equip	22,046,620	19,074,912	3,415,881	22,490,793
05. Spares and Repair Parts	17,381	86,365		86,365
Total Other Procurement, Air Force	24,114,285	20,884,225	3,677,276	24,561,501

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19 Feb 2019

Appropriation: Other Procurement, Air Force

Budget Activity -----	FY 2020 Base -----	FY 2020 OCO for Base Requirements -----	FY 2020 OCO for Direct War and Enduring Costs -----	FY 2020 Total OCO -----
02. Vehicular Equipment	231,115		139,665	139,665
03. Electronics and Telecommunications Equip	1,538,374		116,525	116,525
04. Other Base Maintenance and Support Equip	18,837,028	655,000	3,281,908	3,936,908
05. Spares and Repair Parts	81,340			
Total Other Procurement, Air Force	20,687,857	655,000	3,538,098	4,193,098

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(Dollars in Thousands)

19 Feb 2019

Appropriation: Other Procurement, Air Force

Budget Activity -----	FY 2020 Total (Base + OCO) -----
02. Vehicular Equipment	370,780
03. Electronics and Telecommunications Equip	1,654,899
04. Other Base Maintenance and Support Equip	22,773,936
05. Spares and Repair Parts	81,340
Total Other Procurement, Air Force	24,880,955

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19 Feb 2019

Appropriation: 3080F Other Procurement, Air Force

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 02: Vehicular Equipment											

Passenger Carrying Vehicles											
1	Passenger Carrying Vehicles	A		19,506		6,949		9,680		16,629	U
Cargo and Utility Vehicles											
2	Medium Tactical Vehicle	A		40,111		36,002		9,680		45,682	U
3	Cap Vehicles	A		1,700		1,700				1,700	U
4	Cargo and Utility Vehicles	A		31,770		42,696		19,680		62,376	U
Special Purpose Vehicles											
5	Joint Light Tactical Vehicle	A				28,695		17,482		46,177	U
6	Security And Tactical Vehicles	A		51,280		983		130		1,113	U
7	Special Purpose Vehicles	A		52,263		43,003		34,680		77,683	U
Fire Fighting Equipment											
8	Fire Fighting/Crash Rescue Vehicles	A		37,351		23,328		9,736		33,064	U
Materials Handling Equipment											
9	Materials Handling Vehicles	A		24,419		11,537		24,680		36,217	U
Base Maintenance Support											
10	Runway Snow Remov And Cleaning Equ	A		14,524		37,600		9,680		47,280	U
11	Base Maintenance Support Vehicles	A		95,241		104,923		9,680		114,603	U

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Line No	Item Nomenclature	Ident Code	FY 2020 Base		FY 2020 OCO for Base Requirements		FY 2020 OCO for Direct War and Enduring Costs		FY 2020 Total OCO		S e c
			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	
Budget Activity 02: Vehicular Equipment											

Passenger Carrying Vehicles											
1	Passenger Carrying Vehicles	A		15,238				1,276		1,276	U
Cargo and Utility Vehicles											
2	Medium Tactical Vehicle	A		34,616							U
3	Cap Vehicles	A		1,040							U
4	Cargo and Utility Vehicles	A		23,133				9,702		9,702	U
Special Purpose Vehicles											
5	Joint Light Tactical Vehicle	A		32,027				40,999		40,999	U
6	Security And Tactical Vehicles	A		1,315							U
7	Special Purpose Vehicles	A		14,593				52,502		52,502	U
Fire Fighting Equipment											
8	Fire Fighting/Crash Rescue Vehicles	A		28,604				16,652		16,652	U
Materials Handling Equipment											
9	Materials Handling Vehicles	A		21,848				2,944		2,944	U
Base Maintenance Support											
10	Runway Snow Remov And Cleaning Equ	A		2,925				3,753		3,753	U
11	Base Maintenance Support Vehicles	A		55,776				11,837		11,837	U

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Appropriation: 3080F Other Procurement, Air Force

Line No	Item Nomenclature	Ident Code	FY 2020 Total (Base + OCO)		S e c
			Quantity	Cost	
Budget Activity 02: Vehicular Equipment					

Passenger Carrying Vehicles					
1	Passenger Carrying Vehicles	A		16,514	U
Cargo and Utility Vehicles					
2	Medium Tactical Vehicle	A		34,616	U
3	Cap Vehicles	A		1,040	U
4	Cargo and Utility Vehicles	A		32,835	U
Special Purpose Vehicles					
5	Joint Light Tactical Vehicle	A		73,026	U
6	Security And Tactical Vehicles	A		1,315	U
7	Special Purpose Vehicles	A		67,095	U
Fire Fighting Equipment					
8	Fire Fighting/Crash Rescue Vehicles	A		45,256	U
Materials Handling Equipment					
9	Materials Handling Vehicles	A		24,792	U
Base Maintenance Support					
10	Runway Snow Remov And Cleaning Equ	A		6,678	U
11	Base Maintenance Support Vehicles	A		67,613	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	
Cancelled Account Adjustments											
12	Cancelled Account Adjustments	A		1,561							U
Total Vehicular Equipment				369,726		337,416		145,108		482,524	
Budget Activity 03: Electronics and Telecommunications Equip											

Comm Security Equipment (Comsec)											
13	Comsec Equipment	A		106,681		104,230				104,230	U
Intelligence Programs											
14	International Intel Tech & Architectures	A		25,208		8,290				8,290	U
15	Intelligence Training Equipment	A		5,892		1,599				1,599	U
16	Intelligence Comm Equipment	A		38,309		15,564		6,156		21,720	U
Electronics Programs											
17	Air Traffic Control & Landing Sys	A		55,793		47,746		35,984		83,730	U
18	National Airspace System	A		15,156							U
19	Battle Control System - Fixed			6,415		2,849				2,849	U
20	Theater Air Control Sys Improvemen	A		23,233		19,424				19,424	U
21	Weather Observation Forecast	A		40,116		52,113				52,113	U
22	Strategic Command And Control	A		72,251		32,836				32,836	U
23	Cheyenne Mountain Complex	A		9,864		12,003				12,003	U
24	Mission Planning Systems	A		15,486		12,092				12,092	U

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			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	
Cancelled Account Adjustments											
12	Cancelled Account Adjustments	A									U
Total Vehicular Equipment			231,115				139,665		139,665		
Budget Activity 03: Electronics and Telecommunications Equip											

Comm Security Equipment (Comsec)											
13	Comsec Equipment	A		91,461							U
Intelligence Programs											
14	International Intel Tech & Architectures	A		11,386							U
15	Intelligence Training Equipment	A		7,619							U
16	Intelligence Comm Equipment	A		35,558							U
Electronics Programs											
17	Air Traffic Control & Landing Sys	A		17,939							U
18	National Airspace System	A									U
19	Battle Control System - Fixed			3,063							U
20	Theater Air Control Sys Improvemen	A									U
21	Weather Observation Forecast	A		31,447							U
22	Strategic Command And Control	A		5,090							U
23	Cheyenne Mountain Complex	A		10,145							U
24	Mission Planning Systems	A		14,508							U

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Line No	Item Nomenclature	Ident Code	FY 2020 Total (Base + OCO)		S e c
			Quantity	Cost	
Cancelled Account Adjustments					
12	Cancelled Account Adjustments	A			U
Total Vehicular Equipment			370,780		
Budget Activity 03: Electronics and Telecommunications Equip					

Comm Security Equipment (Comsec)					
13	Comsec Equipment	A		91,461	U
Intelligence Programs					
14	International Intel Tech & Architectures	A		11,386	U
15	Intelligence Training Equipment	A		7,619	U
16	Intelligence Comm Equipment	A		35,558	U
Electronics Programs					
17	Air Traffic Control & Landing Sys	A		17,939	U
18	National Airspace System	A			U
19	Battle Control System - Fixed			3,063	U
20	Theater Air Control Sys Improvemen	A			U
21	Weather Observation Forecast	A		31,447	U
22	Strategic Command And Control	A		5,090	U
23	Cheyenne Mountain Complex	A		10,145	U
24	Mission Planning Systems	A		14,508	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	
25	Drug Interdiction Spt	A		10,540							U
26	Integrated Strat Plan & Analy Network (ISPAN)	A		9,187		7,337				7,337	U
	Spcl Comm-Electronics Projects										
27	General Information Technology	A		52,142		29,872				29,872	U
28	Af Global Command & Control Sys	A		3,634		6,152				6,152	U
29	Battlefield Airborne Control Node (BACN)	A									U
30	Mobility Command And Control	A		10,083		10,192				10,192	U
31	Air Force Physical Security System	A		326,387		42,652		46,236		88,888	U
32	Combat Training Ranges	A		89,776		235,198				235,198	U
33	Minimum Essential Emergency Comm N	A		292		140,875				140,875	U
34	Wide Area Surveillance (WAS)	A		73,487		87,104				87,104	U
35	C3 Countermeasures	A		37,764		30,001				30,001	U
36	Integrated Personnel and Pay System	A									U
37	GCSS-AF Fos	A		1,426		483				483	U
38	Defense Enterprise Accounting & Mgt Sys	A		1,000		802				802	U
39	Maintenance Repair & Overhaul Initiative	A				12,207				12,207	U
40	Theater Battle Mgt C2 System	A		9,646		5,191				5,191	U
41	Air & Space Operations Center (AOC)	A		25,498		38,589				38,589	U
42	Spectrum Relocation Fund	A		586							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	
25	Drug Interdiction Spt	A									U
26	Integrated Strat Plan & Analy Network (ISPAN)	A		9,901							U
	Spcl Comm-Electronics Projects										
27	General Information Technology	A		26,933				5,000		5,000	U
28	Af Global Command & Control Sys	A		2,756							U
29	Battlefield Airborne Control Node (BACN)	A		48,478							U
30	Mobility Command And Control	A		21,186							U
31	Air Force Physical Security System	A		178,361				106,919		106,919	U
32	Combat Training Ranges	A		233,993							U
33	Minimum Essential Emergency Comm N	A		132,648							U
34	Wide Area Surveillance (WAS)	A		80,818							U
35	C3 Countermeasures	A		25,036							U
36	Integrated Personnel and Pay System	A		20,900							U
37	GCSS-AF Fos	A		11,226							U
38	Defense Enterprise Accounting & Mgt Sys	A		1,905							U
39	Maintenance Repair & Overhaul Initiative	A		1,912							U
40	Theater Battle Mgt C2 System	A		6,337							U
41	Air & Space Operations Center (AOC)	A		33,243							U
42	Spectrum Relocation Fund	A									U

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Line No	Item Nomenclature	Ident Code	FY 2020 Total (Base + OCO)		S e c
			Quantity	Cost	
25	Drug Interdiction Spt	A			U
26	Integrated Strat Plan & Analy Network (ISPAN)	A		9,901	U
Spcl Comm-Electronics Projects					
27	General Information Technology	A		31,933	U
28	Af Global Command & Control Sys	A		2,756	U
29	Battlefield Airborne Control Node (BACN)	A		48,478	U
30	Mobility Command And Control	A		21,186	U
31	Air Force Physical Security System	A		285,280	U
32	Combat Training Ranges	A		233,993	U
33	Minimum Essential Emergency Comm N	A		132,648	U
34	Wide Area Surveillance (WAS)	A		80,818	U
35	C3 Countermeasures	A		25,036	U
36	Integrated Personnel and Pay System	A		20,900	U
37	GCSS-AF Fos	A		11,226	U
38	Defense Enterprise Accounting & Mgt Sys	A		1,905	U
39	Maintenance Repair & Overhaul Initiative	A		1,912	U
40	Theater Battle Mgt C2 System	A		6,337	U
41	Air & Space Operations Center (AOC)	A		33,243	U
42	Spectrum Relocation Fund	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	
Air Force Communications											
43	Base Information Transpt Infrast (BITI) Wired	A		15,228		17,271				17,271	U
44	AFNET	A		174,777		72,596				72,596	U
45	Joint Communications Support Element (JCSE)	A		5,135		3,145				3,145	U
46	USCENTCOM	A		18,719		8,194				8,194	U
47	USSTRATCOM	A									U
Organization and Base											
48	Tactical C-E Equipment	A		124,281		149,649		27,911		177,560	U
49	Combat Survivor Evader Locater	A		3,004							U
50	Radio Equipment	A		15,736		11,961				11,961	U
51	CCTV/Audiovisual Equipment	A		3,480		3,005				3,005	U
52	Base Comm Infrastructure	A		186,098		153,656				153,656	U
Modifications											
53	Comm Elect Mods	A		68,248		10,654				10,654	U
Total Electronics and Telecommunications Equip				1,680,558		1,385,532		116,287		1,501,819	
Budget Activity 04: Other Base Maintenance and Support Equip											
Personal Safety & Rescue Equip											
54	Personal Safety and Rescue Equipment	A		61,953		51,906		13,600		65,506	U

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			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	
Air Force Communications											
43	Base Information Transpt Infrast (BITI) Wired	A		69,530							U
44	AFNET	A		147,063							U
45	Joint Communications Support Element (JCSE)	A		6,505							U
46	USCENTCOM	A		20,190							U
47	USSTRATCOM	A		11,244							U
Organization and Base											
48	Tactical C-E Equipment	A		143,757				306		306	U
49	Combat Survivor Evader Locater	A									U
50	Radio Equipment	A		15,402							U
51	CCTV/Audiovisual Equipment	A		3,211							U
52	Base Comm Infrastructure	A		43,123				4,300		4,300	U
Modifications											
53	Comm Elect Mods	A		14,500							U
Total Electronics and Telecommunications Equip				1,538,374				116,525		116,525	
Budget Activity 04: Other Base Maintenance and Support Equip											
Personal Safety & Rescue Equip											
54	Personal Safety and Rescue Equipment	A		50,634				22,200		22,200	U

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Line No	Item Nomenclature	Ident Code	FY 2020 Total (Base + OCO)		S e c
			Quantity	Cost	
Air Force Communications					
43	Base Information Transpt Infrast (BITI) Wired	A		69,530	U
44	AFNET	A		147,063	U
45	Joint Communications Support Element (JCSE)	A		6,505	U
46	USCENTCOM	A		20,190	U
47	USSTRATCOM	A		11,244	U
Organization and Base					
48	Tactical C-E Equipment	A		144,063	U
49	Combat Survivor Evader Locater	A			U
50	Radio Equipment	A		15,402	U
51	CCTV/Audiovisual Equipment	A		3,211	U
52	Base Comm Infrastructure	A		47,423	U
Modifications					
53	Comm Elect Mods	A		14,500	U
Total Electronics and Telecommunications Equip				1,654,899	
Budget Activity 04: Other Base Maintenance and Support Equip					

Personal Safety & Rescue Equip					
54	Personal Safety and Rescue Equipment	A		72,834	U

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			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	
Depot Plant+Mtrls Handling Eq											
55	Power Conditioning Equipment	A									U
56	Mechanized Material Handling Equip	A		8,576		88,298				88,298	U
Base Support Equipment											
57	Base Procured Equipment	A		22,618		17,031		28,800		45,831	U
58	Engineering and EOD Equipment	A		66,287		82,635		53,500		136,135	U
59	Mobility Equipment	A		124,233		9,173		78,562		87,735	U
60	Fuels Support Equipment (FSE)	A									U
61	Base Maintenance and Support Equipment	A		74,719		24,005		28,055		52,060	U
Special Support Projects											
63	DARP RC135	A		26,685		26,262				26,262	U
64	DCGS-AF	A		264,434		376,437		2,000		378,437	U
66	Special Update Program	A		880,444		910,551				910,551	U
999	Classified Programs			20,516,671		17,488,614		3,211,364		20,699,978	U
Total Other Base Maintenance and Support Equip				22,046,620		19,074,912		3,415,881		22,490,793	

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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	
Depot Plant+Mtrls Handling Eq											
55	Power Conditioning Equipment	A		11,000							U
56	Mechanized Material Handling Equip	A		11,901							U
Base Support Equipment											
57	Base Procured Equipment	A		23,963							U
58	Engineering and EOD Equipment	A		34,124							U
59	Mobility Equipment	A		26,439			26,535		26,535		U
60	Fuels Support Equipment (FSE)	A		24,255			4,040		4,040		U
61	Base Maintenance and Support Equipment	A		38,986			20,067		20,067		U
Special Support Projects											
63	DARP RC135	A		26,716							U
64	DCGS-AF	A		116,055							U
66	Special Update Program	A		835,148							U
999	Classified Programs			17,637,807		655,000	3,209,066		3,864,066		U
Total Other Base Maintenance and Support Equip				18,837,028		655,000	3,281,908		3,936,908		

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19 Feb 2019

Appropriation: 3080F Other Procurement, Air Force

Line No	Item Nomenclature	Ident Code	FY 2020 Total (Base + OCO)		S e c
			Quantity	Cost	
Depot Plant+Mtrls Handling Eq					
55	Power Conditioning Equipment	A		11,000	U
56	Mechanized Material Handling Equip	A		11,901	U
Base Support Equipment					
57	Base Procured Equipment	A		23,963	U
58	Engineering and EOD Equipment	A		34,124	U
59	Mobility Equipment	A		52,974	U
60	Fuels Support Equipment (FSE)	A		28,295	U
61	Base Maintenance and Support Equipment	A		59,053	U
Special Support Projects					
63	DARP RC135	A		26,716	U
64	DCGS-AF	A		116,055	U
66	Special Update Program	A		835,148	U
999	Classified Programs			21,501,873	U
Total Other Base Maintenance and Support Equip				22,773,936	

Department of the Air Force
 FY 2020 President's Budget
 Exhibit P-1 FY 2020 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

19 Feb 2019

Appropriation: 3080F Other Procurement, Air Force

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 05: Spares and Repair Parts											

Spares and Repair Parts											
67	Spares And Repair Parts	A		17,381		86,365				86,365	U
				-----		-----				-----	
	Total Spares and Repair Parts			17,381		86,365				86,365	
				-----		-----				-----	
	Total Other Procurement, Air Force			24,114,285		20,884,225		3,677,276		24,561,501	

Department of the Air Force
 FY 2020 President's Budget
 Exhibit P-1 FY 2020 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

19 Feb 2019

Appropriation: 3080F Other Procurement, Air Force

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 05: Spares and Repair Parts											

Spares and Repair Parts											
67	Spares And Repair Parts	A		81,340							U
Total Spares and Repair Parts				81,340							
Total Other Procurement, Air Force				20,687,857		655,000		3,538,098		4,193,098	

Department of the Air Force
 FY 2020 President's Budget
 Exhibit P-1 FY 2020 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

19 Feb 2019

Appropriation: 3080F Other Procurement, Air Force

Line No	Item Nomenclature	Ident Code	FY 2020 Total (Base + OCO)		S e c -
			Quantity	Cost	
Budget Activity 05: Spares and Repair Parts -----					
Spares and Repair Parts					
67	Spares And Repair Parts	A		81,340	U

Total Spares and Repair Parts			81,340		

Total Other Procurement, Air Force			24,880,955		

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2	02	02	822230	Medium Tactical Vehicle.....	Volume 1 - 7
3	02	02	822910	Cap Vehicles.....	Volume 1 - 15
4	02	02	822990	Cargo and Utility Vehicles.....	Volume 1 - 17
5	02	03	823210	Joint Light Tactical Vehicle.....	Volume 1 - 29
6	02	03	823230	Security And Tactical Vehicles.....	Volume 1 - 35
7	02	03	823990	Special Purpose Vehicles.....	Volume 1 - 39
8	02	04	824010	Fire Fighting/Crash Rescue Vehicles.....	Volume 1 - 49
9	02	05	825990	Materials Handling Vehicles.....	Volume 1 - 55
10	02	06	826210	Runway Snow Remov And Cleaning Equ.....	Volume 1 - 63
11	02	06	826990	Base Maintenance Support Vehicles.....	Volume 1 - 69

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14	03	02	832050	International Intel Tech & Architectures.....	Volume 1 - 97
15	03	02	832060	Intelligence Training Equipment.....	Volume 1 - 103
16	03	02	832070	Intelligence Comm Equipment.....	Volume 1 - 107
17	03	03	833010	Air Traffic Control & Landing Sys.....	Volume 1 - 123
18	03	03	833020	National Airspace System.....	Volume 1 - 135
19	03	03	833030	Battle Control System - Fixed.....	Volume 1 - 139
20	03	03	833040	Theater Air Control Sys Improvemen.....	Volume 1 - 141
21	03	03	833070	Weather Observation Forecast.....	Volume 1 - 143
22	03	03	833140	Strategic Command And Control.....	Volume 1 - 157
23	03	03	833160	Cheyenne Mountain Complex.....	Volume 1 - 171
24	03	03	833170	Mission Planning Systems.....	Volume 1 - 181
26	03	03	833560	Integrated Strat Plan & Analy Network (ISPAN).....	Volume 1 - 187
27	03	04	834010	General Information Technology.....	Volume 1 - 193
28	03	04	834040	Af Global Command & Control Sys.....	Volume 1 - 233
29	03	04	834050	Battlefield Airborne Control Node (BACN).....	Volume 1 - 235

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31	03	04	834130	Air Force Physical Security System.....	Volume 1 - 243
32	03	04	834190	Combat Training Ranges.....	Volume 1 - 263
33	03	04	834210	Minimum Essential Emergency Comm N.....	Volume 1 - 277
34	03	04	834240	Wide Area Surveillance (WAS).....	Volume 1 - 281
35	03	04	834320	C3 Countermeasures.....	Volume 1 - 289
36	03	04	834410	Integrated Personnel and Pay System.....	Volume 1 - 299
37	03	04	834430	GCSS-AF Fos.....	Volume 1 - 303
38	03	04	834470	Defense Enterprise Accounting & Mgt Sys.....	Volume 1 - 307
39	03	04	834480	Maintenance Repair & Overhaul Initiative.....	Volume 1 - 309
40	03	04	834520	Theater Battle Mgt C2 System.....	Volume 1 - 311
41	03	04	834530	Air & Space Operations Center (AOC).....	Volume 1 - 321
42	03	04	834880	Spectrum Relocation Fund.....	Volume 1 - 327
43	03	05	835060	Base Information Transpt Infrast (BITI) Wired.....	Volume 1 - 329
44	03	05	835080	AFNET.....	Volume 1 - 339
45	03	05	835110	Joint Communications Support Element (JCSE).....	Volume 1 - 353
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51	03	07	837240	CCTV/Audiovisual Equipment.....	Volume 1 - 395
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63	04	06	846070	DARP RC135.....	Volume 1 - 483
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66	04	06	846510	Special Update Program.....	Volume 1 - 507

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Air & Space Operations Center (AOC)	834530	41	03	04.....	Volume 1 - 321
Air Force Physical Security System	834130	31	03	04.....	Volume 1 - 243
Air Traffic Control & Landing Sys	833010	17	03	03.....	Volume 1 - 123
Base Comm Infrastructure	837300	52	03	07.....	Volume 1 - 397
Base Information Transpt Infrast (BITI) Wired	835060	43	03	05.....	Volume 1 - 329
Base Maintenance Support Vehicles	826990	11	02	06.....	Volume 1 - 69
Base Maintenance and Support Equipment	845990	61	04	05.....	Volume 1 - 477
Base Procured Equipment	845010	57	04	05.....	Volume 1 - 461
Battle Control System - Fixed	833030	19	03	03.....	Volume 1 - 139
Battlefield Airborne Control Node (BACN)	834050	29	03	04.....	Volume 1 - 235
C3 Countermeasures	834320	35	03	04.....	Volume 1 - 289
CCTV/Audiovisual Equipment	837240	51	03	07.....	Volume 1 - 395
Cap Vehicles	822910	3	02	02.....	Volume 1 - 15
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Combat Training Ranges	834190	32	03	04.....	Volume 1 - 263
Comm Elect Mods	838010	53	03	08.....	Volume 1 - 419
Comsec Equipment	831010	13	03	01.....	Volume 1 - 81
DARP RC135	846070	63	04	06.....	Volume 1 - 483
DCGS-AF	846080	64	04	06.....	Volume 1 - 489
Defense Enterprise Accounting & Mgt Sys	834470	38	03	04.....	Volume 1 - 307
Engineering and EOD Equipment	845100	58	04	05.....	Volume 1 - 465
Fire Fighting/Crash Rescue Vehicles	824010	8	02	04.....	Volume 1 - 49
Fuels Support Equipment	845550	60	04	05.....	Volume 1 - 473
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Intelligence Comm Equipment	832070	16	03	02.....	Volume 1 - 107
Intelligence Training Equipment	832060	15	03	02.....	Volume 1 - 103
International Intel Tech & Architectures	832050	14	03	02.....	Volume 1 - 97
Joint Communications Support Element (JCSE)	835110	45	03	05.....	Volume 1 - 353
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Maintenance Repair & Overhaul Initiative	834480	39	03	04.....	Volume 1 - 309

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Mechanized Material Handling Equip	843050	56	04	03.....	Volume 1 - 457
Medium Tactical Vehicle	822230	2	02	02.....	Volume 1 - 7
Minimum Essential Emergency Comm N	834210	33	03	04.....	Volume 1 - 277
Mission Planning Systems	833170	24	03	03.....	Volume 1 - 181
Mobility Command And Control	834070	30	03	04.....	Volume 1 - 239
Mobility Equipment	845420	59	04	05.....	Volume 1 - 469
National Airspace System	833020	18	03	03.....	Volume 1 - 135
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Power Conditioning Equipment	843040	55	04	03.....	Volume 1 - 453
Radio Equipment	837190	50	03	07.....	Volume 1 - 391
Runway Snow Remov And Cleaning Equ	826210	10	02	06.....	Volume 1 - 63
Security And Tactical Vehicles	823230	6	02	03.....	Volume 1 - 35
Spares and Repair Parts	861900	67	05	01.....	Volume 1 - 509
Special Purpose Vehicles	823990	7	02	03.....	Volume 1 - 39
Special Update Program	846510	66	04	06.....	Volume 1 - 507
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USSTRATCOM	835160	47	03	05.....	Volume 1 - 363
Weather Observation Forecast	833070	21	03	03.....	Volume 1 - 143
Wide Area Surveillance (WAS)	834240	34	03	04.....	Volume 1 - 281

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Air Force • Budget Estimates FY 2020 • Procurement
Exhibit P-1M, Procurement Programs - Modification Summary
(Listing by Model)

Lookup Matrix by Model

Model:	NWM		
Modification P-40a Aggregated Items Title:	WOF		
Item Number	Item Title	Applies to Multiple Models	
Uncategorized			
WOF2	Numerical Weather Modeling (NWM)	No	

Model:	CheyenneMountainComplex		
Modification P-40a Aggregated Items Title:	COCOM Mobile Command and Control Centers (MCCCs)		
Item Number	Item Title	Applies to Multiple Models	
Uncategorized			
003	Mobile Consolidated Command Center Upgrade Block 01	No	
002	Mobile Consolidated Command Center Modification	No	

Modification P-40a Aggregated Items Title:	NMC - TW/AA System		
Item Number	Item Title	Applies to Multiple Models	
Uncategorized			
001	Core C2 Enterprise Network Infrastructure and Mission Equipment	No	
P-3a Individual Modifications			
Modification Number	Modification Title	Applies to Multiple Models	
005	Mobile Consolidated Command Center Upgrade Block 03	No	

Model:	CheyenneMounatinComplex		
Modification P-40a Aggregated Items Title:	COCOM Mobile Command and Control Centers (MCCCs)		
Item Number	Item Title	Applies to Multiple Models	
Uncategorized			

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Air Force • Budget Estimates FY 2020 • Procurement
Exhibit P-1M, Procurement Programs - Modification Summary
(Listing by Model)

Model:	CheyenneMountainComplex	
Modification P-40a Aggregated Items Title:	COCOM Mobile Command and Control Centers (MCCCs)	
Item Number	Item Title	Applies to Multiple Models
004	Mobile Consolidated Command Center Upgrade Block 02	No

Model:	NORADCheyenneMountainComplex	
Modification P-40a Aggregated Items Title:	NMC - TW/AA System	
Item Number	Item Title	Applies to Multiple Models
Uncategorized		
NCMCB1	NORAD Cheyenne Mountain Complex Block 01	No
NCMCB2	NORAD Cheyenne Mountain Complex Block 02	No
NCMCB3	NORAD Cheyenne Mountain Complex Block 03	No

Model:	CAMIS	
P-3a Individual Modifications		
Modification Number	Modification Title	Applies to Multiple Models
1	Cadet Administration Management Information System	No

Model:	Bases	
Modification P-40a Aggregated Items Title:	Base Physical Security Systems	
Item Number	Item Title	Applies to Multiple Models
Uncategorized		
AFPSS4	Base Physical Security Systems	No
CENTCOM	C-sUAS CENTCOM JUON	No
CSUAS1	C-sUAS STRATCOM JEON	No

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Air Force • Budget Estimates FY 2020 • Procurement
Exhibit P-1M, Procurement Programs - Modification Summary
(Listing by Model)

Model:	Bases	
Modification P-40a Aggregated Items Title:	Base Physical Security Systems	
Item Number	Item Title	Applies to Multiple Models
EUJUON	C-sUAS EUCOM JUON	No
IBDSS-1	IBDSS-1	No
IBDSS-3	IBDSS-3	No
P-3a Individual Modifications		
Modification Number	Modification Title	Applies to Multiple Models
1	C-sUAS	No
2	IBDSS-2	No

Model:	CombatTrainingRange	
Modification P-40a Aggregated Items Title:	CEAR MODS	
Item Number	Item Title	Applies to Multiple Models
Uncategorized		
CTR02	CEAR UMTE Mod	No

Model:	JointThreatEmitter	
Modification P-40a Aggregated Items Title:	JTE	
Item Number	Item Title	Applies to Multiple Models
Uncategorized		
CTR01	Combat Training Ranges Joint Threat Emitter	No

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

Model:	UC2		
Modification P-40a Aggregated Items Title:	Air & Space Operations Center (AOC)		
Item Number	Item Title	Applies to Multiple Models	
Uncategorized			
TBMCS	UC2	No	

Model:	C2IMERA		
Modification P-40a Aggregated Items Title:	C2 Air Operations Suite - C2 Info Services		
Item Number	Item Title	Applies to Multiple Models	
Uncategorized			
1TBMC2	C2IMERA	No	

Model:	PersonnelRecoveryCommandandControl		
Modification P-40a Aggregated Items Title:	Personnel Recovery Command & Ctrl (PRC2)		
Item Number	Item Title	Applies to Multiple Models	
Uncategorized			
2TBMC2	PRC2	No	

Model:	BITI		
P-3a Individual Modifications			
Modification Number	Modification Title	Applies to Multiple Models	
1	BITI Mod/Recaps	No	
2	BITI Mod/Recaps BITI Modification 2	No	

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

Model:	ACD	
P-3a Individual Modifications		
Modification Number	Modification Title	Applies to Multiple Models
1	ACD WS 0208088F	No

Model:	AFINC-CSCS-WS	
P-3a Individual Modifications		
Modification Number	Modification Title	Applies to Multiple Models
1	AFINC/CSCS WS 0303089	No

Model:	JIE	
Modification P-40a Aggregated Items Title:	Joint Information Environment (JIE)	
Item Number	Item Title	Applies to Multiple Models
Uncategorized		
JIE-1	JIE-Mod	No

Model:	ANFMQ7	
Modification P-40a Aggregated Items Title:	Weather Service	
Item Number	Item Title	Applies to Multiple Models
Uncategorized		
08-001	AN/FMQ-7 Solar Optical Observing Network (SOON)	No

Model:	ANUMQ13	
Modification P-40a Aggregated Items Title:	Weather Service	
Item Number	Item Title	Applies to Multiple Models
Uncategorized		

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Air Force • Budget Estimates FY 2020 • Procurement
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Model:	ANUMQ13		
Modification P-40a Aggregated Items Title:	Weather Service		
Item Number	Item Title	Applies to Multiple Models	
09-001	AN/UMQ-13 MARK IV-B	No	

Model:	WSR-88D		
Modification P-40a Aggregated Items Title:	Weather Service		
Item Number	Item Title	Applies to Multiple Models	
Uncategorized			
14-001	Next Generation Radar (NEXRAD) WSR-88D IT Refresh	No	

Model:	ANFRR95		
Modification P-40a Aggregated Items Title:	Weather Service		
Item Number	Item Title	Applies to Multiple Models	
Uncategorized			
14-007	Radio Solar Telescope Network Service Life Extension Program (RSTN SLEP)	Yes	

Model:	AF24U1		
Modification P-40a Aggregated Items Title:	Weather Service		
Item Number	Item Title	Applies to Multiple Models	
Uncategorized			
14-007	Radio Solar Telescope Network Service Life Extension Program (RSTN SLEP)	Yes	

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Exhibit P-1M, Procurement Programs - Modification Summary
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Model:	JET		
Modification P-40a Aggregated Items Title:	Weather Service		
Item Number	Item Title	Applies to Multiple Models	
Uncategorized			
16-001	Joint Environmental Toolkit (JET) Refresh	No	

Model:	GRN-29		
Modification P-40a Aggregated Items Title:	Air Traffic Control, Approach, and Landing System (ATCALs)		
Item Number	Item Title	Applies to Multiple Models	
Uncategorized			
AN/GRN-29 Instrument Landing System	ATCALs AN/GRN-29 Instrument Landing System (PE 0305114F)	No	

Model:	TRN-48		
Modification P-40a Aggregated Items Title:	Air Traffic Control, Approach, and Landing System (ATCALs)		
Item Number	Item Title	Applies to Multiple Models	
Uncategorized			
ATCALs	Deployable TACAN Retrofit/Refurbishment	No	

Model:	ATCALs		
Modification P-40a Aggregated Items Title:	Air Traffic Control, Approach, and Landing System (ATCALs)		
Item Number	Item Title	Applies to Multiple Models	
Uncategorized			
P-3A Low Cost Mods	ATCALs Low Cost Mods (PE 0305114F)	No	

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

Model:	NASMod-1		
Modification P-40a Aggregated Items Title:	National Airspace System (NAS) Plan		
Item Number	Item Title	Applies to Multiple Models	
Uncategorized			
NAS Mod 1	NAS Gen4 MOD	No	

Model:	NAS		
Modification P-40a Aggregated Items Title:	National Airspace System (NAS) Plan		
Item Number	Item Title	Applies to Multiple Models	
Uncategorized			
NAS Mod 2	NAS Low Cost Mods	No	
NAS Mod 3	DASR Site Control Data Interface (SCDI)	No	

Model:	NA		
Modification P-40a Aggregated Items Title:	Ballistic Missile Early Warning System (BMEWS) 0305909F		
Item Number	Item Title	Applies to Multiple Models	
Uncategorized			
COBRA DANE Radar Mod	COBRA DANE Radar Mod	No	
Mod HEMP	Mod HEMP	No	
P-3A BMEWS Modification	BMEWS Modification	No	
Modification P-40a Aggregated Items Title:	SLBM Radar Warning System 0305912F		
Item Number	Item Title	Applies to Multiple Models	
Uncategorized			
P-3A PAVE PAWS Modifications	P-3A PAVE PAWS Modification (formerly PAVE PAWS Front End)	No	

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

Model:	NA	
Modification P-40a Aggregated Items Title:	SLBM Radar Warning System 0305912F	
Item Number	Item Title	Applies to Multiple Models
PAVE PAWS Block 00 Update	BPP Block 00 SAPS ES	No
Modification P-40a Aggregated Items Title:	Ballistic Missile Early Warning System (BMEWS)	
Item Number	Item Title	Applies to Multiple Models
Uncategorized		
BMEWS	BMEWS DP SP	No
BMEWS2	BMEWS Block 02	No
Modification P-40a Aggregated Items Title:	Submarine-Launched Ballistic Missile (SLBM) Radar Warning System	
Item Number	Item Title	Applies to Multiple Models
Uncategorized		
PARCSB0	PARCS Block 00	No
PARCSB1	PARCS Block 01	No
PPB02	Pave Paws Block 02	No

Model:	Raytheon	
Modification P-40a Aggregated Items Title:	Ballistic Missile Early Warning System (BMEWS) 0305909F	
Item Number	Item Title	Applies to Multiple Models
Uncategorized		
P-3A BMEWS DP/ SP Suite Replacement	BMEWS DP/SP Suite Replacement	No

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

Model:	Exelis		
Modification P-40a Aggregated Items Title:	SLBM Radar Warning System 0305912F		
Item Number	Item Title	Applies to Multiple Models	
Uncategorized			
P-3A PARCS Modifications	P-3A PARCS Modification (formerly PARCS PARSS)	No	
PARCS Block 00 Update	PARCS Block 00 Update	No	

Model:	SEWS		
Modification P-40a Aggregated Items Title:	Shared Early Warning (SEW)		
Item Number	Item Title	Applies to Multiple Models	
Uncategorized			
SEWS1	Shared Early Warning System (SEWS) Low Cost Mods	No	

Model:	RC-135		
P-3a Individual Modifications			
Modification Number	Modification Title	Applies to Multiple Models	
1	DARP Modification	No	

Model:	0305208F		
Modification P-40a Aggregated Items Title:	Distributed Common Ground/Surface Systems		
Item Number	Item Title	Applies to Multiple Models	
Uncategorized			
DCGS13	NASIC	No	
DCGS5	Sensor Integration	No	
DCGS8	DCGS Reference Imagery Transition (DRT)	No	

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

Model: 0305208F		
P-3a Individual Modifications		
Modification Number	Modification Title	Applies to Multiple Models
2	Network Infrastructure Transformation	No
3	Multi-Intelligence (Multi-INT)	No
4	Signals Intelligence (SIGINT)	No

Model: DCGS		
P-3a Individual Modifications		
Modification Number	Modification Title	Applies to Multiple Models
1	GEOINT Transformation (GEOINT)	No

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

Funding (\$ M)

Modification P-40a Item Title P-3a Modification Title	PYS	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Exhibit P-40a										
Numerical Weather Modeling (NWM)	0.000	18.342	9.022	3.128	-	3.128	3.921	1.146	2.264	0.537
Mobile Consolidated Command Center Upgrade Block 01	-	7.845	0.440	-	-	-	-	-	-	-
Mobile Consolidated Command Center Upgrade Block 02	-	-	9.624	0.200	-	0.200	-	-	-	-
Mobile Consolidated Command Center Modification	-	-	-	-	-	-	8.013	8.358	8.508	8.661
Core C2 Enterprise Network Infrastructure and Mission Equipment	-	-	-	-	-	-	1.911	2.152	2.191	2.231
NORAD Cheyenne Mountain Complex Block 01	-	2.019	0.000	-	-	-	-	-	-	-
NORAD Cheyenne Mountain Complex Block 02	-	-	1.939	0.000	-	0.000	-	-	-	-
NORAD Cheyenne Mountain Complex Block 03	-	-	0.000	2.079	-	2.079	0.205	-	-	-
Base Physical Security Systems	113.009	1.206	1.927	0.525	-	0.525	-	-	-	-
C-sUAS CENTCOM JUON	135.444	21.700	0.000	-	-	-	-	-	-	-
C-sUAS STRATCOM JEON	81.035	114.883	0.000	-	-	-	-	-	-	-
C-sUAS EUCOM JUON	61.260	0.000	-	-	-	-	-	-	-	-
IBDSS-1	42.920	36.119	33.364	2.036	-	2.036	-	-	-	-
IBDSS-3	-	-	-	-	-	-	-	-	46.696	52.592
CEAR UMTE Mod	-	0.300	9.425	1.000	-	1.000	-	-	-	-
Combat Training Ranges Joint Threat Emitter	5.381	3.650	1.707	1.735	-	1.735	0.000	-	-	-
UC2	0.000	3.384	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
C2IMERA	0.000	0.000	0.967	0.500	0.000	0.500	0.000	0.000	0.000	0.000
PRC2	0.000	1.286	1.301	0.323	0.000	0.323	0.347	0.372	0.396	0.421
JIE-Mod	-	0.000	0.000	0.000	0.000	0.000	9.420	9.588	9.759	9.934

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

Modification P-40a Item Title P-3a Modification Title	PYS	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
AN/FMQ-7 Solar Optical Observing Network (SOON)	1.000	-	-	-	-	-	-	-	-	-
AN/UMQ-13 MARK IV-B	5.500	1.500	0.000	0.000	-	0.000	0.000	0.000	-	-
Next Generation Radar (NEXRAD) WSR-88D IT Refresh	5.768	5.800	0.000	0.000	-	0.000	0.000	0.000	-	-
Radio Solar Telescope Network Service Life Extension Program (RSTN SLEP)	3.100	0.800	-	-	-	-	-	-	-	-
Joint Environmental Toolkit (JET) Refresh	1.464	1.055	0.000	0.000	-	0.000	0.000	0.000	-	-
ATCAL5 AN/GRN-29 Instrument Landing System (PE 0305114F)	43.588	1.006	0.000	-	-	-	-	-	-	-
Deployable TACAN Retrofit/Refurbishment	3.800	-	-	-	-	-	-	-	-	-
ATCAL5 Low Cost Mods (PE 0305114F)	4.037	1.640	1.850	1.858	-	1.858	1.884	1.912	1.947	1.983
NAS Gen4 MOD	1.519	10.203	8.804	-	-	-	-	-	-	-
NAS Low Cost Mods	-	-	-	1.854	-	1.854	1.895	1.872	1.905	1.940
DASR Site Control Data Interface (SCDI)	-	-	-	3.840	-	3.840	1.779	0.605	0.616	0.627
COBRA DANE Radar Mod	0.150	-	-	-	-	-	-	-	-	-
Mod HEMP	49.000	-	-	-	-	-	-	-	-	-
BMEWS DP/SP Suite Replacement	58.892	-	0.000	-	-	-	-	-	-	-
BMEWS Modification	3.665	-	-	-	-	-	-	-	-	-
P-3A PARCS Modification (formerly PARCS PARSS)	0.750	-	-	-	-	-	-	-	-	-
P-3A PAVE PAWS Modification (formerly PAVE PAWS Front End)	1.553	-	-	-	-	-	-	-	-	-
PARCS Block 00 Update	3.240	-	-	-	-	-	-	-	-	-
BPP Block 00 SAPS ES	4.437	-	-	-	-	-	-	-	-	-
Shared Early Warning System (SEWS) Low Cost Mods	0.623	0.392	-	-	-	-	-	-	-	-
BMEWS DP SP	-	0.500	-	-	-	-	-	-	-	-

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Air Force • Budget Estimates FY 2020 • Procurement
 Exhibit P-1M, Procurement Programs - Modification Summary
 (Funding for Modifications)

Modification P-40a Item Title P-3a Modification Title	PYS	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
BMEWS Block 02	-	12.017	-	0.000	-	0.000	0.000	0.000	0.000	-
PARCS Block 00	-	9.104	-	-	-	-	-	-	-	-
PARCS Block 01	-	0.500	-	-	-	-	-	-	-	-
Pave Paws Block 02	-	2.731	0.000	0.000	-	0.000	0.000	0.000	0.000	-
NASIC	0.000	1.800	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-
Sensor Integration	-	17.687	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
DCGS Reference Imagery Transition (DRT)	-	0.146	7.156	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Exhibit P-3a										
Mobile Consolidated Command Center Upgrade Block 03	0.000	0.000	0.000	7.866	0.000	7.866	0.200	0.000	0.000	0.000
Cadet Administration Management Information System	3.300	8.581	0.000	0.400	0.000	0.400	0.000	0.000	0.000	-
C-sUAS	0.000	112.500	0.000	98.000	0.000	98.000	42.000	0.000	0.000	0.000
IBDSS-2	-	-	-	73.123	0.000	73.123	49.877	50.760	4.966	0.000
BITI Mod/Recaps	-	15.228	17.271	69.530	0.000	69.530	33.173	109.268	0.000	0.000
BITI Mod/Recaps BITI Modification 2	-	-	-	-	-	-	-	-	52.010	112.047
ACD WS 0208088F	-	30.914	30.044	16.883	0.000	16.883	23.895	33.325	33.917	34.528
AFINC/CSCS WS 0303089	-	143.863	42.552	125.217	0.000	125.217	104.475	81.000	87.445	83.889
DARP Modification	49.260	26.685	26.262	26.716	0.000	26.716	27.204	27.685	28.178	28.685
GEOINT Transformation (GEOINT)	-	26.517	64.187	36.853	0.000	36.853	43.832	58.358	59.138	63.237
Network Infrastructure Transformation	-	133.284	192.980	29.842	0.000	29.842	16.944	44.934	26.974	43.065
Multi-Intelligence (Multi-INT)	-	36.163	46.565	12.377	0.000	12.377	30.958	21.713	22.413	23.213
Signals Intelligence (SIGINT)	-	27.544	44.029	15.065	0.000	15.065	9.152	8.202	27.052	8.502
Totals (Total Obligation Authority)										

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Air Force • Budget Estimates FY 2020 • Procurement
Exhibit P-1M, Procurement Programs - Modification Summary
(Funding for Modifications)

Modification P-40a Item Title P-3a Modification Title	PYS	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Total Obligation Authority	683.695	838.894	551.416	530.950	0.000	530.950	411.085	461.250	416.375	476.092

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ACRONYMS

GENERAL ACRONYMS

A&AS	- Advisory & Assistance Services
ABIDES	- Automated Budget Interactive Data Environment System
ACAT	- Acquisition Category
ACTD	- Advanced Concept Technology Demonstration
AGM	- Air-to-Ground Missile
AIM	- Air Intercept Missile
AIS	- Avionics Intermediate Shop
ACMI	- Aircraft Combat Maneuvering Instrumentation
AMRAAM	- Advanced Medium-Range Air-to-Air Missile
APPN	- Appropriation
ATD	- Advanced Technology Development
BA	- Budget Activity
BLSS	- Base Level Self-Sufficiency Spares
BY	- Budget Year
C3	- Command, Control, and Communication System
CFE	- Contractor Furnished Equipment
CONOPS	- Concept of Operation
CONUS	- Continental United States
CPMS	- Comprehensive Power Management System
CPT	- Cockpit Procedures Trainer
CRA	- Continuing Resolution Authority
CTS	- Countermeasures Test Set
CY	- Current Year
ECCM	- Electronic Counter Counter-Measures
ECM	- Electronic Counter Measures
ECO	- Engineering Change Orders
EOQ	- Economic Order Quantity
ECP	- Engineering Change Proposal
EPA	- Economic Price Adjustment
EW	- Electronic Warfare
EWAISP	- Electronic Warfare Avionics Integration Support Facility
FLIR	- Forward Looking Infra Red

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FOT&E	- Follow-on Test and Evaluation
FOC	- Fully Operational Capability
FLTS	- Flight Line Test Set
FPIF	- Fixed Price Incentive Firm
FPIS	- Fixed Price Incentive Fee, Successive Targets
FY	- Fiscal Year
GANS	- Global Access Navigation & Safety
GATM	- Global Air Traffic Management
GFE	- Government Furnished Equipment
GFP	- Government Furnished Property
GPS	- Global Positioning System
GSE	- Ground Support Equipment
ICS	- Interim Contractor Support
IOC	- Initial Operating Capability
IPE	- Increased Performance Engine
JPALS	- Joint Precision Approach and Landing System
MAIS	- Major Automated Information System Program
MDAP	- Major Defense Acquisition Program
METS	- Mobile Electronic Test Stations
MYP	- Multiyear Procurement
MSIP	- Multi-Stage Improvement Program
NAVWAR	- Navigation Warfare
NMC Rate	- Not Mission Capable Rate
OPF	- Operational Flight Program
OT&E	- Operational Test and Evaluation
OWRM	- Other War Reserve Material
PAGEL	- Priced Aerospace Ground Equipment List
PB	- President's Budget
PGSE	- Peculiar Ground Support Equipment
PMA	- Program Management Administration
PMC	- Procurement Method Code
PNO	- Acquisition Program Number (MDAP Codes)
PR	- Purchase Request
PRCP	- Program Resource Collection Process
PTT	- Part Task Trainer
PY	- Prior Year

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R&M	- Reliability and Maintainability
RAA	- Required Asset Availability
RDT&E	- Research, Development, Test and Evaluation
RWR	- Radar Warning Receiver
ROM	- Rough Order of Magnitude
SS	- Sole Source
SOF	- Special Operation Force
TAF	- Tactical Air Force
TCAS	- Traffic Collision Alert and Avoidance System
TEWS	- Tactical Electronic Warfare System
TISS	- TEWS Intermediate Support System
TOA	- Total Obligation Authority
WCF	- Working Capital Fund
WRM	- War Reserve Material
WST	- Weapon System Trainer
UAV	- Unmanned Aerial Vehicle
XML	- Extensible Markup Language

BASE / ORGANIZATIONAL ACRONYMS

ACC	- Air Combat Command
AETC	- Air Education & Training Command
AFCAO	- Air Force Computer Acquisition Office
AFCESA	- Air Force Civil Engineering Support Agency
AFCIC	- AF Communications & Information Center
AFCSC	- Air Force Cryptologic Service Center
AFESC	- Air Force Engineering Services Center
AFGWC	- Air Force Global Weather Central
AFIT	- Air Force Institute of Technology
AFLCMC	- Air Force Life Cycle Management Center
AFMC	- Air Force Materiel Command
AFMETCAL	- Air Force Metrology and Calibration Office
AFMLO	- Air Force Medical Logistics Office
AFOSI	- Air Force Office of Special Investigation
AFOTEC	- Air Force Operational Test & Evaluation Center
AFPC	- Air Force Personnel Center

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AFPSL	- AF Primary Standards Lab
AFR	- Air Force Reserve
AFSOC	- AF Special Operations Command
AFSPC	- Air Force Space Command
AIA	- Air Intelligence Agency
ALC	- Air Logistics Center
AMC	- Air Mobility Command
ANG	- Air National Guard
ASC	- Aeronautical Systems Center
AETC	- Air Education Training Command
AU	- Air University
AWS	- Air Weather Service
CIA	- Central Intelligence Agency
DGSC	- Defense General Support Center
DLA	- Defense Logistics Center
DOE	- Department of Energy
DPSC	- Defense Personnel Support Center
DSCC	- Defense Supply Center, Columbus
DTIC	- Defense Technical Information Center
ER	- Eastern Range
ESC	- Electronic Systems Center
FAA	- Federal Aviation Agency
FBI	- Federal Bureau of Investigation
GSA	- General Services Administration
JCS	- Joint Chiefs of Staff
NATO	- North Atlantic Treaty Organization
OSD	- Office of the Secretary of Defense
PACAF	- Pacific Air Forces
USAF	- United States Air Force
USAFA	- United States Air Force Academy
USAFE	- United States Air Force Europe
USCENTCOM	- United States Central Command
USEUCOM	- United States European Command
USMC	- United States Marine Corps
USSTRATCOM	- United States Strategic Command
WP AFB	- Wright-Patterson AFB, OH

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CONTRACT METHOD / TYPE ACRONYMS

C	- Competitive
BA	- Basic Agreement
BOA	- Basic Ordering Agreement
BPA	- Blanket Purchasing Agreement
CS	- Cost Sharing
IDDQ	- Indefinite Delivery, Definite Quantity
IDIQ	- Indefinite Delivery, Indefinite Quantity
IDRT	- Indefinite Delivery, Requirements
Letter	- Letter
LH	- Labor-hour
MIPR	- Military Interdepartmental Purchase Request
MIPR-C	- Military Interdepartmental Purchase Request - Competitive
MIPR-OPT	- Military Interdepartmental Purchase Request - Option
MIPR-OTH	- Military Interdepartmental Purchase Request - Other
MIPR-SS	- Military Interdepartmental Purchase Request - Sole Source
OPT	- Option
OTH	- Other
PO	- Project Order
REQN	- Requisition
SS	- Sole Source
T&M	- Time and Materials
UCA	- Undefined Contract Action
WP	- Work Project

CONTRACTED BY ACRONYMS

11 WING	- 11th Support Wing, Washington, DC
ACC	- Air Combat Command, Langley AFB, VA
AEDC	- Arnold Engineering Development Center, Arnold AFB, TN
AAC	- Air Armament Center, Eglin AFB, FL
AEDC	- Arnold Engineering Development Center, Arnold AFB, TN
AETC	- Air Education and Training Command, Randolph AFB, TX
AFCIC	- Air Force Communications and Information Center, Washington, DC
AFCESA	- Air Force Civil Engineering Support Agency, Tyndall AFB, FL
AFFTC	- Air Force Flight Test Center, Edwards AFB, CA

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AFLCMC	- Air Force Life Cycle Management Center, Wright-Patterson AFB, OH
AFMC	- Air Force Materiel Command, Wright-Patterson AFB, OH
AFMETCAL	- Air Force Metrology and Calibration Office, Heath, Ohio
AFMLO	- Air Force Medical Logistics Office, Ft Detrick, MD
AIA	- Air Intelligence Agency, Kelly AFB, TX
AMC	- Air Mobility Command, Scott AFB, IL
ASC	- Aeronautical Systems Center, Wright-Patterson AFB, OH & Eglin AFB, FL
AFWA	- Air Force Weather Agency, Offutt AFB, NE
DGSC	- Defense General Support Center, Richmond, VA
DPSC	- Defense Personnel Support Center, Philadelphia, PA
ER	- Eastern Range, Patrick AFB, FL
ESC	- Electronic Systems Center, Hanscom AFB, MA
HSC	- Human Services Center, Brook AFB, TX
OC-ALC	- Oklahoma City Air Logistics Center, Tinker AFB, OK
OO-ALC	- Ogden Air Logistics Center, Hill AFB, UT
SMC	- Space & Missile Systems Center, Los Angeles AFB, CA
US STRATCOM	- US Strategic Command, Offutt AFB, NE
WACC	- Washington Area Contracting Center, Washington DC
WR	- Western Range, Vandenberg AFB, CA
WR-ALC	- Warner-Robins Air Logistics Center, Robins AFB, GA
AFSPC	- Air Force Space Command, Peterson AFB, CO
HQ ANG	- Headquarters, Air National Guard, Washington, DC
USAFE	- United States Air Force Europe, Ramstein AB, GE
USAFA	- United States Air Force Academy, Colorado Springs, CO

IDENTIFICATION CODES

Code "A"	- Line items of material which have been approved for Air Force service use.
Code "B"	- Line items of material that have not been approved for Service use
OBAN	- Operating Budget Account Number, 2-digit code for unit allocated funds

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

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 02: Vehicular Equipment / BSA 1: Passenger Carrying Vehicles	P-1 Line Item Number / Title: 821800 / Passenger Carrying Vehicles
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ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	-	19.506	16.629	15.238	1.276	16.514	20.008	31.900	22.784	26.264	-	153.605
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	19.506	16.629	15.238	1.276	16.514	20.008	31.900	22.784	26.264	-	153.605
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	19.506	16.629	15.238	1.276	16.514	20.008	31.900	22.784	26.264	-	153.605

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

Description:

FY18 funding totals include \$3.855M appropriated for Overseas Contingency Operations.

FY19 funding totals include \$9.680M appropriated for Overseas Contingency Operations.

Passenger Carrying Vehicles includes the procurement of sedans, station wagons, law enforcement sedans, ambulances and buses. These vehicles are general in nature, but they fulfill unique and distinct needs commensurate with their design.

Sedans are available in compact, mid-size, and large, and are used to support a variety of functions and missions at all levels of the Air Force. A portion of these sedans is dedicated for use by the Office of Special Investigations (OSI) and a portion is procured as chase cars used to support U-2 aircraft operations.

Station wagons are mid-sized vehicles which are primarily used to transport personnel and light cargo. They are mostly used in overseas locations and some high security areas located near missile installations. They are also used in the maintenance and flying operation areas to support aircraft sortie generation.

Law Enforcement Sedans (LE Sedans) come equipped with a heavy-duty component package for law enforcement and security missions. Security forces personnel use this type of vehicle for emergency response, traffic control, patrol duties, and base security operations.

Ambulances include both bus ambulances and modular ambulances that are used for medical evacuation operations. The bus ambulance is a 44 passenger bus converted to accommodate massive patient transport for medical emergency situations and humanitarian/disaster relief operations. The modular models are standard commercial ambulances that are available in 4x2 and 4x4 configurations. They are used for the movement of patients under field conditions, aircraft crash rescue operations, and routine transportation of patients to and from medical facilities.

Buses include a variety of commercial vehicles that support a broad range of mass transit requirements. Bus sizes range from the 16 passenger shuttle bus to the 52 passenger bus. These vehicles support Air Education and Training Command (AETC) training units, Air Force band organizations, protocol offices, and several other missions.

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

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 02: Vehicular Equipment / BSA 1: Passenger Carrying Vehicles	P-1 Line Item Number / Title: 821800 / Passenger Carrying Vehicles
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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

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.

Funding for this exhibit contained in PEs: 0202834F, 0207142F, 0207597F, 0305202F, 0507831F, 0502831F, 0702831F,0804741F

As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
AF	Quantity	224	169	188	9	197	-	-	-	-
	Total Obligation Authority	19.212	16.345	14.977	1.276	16.253	-	-	-	-
AFNG	Quantity	5	2	2	0	2	-	-	-	-
	Total Obligation Authority	0.188	0.178	0.203	0.000	0.203	-	-	-	-
AFR	Quantity	4	1	2	0	2	-	-	-	-
	Total Obligation Authority	0.106	0.106	0.058	0.000	0.058	-	-	-	-
Total:	Quantity	233	172	192	9	201	-	-	-	-
Secondary Distribution	Total Obligation Authority	19.506	16.629	15.238	1.276	16.514	-	-	-	-

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

Appropriation / Budget Activity / Budget Sub Activity:
3080F: Other Procurement, Air Force / BA 02: Vehicular Equipment / BSA 1: Passenger Carrying Vehicles

P-1 Line Item Number / Title:
821800 / Passenger Carrying Vehicles

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-40a	Passenger Carrying Vehicles				- / -	- / 19.506	- / 16.629	- / 15.238	- / 1.276	- / 16.514
P-40	Total Gross/Weapon System Cost				- / -	- / 19.506	- / 16.629	- / 15.238	- / 1.276	- / 16.514

*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. Title represents the P-40a Title when only the P-40a Summary/Total is shown.

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

Justification:

FY20 procurement dollars in the amount of \$16.514M will procure, but not be limited to, 201 vehicles in support of installation and unit mission requirements for Air Force personnel.

FY20 OCO dollars in the amount of \$1.276M will procure, but not be limited to, 9 vehicles in support of installation and unit mission requirements for Air Force personnel.

Quantities are based on current requirements provided by the 441 Vehicle Support Chain Operations Squadron (VSCOS) IAW the process outlined in AFI 24-302, Vehicle Management. The requirements are generated from the priority buy model that is used to support the Planning, Programming, Budgeting and Execution (PPBE) process. The model calculates vehicle requirements by fund year by BPAC using end of life projections based on depreciation and service life of the vehicle, cumulative sustainment cost and mission priority.

Quantities reflected on the PDOCs show current requirements for each year supporting Active Duty, Air Force Reserve Center (AFRC), Air National Guard (ANG), Rapid Airfield Damage Repair (RADR), European Deterrence Initiative (EDI), Set the Theater Initiatives for PACOM, and other initiatives as they arise.

As the model applies the life expectancy/sustainment cost/mission priority logic in generating requirements, there can be gaps in individual vehicle type (NSN) requirements from year-to-year.

Unit Cost is subject to change from year-to-year based on buy quantities, CONUS/OCONUS locations, inflation and additional requirements (options required by users). Examples of options include, but are not limited to, specialized trailer towing packages, export (non-Ultra Low Sulfur Diesel) engines, and mission specific specialized attachments for construction vehicles. Unit cost is also subject to change based on fluctuations in contract pricing.

UNCLASSIFIED

Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force																Date: March 2019				
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 02 / 1						P-1 Line Item Number / Title: 821800 / Passenger Carrying Vehicles						Aggregated Items Title: Passenger Carrying Vehicles								
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Uncategorized																				
BUS, 23 PAX SURREY (2310-01-382-3919)	A		-	-	-	0.109	8	0.869	0.109	7	0.761	0.081	3	0.243	-	-	-	0.081	3	0.243
<i>Secondary Distribution</i>																				
AF			-	-	-		8	0.869		7	0.761		3	0.243		-	-		3	0.243
PMA OTHER GOVERNMENT COSTS	A		-	-	-	-	-	0.009	-	-	0.006	-	-	0.015	-	-	-	-	-	0.015
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	0.009	-	-	0.006	-	-	0.015	-	-	-	-	-	0.015
SDN MIDSIZE 5PAX CL III (2310-01-074-7736)	A		-	-	-	-	-	-	0.106	1	0.106	-	-	-	-	-	-	-	-	-
<i>Secondary Distribution</i>																				
AFR			-	-	-	-	-	-		1	0.106		-	-		-	-		-	-
SUB COMPACT SEDAN (2310-01-434-2235)	A		-	-	-	0.026	35	0.918	0.026	19	0.497	0.019	33	0.630	-	-	-	0.019	33	0.630
<i>Secondary Distribution</i>																				
AF			-	-	-		35	0.918		19	0.497		32	0.611		-	-		32	0.611
AFR			-	-	-		-	-		-	-		1	0.019		-	-		1	0.019
HYBRID SEDAN (2310-01-575-5380)	A		-	-	-	0.027	24	0.656	0.028	15	0.413	0.020	18	0.360	-	-	-	0.020	18	0.360
<i>Secondary Distribution</i>																				
AF			-	-	-		22	0.601		15	0.413		18	0.360		-	-		18	0.360
AFR			-	-	-		2	0.055		-	-		-	-		-	-		-	-
L.E. SEDAN, UNITED STATES (2310-01-018-6668)	A		-	-	-	0.038	31	1.163	0.037	23	0.850	0.039	15	0.586	-	-	-	0.039	15	0.586
<i>Secondary Distribution</i>																				
AF			-	-	-		26	0.975		23	0.850		14	0.547		-	-		14	0.547
AFNG			-	-	-		5	0.188		-	-		-	-		-	-		-	-
AFR			-	-	-		-	-		-	-		1	0.039		-	-		1	0.039
HI PERFORMANCE SEDAN (2310-01-571-3859)	A		-	-	-	-	-	-	0.036	6	0.217	0.025	7	0.178	0.025	1	0.025	0.025	8	0.203
<i>Secondary Distribution</i>																				
AF			-	-	-		-	-		6	0.217		7	0.178		1	0.025		8	0.203
SEDAN, CMPT (2310-01-096-3343)	A		-	-	-	0.024	24	0.578	0.024	17	0.408	0.026	41	1.048	-	-	-	0.026	41	1.048
<i>Secondary Distribution</i>																				

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

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 02 / 1 **P-1 Line Item Number / Title:** 821800 / Passenger Carrying Vehicles **Aggregated Items Title:** Passenger Carrying Vehicles

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
AF			-	-	-	24	0.578		17	0.408		41	1.048		-	-		41	1.048	
STN WGN CMPT CLII (2310-01-055-4948)	A		-	-	0.025	7	0.177	-	-	-	-	-	-	-	-	-	-	-	-	
<i>Secondary Distribution</i>																				
AF			-	-	-	5	0.126	-	-	-	-	-	-	-	-	-	-	-	-	
AFR			-	-	-	2	0.051	-	-	-	-	-	-	-	-	-	-	-	-	
AMB, 44 PAX CONV US (2310-00-289-9082)	A		-	-	0.139	9	1.251	0.139	5	0.695	0.136	19	2.591	-	-	-	0.136	19	2.591	
<i>Secondary Distribution</i>																				
AF			-	-	-	9	1.251		5	0.695		19	2.591		-	-		19	2.591	
AMB, MOD 4X4 US (2310-01-125-9516)	A		-	-	0.194	19	3.679	0.195	11	2.145	0.179	18	3.218	0.179	1	0.179	0.179	19	3.397	
<i>Secondary Distribution</i>																				
AF			-	-	-	19	3.679		11	2.145		18	3.218		1	0.179		19	3.397	
BUS, 16 PAX US (2310-01-186-2924)	A		-	-	0.073	13	0.943	0.073	6	0.438	0.077	4	0.309	-	-	-	0.077	4	0.309	
<i>Secondary Distribution</i>																				
AF			-	-	-	13	0.943		5	0.365		3	0.232		-	-		3	0.232	
AFNG			-	-	-	-	-		1	0.073		1	0.077		-	-		1	0.077	
BUS INTRACITY 4X2 41-51PAX (2310-01-372-1822)	A		-	-	-	-	-	-	-	-	0.120	3	0.360	0.120	2	0.240	0.120	5	0.600	
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-		-	-		3	0.360		2	0.240		5	0.600	
BUS, 28 PAX US (2310-01-357-8985)	A		-	-	0.136	28	3.821	0.105	25	2.625	0.109	12	1.303	-	-	-	0.109	12	1.303	
<i>Secondary Distribution</i>																				
AF			-	-	-	28	3.821		24	2.520		12	1.303		-	-		12	1.303	
AFNG			-	-	-	-	-		1	0.105		-	-		-	-		-	-	
BUS, 41 PAX US (2310-00-877-5647)	A		-	-	0.506	3	1.518	0.506	4	2.024	0.576	3	1.728	-	-	-	0.576	3	1.728	
<i>Secondary Distribution</i>																				
AF			-	-	-	3	1.518		4	2.024		3	1.728		-	-		3	1.728	
BUS, 44 PAX US (2310-01-357-8986)	A		-	-	0.121	30	3.637	0.121	22	2.663	0.126	8	1.009	0.126	2	0.251	0.126	10	1.260	
<i>Secondary Distribution</i>																				
AF			-	-	-	30	3.637		22	2.663		7	0.883		2	0.251		9	1.134	
AFNG			-	-	-	-	-		-	-		1	0.126		-	-		1	0.126	
ARMORED SEDAN (2310-01-135-0997)	A		-	-	-	-	-	0.275	9	2.475	0.211	7	1.475	0.211	1	0.211	0.211	8	1.686	

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

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 02 / 1 **P-1 Line Item Number / Title:** 821800 / Passenger Carrying Vehicles **Aggregated Items Title:** Passenger Carrying Vehicles

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	9	2.475		7	1.475		1	0.211		8	1.686		
AMBULANCE MODULAR 4X2 (2310-01-129-4702)	A		-	-	-	0.144	2	0.287	0.153	2	0.306	0.185	1	0.185	0.185	2	0.370	0.185	3	0.555
<i>Secondary Distribution</i>																				
AF			-	-	-		2	0.287		2	0.306		1	0.185		2	0.370		3	0.555
Subtotal: Uncategorized			-	-	-	-	-	19.506	-	-	16.629	-	-	15.238	-	-	1.276	-	-	16.514
Total			-	-	-	-	-	19.506	-	-	16.629	-	-	15.238	-	-	1.276	-	-	16.514

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

Remarks:
Based on AF Mission changes and/or AF Mission priorities, NSNs and/or quantities may change during year of execution.

UNIT COSTS FOR FY20 ARE SUBJECT TO CHANGE.

PMA OTHER GOVERNMENT COSTS: This line supports the operation of the program office in its management and oversight role via travel, procurement of supplies and studies.

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 02: Vehicular Equipment / BSA 2: Cargo and Utility Vehicles **P-1 Line Item Number / Title:** 822230 / Medium Tactical Vehicle

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>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	-	40.111	45.682	34.616	0.000	34.616	33.716	30.604	6.124	45.088	-	235.941
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	40.111	45.682	34.616	0.000	34.616	33.716	30.604	6.124	45.088	-	235.941
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	40.111	45.682	34.616	0.000	34.616	33.716	30.604	6.124	45.088	-	235.941

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

Description:

FY19 funding totals include \$9.680M appropriated for Overseas Contingency Operations.

The Family of Medium Tactical Vehicles (FMTV) has the capability to operate in austere and adverse terrain. These important tactical assets are used by Combat Communication Units, Air Support Operation Squadrons (ASOS), Explosive Ordnance Disposal units (EOD), and other tactical direct mission support units throughout the Air Force. FMTVs are a class of M-Series Vehicles.

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.

Funding for the exhibit contained in PEs 0202834F, 0507831F, 0502831F, 0702831F, 0802834F.

As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
AF	Quantity	226	256	200	0	200	-	-	-	-
	Total Obligation Authority	37.383	42.940	31.851	0.000	31.851	-	-	-	-
AFNG	Quantity	8	20	11	0	11	-	-	-	-
	Total Obligation Authority	1.699	1.707	1.740	0.000	1.740	-	-	-	-
AFR	Quantity	8	7	6	0	6	-	-	-	-
	Total Obligation Authority	1.029	1.035	1.025	0.000	1.025	-	-	-	-
Total:	Quantity	242	283	217	0	217	-	-	-	-

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 02: Vehicular Equipment / BSA 2: Cargo and Utility Vehicles	P-1 Line Item Number / Title: 822230 / Medium Tactical Vehicle
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ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: N/A

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Secondary Distribution	Total Obligation Authority	40.111	45.682	34.616	0.000	34.616	-	-	-	-

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UNCLASSIFIED

Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 02: Vehicular Equipment / BSA 2: Cargo and Utility Vehicles **P-1 Line Item Number / Title:** 822230 / Medium Tactical Vehicle

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-40a	Medium Tactical Vehicle				- / -	- / 40.111	- / 45.682	- / 34.616	- / 0.000	- / 34.616
P-40	Total Gross/Weapon System Cost				- / -	- / 40.111	- / 45.682	- / 34.616	- / 0.000	- / 34.616

*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. Title represents the P-40a Title when only the P-40a Summary/Total is shown.

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

Justification:

FY20 procurement dollars in the amount of \$34.616M will procure, but not be limited to, 209 vehicles in support of installation and unit mission requirements for Air Force personnel.

Quantities are based on current requirements provided by the 441 Vehicle Support Chain Operations Squadron (VSCOS) IAW the process outlined in AFI 24-302, Vehicle Management. The requirements are generated from the priority buy model that is used to support the Planning, Programming, Budgeting and Execution (PPBE) process. The model calculates vehicle requirements by fund year by BPAC using end of life projections based on depreciation and service life of the vehicle, cumulative sustainment cost and mission priority.

Quantities reflected on the PDOCs show current requirements for each year supporting Active Duty, Air Force Reserve Center (AFRC), Air National Guard (ANG), Rapid Airfield Damage Repair (RADR), European Deterrence Initiative (EDI), Set the Theater Initiatives for PACOM, and other initiatives as they arise.

As the model applies the life expectancy/sustainment cost/mission priority logic in generating requirements, there can be gaps in individual vehicle type (NSN) requirements from year-to-year.

Unit Cost is subject to change from year-to-year based on buy quantities, CONUS/OCONUS locations, inflation and additional requirements (options required by users). Examples of options include, but are not limited to, specialized trailer towing packages, export (non-Ultra Low Sulfur Diesel) engines, and mission specific specialized attachments for construction vehicles. Unit cost is also subject to change based on fluctuations in contract pricing.

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force																Date: February 2019				
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 02 / 2						P-1 Line Item Number / Title: 822230 / Medium Tactical Vehicle						Aggregated Items Title: Medium Tactical Vehicle								
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Uncategorized																				
TRK, CGO, MTV, M1083A1P2, W/ WINCH (2320-01-549-8565) (1)	A		-	-	-	0.275	23	6.317	0.283	52	14.726	0.256	35	8.960	-	-	0.000	0.256	35	8.960
<i>Secondary Distribution</i>																				
AF			-	-	-		21	5.768		50	14.160		32	8.192		-	0.000		32	8.192
AFNG			-	-	-		2	0.549		2	0.566		2	0.512		-	-		2	0.512
AFR			-	-	-		-	-		-	-		1	0.256		-	-		1	0.256
M1088 5T SEMI TRAC W/WINCH (2320-01-552-7753)	A		-	-	-	-	-	-	0.180	2	0.360	0.280	2	0.560	-	-	-	0.280	2	0.560
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	-	-	-	-		2	0.560		-	-		2	0.560
AFNG			-	-	-	-	-	-	-	2	0.360		-	-		-	-		-	-
TRAILER, 5 TON M1095 (2330-01-449-1776)	A		-	-	-	-	-	-	0.050	2	0.100	0.048	9	0.432	-	-	-	0.048	9	0.432
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	-	-	-	-		8	0.384		-	-		8	0.384
AFNG			-	-	-	-	-	-	-	2	0.100		1	0.048		-	-		1	0.048
PMA OTHER GOVERNMENT COST	A		-	-	-	-	-	-	0.050	2	0.100	0.048	9	0.432	-	-	-	0.048	9	0.432
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	-	-	2	0.100		9	0.432		-	-		9	0.432
PMA CONTRACTOR SUPPORT	A		-	-	-	-	-	0.009	-	-	-	-	-	0.321	-	-	-	-	-	0.321
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	0.009	-	-	-	-	-	0.321		-	-		-	0.321
MRAP C4ISR FUNDS	A		-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TRK, CGO, LMTV, M1078A1P2, W/ OUT WINCH (2320-01-549-8577) (2)	A		-	-	-	0.175	24	4.201	0.180	70	12.631	-	-	-	-	-	-	-	-	-
<i>Secondary Distribution</i>																				
AF			-	-	-		22	3.851		70	12.631		-	-		-	-		-	-
AFNG			-	-	-		2	0.350		-	-		-	-		-	-		-	-

UNCLASSIFIED

Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force																Date: February 2019				
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 02 / 2						P-1 Line Item Number / Title: 822230 / Medium Tactical Vehicle						Aggregated Items Title: Medium Tactical Vehicle								
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
TRUCK, DUMP (2320-01-552-7787) (3)	A		-	-	-	0.451	16	7.210	0.462	4	1.849	0.299	13	3.887	-	-	-	0.299	13	3.887
<i>Secondary Distribution</i>																				
AF			-	-	-		16	7.210		4	1.849		13	3.887		-	-		13	3.887
TRUCK, TRACTOR, M1070 (2320-01-318-9902)	A		-	-	-	0.400	1	0.400	-	-	-	-	-	-	-	-	-	-	-	-
<i>Secondary Distribution</i>																				
AF			-	-	-		1	0.400		-	-		-	-		-	-		-	-
TRK, WRECKER, M1089A1P2 W/WINCH (2320-01-595-3994)	A		-	-	-	-	-	-	0.535	14	7.496	0.549	13	7.137	-	-	-	0.549	13	7.137
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	-		13	6.954		11	6.039		-	-		11	6.039
AFNG			-	-	-	-	-	-		-	-		1	0.549		-	-		1	0.549
AFR			-	-	-	-	-	-		1	0.542		1	0.549		-	-		1	0.549
TRK DUMP 10T (2320-01-354-4528)	A		-	-	-	0.681	8	5.445	-	-	-	-	-	-	-	-	-	-	-	-
<i>Secondary Distribution</i>																				
AF			-	-	-		7	4.764		-	-		-	-		-	-		-	-
AFNG			-	-	-		1	0.681		-	-		-	-		-	-		-	-
TRK, WRECKER, M1089A1P2 W/WINCH (2320-01-552-7762)	A		-	-	-	0.450	15	6.745	-	-	-	-	-	-	-	-	-	-	-	-
<i>Secondary Distribution</i>																				
AF			-	-	-		15	6.745		-	-		-	-		-	-		-	-
TRK, CGO, MTV, M1078A1P2, W/ WINCH (2320-01-549-8611)	A		-	-	-	0.175	17	2.982	0.180	7	1.260	0.212	37	7.844	-	-	-	0.212	37	7.844
<i>Secondary Distribution</i>																				
AF			-	-	-		12	2.105		2	0.360		35	7.420		-	-		35	7.420
AFNG			-	-	-		-	-		3	0.540		2	0.424		-	-		2	0.424
AFR			-	-	-		5	0.877		2	0.360		-	-		-	-		-	-
TLR TK WTR, M149A1 (2330-00-060-6511)	A		-	-	-	0.040	45	1.801	0.041	75	3.086	0.030	11	0.330	-	-	-	0.030	11	0.330
<i>Secondary Distribution</i>																				
AF			-	-	-		45	1.801		71	2.922		10	0.300		-	-		10	0.300

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 02 / 2 **P-1 Line Item Number / Title:** 822230 / Medium Tactical Vehicle **Aggregated Items Title:** Medium Tactical Vehicle

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total			
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	
AFNG				-	-		-	-		1	0.041		1	0.030		-	-		1	0.030	
AFR				-	-		-	-		3	0.123		-	-		-	-		-	-	
TLR, ISO CONTAINER M872 (2330-01-142-1385)	A		-	-	-	0.071	20	1.426	0.074	4	0.296	0.056	30	1.680		-	-		0.056	30	1.680
<i>Secondary Distribution</i>																					
AF				-	-		18	1.283		4	0.296		29	1.624		-	-		29	1.624	
AFR				-	-		2	0.143		-	-		1	0.056		-	-		1	0.056	
TLR, 5T CGO, M1061A1 (2330-01-452-3157) (4)	A		-	-	-	0.012	6	0.075	-	-	-	0.013	1	0.013		-	-		0.013	1	0.013
<i>Secondary Distribution</i>																					
AF				-	-		4	0.050		-	-		-	-		-	-		-	-	
AFNG				-	-		2	0.025		-	-		1	0.013		-	-		1	0.013	
TLR, 2.5T CHS, M200 (2330-01-449-1775)	A		-	-	-	0.009	17	0.150	0.010	13	0.130	0.039	14	0.546		-	-		0.039	14	0.546
<i>Secondary Distribution</i>																					
AF				-	-		16	0.141		2	0.020		10	0.390		-	-		10	0.390	
AFNG				-	-		-	-		10	0.100		2	0.078		-	-		2	0.078	
AFR				-	-		1	0.009		1	0.010		2	0.078		-	-		2	0.078	
7.5TON DOLLY SET (2330-01-661-5190) (5)	A		-	-	-	0.094	17	1.593	0.096	38	3.648	0.086	7	0.602		-	-		0.086	7	0.602
<i>Secondary Distribution</i>																					
AF				-	-		16	1.499		38	3.648		5	0.430		-	-		5	0.430	
AFNG				-	-		1	0.094		-	-		1	0.086		-	-		1	0.086	
AFR				-	-		-	-		-	-		1	0.086		-	-		1	0.086	
M871, TRLR ISO CONTAINER (2330-01-226-0701)	A		-	-	-	0.053	33	1.757	-	-	-	0.052	36	1.872		-	-		0.052	36	1.872
<i>Secondary Distribution</i>																					
AF				-	-		33	1.757		-	-		36	1.872		-	-		36	1.872	
Subtotal: Uncategorized			-	-	-	-	-	40.111	-	-	45.682	-	-	34.616	-	-	0.000	-	-	34.616	
Total			-	-	-	-	-	40.111	-	-	45.682	-	-	34.616	-	-	0.000	-	-	34.616	

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

Remarks:

Based on AF Mission changes and/or AF Mission priorities, NSNs and/or quantities may change during year of execution.

Unit costs and quantities for FY20 are subject to change.

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 02 / 2	P-1 Line Item Number / Title: 822230 / Medium Tactical Vehicle	Aggregated Items Title: Medium Tactical Vehicle

PMA OTHER CONTRACTOR SERVICES: This funding includes provisions for government contract oversight, technical expertise, and program office support associated with the 12 Ton Dollyset.

PMA OTHER GOVERNMENT COSTS: This line supports the operation of the program office in its management and oversight role via travel, procurement of supplies and studies.

Footnotes:

- (1) REPLACEMENT NSN PER TACOM FOR 2320-01-354-3386 (5TON CARGO TRK)
- (2) REPLACEMENT NSN PER TACOM FOR 2320-01-354-3385 (5TON CGO TRK)
- (3) REPLACEMENT NSN PER TACOM FOR 2320-01-354-4529 (10TON DUMP TRK)
- (4) REPLACEMENT NSN PER TACOM FOR 2330-00-210-8935 (M843 FLATBED TRL, 5TON)
- (5) REPLACEMENT NSN PER TACOM FOR 2330-01-378-9997 (DOLLYSET)

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 02: Vehicular Equipment / BSA 2: Cargo and Utility Vehicles **P-1 Line Item Number / Title:** 822910 / Cap Vehicles

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>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	-	1.700	1.700	1.040	-	1.040	1.060	1.079	1.098	1.118	-	8.795
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	1.700	1.700	1.040	-	1.040	1.060	1.079	1.098	1.118	-	8.795
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	1.700	1.700	1.040	-	1.040	1.060	1.079	1.098	1.118	-	8.795
<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 Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

The Civil Air Patrol (CAP) is a Congressionally chartered non-profit corporation that serves as the Auxiliary of the Air Force. CAP uses federally provided resources to provide assistance requested by the DoD, federal, state or local government authorities and non-governmental organizations (NGOs) to perform emergency or non-emergency public purpose missions and activities.

Pursuant to US Code (Title 10 & 36) the purpose of CAP Corporation is to encourage and aid citizens of the US in contributing their efforts, services, and resources in developing aviation and in maintaining air supremacy; and to encourage and develop, by example, the voluntary contribution of private citizens to the public welfare.

Vehicle procurements enable the Civil Air Patrol (CAP) to provide rapid deployment of emergency essential ground teams who are capable of providing critical communications and humanitarian support during national emergencies and disasters.

CAP's procurement processes/standards are described in Department of Defense Grant & Agreement Regulations.

Program element associated with this P-1 Line is: 0901223F

As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.

Justification:

FY20 funding procures, but is not limited to, vehicles and communications/information technology equipment in support of CAP Emergency Services, Cadet and Aerospace Education programs that encourage and develop the voluntary contribution of private citizens to the public welfare.

Vehicle type and quantities, or communications/information technology equipment, may change in execution year due to market availability, cost changes, mission requirements, additional funding, and needs of the organization. CAP generally receives a mark-up in execution year funds from Congress.

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 02: Vehicular Equipment / BSA 2: Cargo and Utility Vehicles		P-1 Line Item Number / Title: 822910 / Cap Vehicles
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		
<p>CAP provides critical communication and transportation for ground teams who support 90% of the Air Force's search and rescue (SAR) missions in accordance with the National SAR Plan and disaster relief activities. Vehicles also provide transportation for over 24,000 CAP cadets to support execution of the Aerospace Education and Cadet Program missions as directed by 36 U.S.C Section 403, 10 U.S.C. Section 9442.</p> <p>AF central procurement processes are not applicable.</p>		

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity:
3080F: Other Procurement, Air Force / BA 02: Vehicular Equipment / BSA 2: Cargo and Utility Vehicles

P-1 Line Item Number / Title:
822990 / Cargo and Utility Vehicles

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>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	-	31.770	62.376	23.133	9.702	32.835	48.782	52.051	63.269	34.779	-	325.862
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	31.770	62.376	23.133	9.702	32.835	48.782	52.051	63.269	34.779	-	325.862
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	31.770	62.376	23.133	9.702	32.835	48.782	52.051	63.269	34.779	-	325.862

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

Description:

FY18 funding totals include \$3.100M appropriated for Overseas Contingency Operations.

FY19 funding totals include \$19.680M appropriated for Overseas Contingency Operations.

This vehicle group consists of pickup trucks, trailers, semi-trailers, trucks, vans, utility trucks, maintenance and facility vehicles essential to base and flying operations. Assets are critical to the Air Force mission and are essential to flight line operations (aircraft maintenance), depot maintenance, component routing to depot back shops and airfield maintenance, and Air Base Civil Engineers performing base housing maintenance and repairs. These items are critical across the spectrum of functional users throughout the Air Force and provide multi-purpose capabilities. These vehicles also support mission needs for light to heavy cargo transport, as well as transportation for air/flight crew personnel. Cargo utility vehicles also provide heavy cargo movement for civil engineering and construction projects. Without the procurement of these replacement vehicles, the Air Force will not have the ability to support broad spectrum Air Force operations.

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

Funding for this exhibit contained in PEs: 0207142F, 0202834F,0207597F, 0208028F, 0305114F, 0401221F, 0507831F, 0502831F, 0702831F, 1203915F.

As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
AF	Quantity	599	1,528	407	207	614	-	-	-	-
	Total Obligation Authority	23.016	59.600	13.572	9.702	23.274	-	-	-	-
AFNG	Quantity	172	8	244	0	244	-	-	-	-

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 02: Vehicular Equipment / BSA 2: Cargo and Utility Vehicles	P-1 Line Item Number / Title: 822990 / Cargo and Utility Vehicles
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ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: N/A

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
	Total Obligation Authority	6.158	0.240	6.951	0.000	6.951	-	-	-	-
AFR	Quantity	43	75	88	0	88	-	-	-	-
	Total Obligation Authority	2.596	2.536	2.610	0.000	2.610	-	-	-	-
Total:	Quantity	814	1,611	739	207	946	-	-	-	-
Secondary Distribution	Total Obligation Authority	31.770	62.376	23.133	9.702	32.835	-	-	-	-

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 02: Vehicular Equipment / BSA 2: Cargo and Utility Vehicles **P-1 Line Item Number / Title:** 822990 / Cargo and Utility Vehicles

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-40a	Cargo and Utility Vehicles				- / -	- / 31.770	- / 62.376	- / 23.133	- / 9.702	- / 32.835
P-40	Total Gross/Weapon System Cost				- / -	- / 31.770	- / 62.376	- / 23.133	- / 9.702	- / 32.835

*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. Title represents the P-40a Title when only the P-40a Summary/Total is shown.

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

Justification:

FY20 procurement dollars in the amount of \$32.835M will procure, but not be limited to, 946 vehicles in support of installation and unit mission requirements for Air Force personnel.

FY20 OCO dollars in the amount of \$9.702M will procure, but not be limited to, 207 vehicles in support of installation and unit mission requirements for Air Force personnel.

Quantities are based on current requirements provided by the 441 Vehicle Support Chain Operations Squadron (VSCOS) IAW the process outlined in AFI 24-302, Vehicle Management. The requirements are generated from the priority buy model that is used to support the Planning, Programming, Budgeting and Execution (PPBE) process. The model calculates vehicle requirements by fund year by BPAC using end of life projections based on depreciation and service life of the vehicle, cumulative sustainment cost and mission priority.

Quantities reflected on the PDOCs show current requirements for each year supporting Active Duty, Air Force Reserve Center (AFRC), Air National Guard (ANG), Rapid Airfield Damage Repair (RADR), European Deterrence Initiative (EDI), Set the Theater Initiatives for PACOM, and other initiatives as they arise.

As the model applies the life expectancy/sustainment cost/mission priority logic in generating requirements, there can be gaps in individual vehicle type (NSN) requirements from year-to-year.

Unit Cost is subject to change from year-to-year based on buy quantities, CONUS/OCONUS locations, inflation and additional requirements (options required by users). Examples of options include, but are not limited to, specialized trailer towing packages, export (non-Ultra Low Sulfur Diesel) engines, and mission specific specialized attachments for construction vehicles. Unit cost is also subject to change based on fluctuations in contract pricing.

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 02 / 2 **P-1 Line Item Number / Title:** 822990 / Cargo and Utility Vehicles **Aggregated Items Title:** Cargo and Utility Vehicles

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Uncategorized (1)																				
TRK 1/2 Crew Cab 4x4 PU (2320-01-484-6745)	A		-	-	-	0.028	69	1.932	0.028	47	1.316	0.023	23	0.533	-	-	-	0.023	23	0.533
<i>Secondary Distribution</i>																				
AF				-	-		46	1.288		46	1.288		16	0.371		-	-		16	0.371
AFNG				-	-		23	0.644		-	-		5	0.116		-	-		5	0.116
AFR				-	-		-	-		1	0.028		2	0.046		-	-		2	0.046
TRK PU 4DR 4X4 F450 (2320-01-501-6635)	A		-	-	-	0.050	5	0.252	-	-	-	-	-	-	0.051	2	0.101	0.051	2	0.101
<i>Secondary Distribution</i>																				
AF				-	-		5	0.252		-	-		-	-		2	0.101		2	0.101
ARMORED 4X4 SUV (2320-01-537-7753)	A		-	-	-	-	-	-	0.187	12	2.239	-	-	-	-	-	-	-	-	-
<i>Secondary Distribution</i>																				
AF				-	-		-	-		12	2.239		-	-		-	-		-	-
TRK S&P 1000GVW 4X4 (2320-01-302-2698)	A		-	-	-	-	-	-	-	-	-	0.036	12	0.431	-	-	-	0.036	12	0.431
<i>Secondary Distribution</i>																				
AF				-	-		-	-		-	-		12	0.431		-	-		12	0.431
4X2 4DR SUV (2320-01-484-8859)	A		-	-	-	-	-	-	-	-	-	0.021	1	0.021	-	-	-	0.021	1	0.021
<i>Secondary Distribution</i>																				
AF				-	-		-	-		-	-		1	0.021		-	-		1	0.021
TRK CGO 4X4 (2320-00-801-7593)	A		-	-	-	-	-	-	-	-	-	0.099	1	0.099	-	-	-	0.099	1	0.099
<i>Secondary Distribution</i>																				
AF				-	-		-	-		-	-		1	0.099		-	-		1	0.099
TRK UTILITY 4X4 4DOOR (2320-01-338-6502)	A		-	-	-	-	-	-	0.029	16	0.471	0.045	4	0.180	-	-	-	0.045	4	0.180
<i>Secondary Distribution</i>																				
AF				-	-		-	-		16	0.471		4	0.180		-	-		4	0.180
TRK CGO CMPT 4X4 3500G (2320-01-087-8223)	A		-	-	-	-	-	-	0.029	18	0.517	0.030	10	0.300	0.030	1	0.030	0.030	11	0.330
<i>Secondary Distribution</i>																				
AF				-	-		-	-		18	0.517		10	0.300		1	0.030		11	0.330
PMA Other Government Costs	A		-	-	-	-	-	0.018	-	-	0.008	-	-	0.013	-	-	-	-	-	0.013

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force															Date: February 2019					
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 02 / 2					P-1 Line Item Number / Title: 822990 / Cargo and Utility Vehicles										Aggregated Items Title: Cargo and Utility Vehicles					
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
<i>Secondary Distribution</i>																				
AF				-	-		-	0.018		-	0.008		-	0.013		-	-		-	0.013
TRK TRAC 55 GVW 6X4 RH (2320-01-058-5724)	A		-	-	-	0.139	14	1.940	0.143	13	1.853	-	-	-	0.105	14	1.470	0.105	14	1.470
<i>Secondary Distribution</i>																				
AF				-	-		7	0.970		13	1.853		-	-		14	1.470		14	1.470
AFNG				-	-		7	0.970		-	-		-	-		-	-		-	-
TRAILER, DROPDECK, 25T (2330-01-657-3335)	A		-	-	-	-	-	-	0.033	8	0.262	0.034	5	0.169	-	-	-	0.034	5	0.169
<i>Secondary Distribution</i>																				
AF				-	-		-	-		8	0.262		4	0.135		-	-		4	0.135
AFNG				-	-		-	-		-	-		1	0.034		-	-		1	0.034
1T S&P 4X2 (2320-00-851-8481)	A		-	-	-	-	-	-	0.027	54	1.465	0.027	55	1.493	0.027	1	0.027	0.027	56	1.520
<i>Secondary Distribution</i>																				
AF				-	-		-	-		51	1.384		36	0.978		1	0.027		37	1.005
AFNG				-	-		-	-		-	-		16	0.434		-	-		16	0.434
AFR				-	-		-	-		3	0.081		3	0.081		-	-		3	0.081
TRK 4X4 DOD MWD UP-FIT (2320-01-670-6147)	A		-	-	-	-	-	-	-	-	-	0.052	4	0.207	-	-	-	0.052	4	0.207
<i>Secondary Distribution</i>																				
AF				-	-		-	-		-	-		4	0.207		-	-		4	0.207
TRAILER TILT DECK 6TON (2330-01-657-2183)	A		-	-	-	-	-	-	0.016	9	0.144	0.022	1	0.022	-	-	-	0.022	1	0.022
<i>Secondary Distribution</i>																				
AF				-	-		-	-		9	0.144		1	0.022		-	-		1	0.022
TRAILER VAN CARGO 12TON (2330-01-657-3336)	A		-	-	-	-	-	-	0.039	32	1.235	0.043	5	0.215	-	-	-	0.043	5	0.215
<i>Secondary Distribution</i>																				
AF				-	-		-	-		31	1.196		5	0.215		-	-		5	0.215
AFR				-	-		-	-		1	0.039		-	-		-	-		-	-
TRAILER 20T 40FT W/COVER KIT (2330-01-094-0007)	A		-	-	-	-	-	-	0.053	12	0.633	-	-	-	0.053	1	0.053	0.053	1	0.053
<i>Secondary Distribution</i>																				
AF				-	-		-	-		11	0.580		-	-		1	0.053		1	0.053

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force																	Date: February 2019			
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 02 / 2					P-1 Line Item Number / Title: 822990 / Cargo and Utility Vehicles												Aggregated Items Title: Cargo and Utility Vehicles			
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
AFR				-	-		-	-		1	0.053		-	-		-	-		-	-
TRAILER LOWBED 35TON (2330-01-051-6648)	A		-	-	-	-	-	-	0.048	19	0.913	0.053	7	0.371	-	-	-	0.053	7	0.371
<i>Secondary Distribution</i>																				
AF				-	-		-	-		19	0.913		6	0.318		-	-		6	0.318
AFR				-	-		-	-		-	-		1	0.053		-	-		1	0.053
TRAILER LOW-BED 20TON 25FT (2330-01-657-1333)	A		-	-	-	0.041	20	0.820	0.032	1	0.032	-	-	-	0.035	2	0.069	0.035	2	0.069
<i>Secondary Distribution</i>																				
AF				-	-		9	0.369		-	-		-	-		2	0.069		2	0.069
AFNG				-	-		7	0.287		1	0.032		-	-		-	-		-	-
AFR				-	-		4	0.164		-	-		-	-		-	-		-	-
TRK CGO 4DR 4X4 TLR TWG (2320-01-424-2760)	A		-	-	-	-	-	-	0.030	35	1.035	0.031	8	0.247	0.031	3	0.093	0.031	11	0.340
<i>Secondary Distribution</i>																				
AF				-	-		-	-		34	1.005		8	0.247		3	0.093		11	0.340
AFR				-	-		-	-		1	0.030		-	-		-	-		-	-
TRAILER, 38 FT. SEMI (2330-01-381-9477)	A		-	-	-	0.045	21	0.945	0.045	92	4.140	0.034	32	1.101	0.034	10	0.344	0.034	42	1.445
<i>Secondary Distribution</i>																				
AF				-	-		18	0.810		91	4.095		28	0.964		10	0.344		38	1.308
AFNG				-	-		3	0.135		-	-		3	0.103		-	-		3	0.103
AFR				-	-		-	-		1	0.045		1	0.034		-	-		1	0.034
TRK VAN 16000-24000 GVW (2320-01-039-7929)	A		-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TRAILER, FLAT BED, 45 FT. AIR RIDE (2330-01-061-8609)	A		-	-	-	0.042	8	0.336	0.033	5	0.166	-	-	-	0.035	2	0.070	0.035	2	0.070
<i>Secondary Distribution</i>																				
AF				-	-		8	0.336		5	0.166		-	-		2	0.070		2	0.070
TRAILER, 50 TON LOWBED (2330-01-058-5911)	A		-	-	-	-	-	-	0.056	11	0.612	-	-	-	0.065	3	0.195	0.065	3	0.195
<i>Secondary Distribution</i>																				
AF				-	-		-	-		11	0.612		-	-		3	0.195		3	0.195

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force																Date: February 2019				
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 02 / 2						P-1 Line Item Number / Title: 822990 / Cargo and Utility Vehicles						Aggregated Items Title: Cargo and Utility Vehicles								
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
TRAILER, LOWBED, TILT DECK, 22 TON (2330-01-657-3337)	A		-	-	-	-	-	-	0.037	24	0.883	0.040	1	0.040	-	-	-	0.040	1	0.040
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	-		23	0.846		1	0.040		-	-		1	0.040
AFR			-	-	-	-	-	-		1	0.037		-	-		-	-		-	-
TRUCK, PICKUP, CREW CAB, 1/2T, 4X4 (2320-01-484-6748)	A		-	-	-	-	-	-	0.026	31	0.798	0.026	29	0.746	-	-	-	0.026	29	0.746
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	-		29	0.746		22	0.566		-	-		22	0.566
AFNG			-	-	-	-	-	-		-	-		5	0.129		-	-		5	0.129
AFR			-	-	-	-	-	-		2	0.052		2	0.051		-	-		2	0.051
TRUCK, PICKUP CREW CAB 4X4, 3/4T CU (2320-00-580-2955)	A		-	-	-	0.036	50	1.813	0.035	132	4.636	0.033	62	2.034	0.033	48	1.576	0.033	110	3.610
<i>Secondary Distribution</i>																				
AF			-	-	-		42	1.523		122	4.285		3	0.098		48	1.576		51	1.674
AFNG			-	-	-		7	0.254		1	0.035		50	1.641		-	-		50	1.641
AFR			-	-	-		1	0.036		9	0.316		9	0.295		-	-		9	0.295
TRUCK, PICKUP CREW CAB 4X2, 3/4T CU (2320-00-580-2954)	A		-	-	-	0.032	48	1.536	0.032	73	2.336	0.028	50	1.413	0.028	33	0.933	0.028	83	2.346
<i>Secondary Distribution</i>																				
AF			-	-	-		41	1.312		70	2.240		3	0.085		33	0.933		36	1.018
AFNG			-	-	-		7	0.224		-	-		43	1.215		-	-		43	1.215
AFR			-	-	-		-	-		3	0.096		4	0.113		-	-		4	0.113
TRUCK, STAKE AND PLATFORM 4X2 10000GVW (2320-01-250-7367)	A		-	-	-	0.031	29	0.899	0.031	54	1.674	0.031	21	0.660	-	-	-	0.031	21	0.660
<i>Secondary Distribution</i>																				
AF			-	-	-		23	0.713		52	1.612		18	0.566		-	-		18	0.566
AFNG			-	-	-		6	0.186		-	-		-	-		-	-		-	-
AFR			-	-	-		-	-		2	0.062		3	0.094		-	-		3	0.094
TRUCK, CARRYALL 4X2 8 PAX (2320-00-879-7662)	A		-	-	-	0.028	36	1.002	0.028	82	2.284	0.028	29	0.808	-	-	-	0.028	29	0.808
<i>Secondary Distribution</i>																				

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force																Date: February 2019				
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 02 / 2						P-1 Line Item Number / Title: 822990 / Cargo and Utility Vehicles						Aggregated Items Title: Cargo and Utility Vehicles								
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
AF				-	-		32	0.891		81	2.256		20	0.557		-	-		20	0.557
AFNG				-	-		4	0.111		-	-		6	0.167		-	-		6	0.167
AFR				-	-		-	-		1	0.028		3	0.084		-	-		3	0.084
TRUCK, CARRYALL 4X2 15 PAX (2320-01-036-6569)	A		-	-	-	0.029	20	0.580	0.029	118	3.422	0.030	36	1.074	0.030	5	0.149	0.030	41	1.223
<i>Secondary Distribution</i>																				
AF				-	-		17	0.493		115	3.335		29	0.865		5	0.149		34	1.014
AFNG				-	-		3	0.087		-	-		4	0.119		-	-		4	0.119
AFR				-	-		-	-		3	0.087		3	0.090		-	-		3	0.090
TRUCK, CARRYALL 4X2 7 PAX (2320-01-173-6113)	A		-	-	-	0.027	25	0.675	0.023	30	0.683	0.023	7	0.161	0.023	2	0.046	0.023	9	0.207
<i>Secondary Distribution</i>																				
AF				-	-		22	0.594		30	0.683		7	0.161		2	0.046		9	0.207
AFNG				-	-		3	0.081		-	-		-	-		-	-		-	-
TRUCK, PICKUP 4X4 1/2 T 4600 & 5799 GVW (2320-00-811-6869)	A		-	-	-	0.026	32	0.847	0.026	49	1.296	0.026	55	1.455	-	-	-	0.026	55	1.455
<i>Secondary Distribution</i>																				
AF				-	-		28	0.741		46	1.217		30	0.794		-	-		30	0.794
AFNG				-	-		4	0.106		-	-		22	0.582		-	-		22	0.582
AFR				-	-		-	-		3	0.079		3	0.079		-	-		3	0.079
SUV, 4X4 COMPACT 4500 GVW (2320-01-563-7478)	A		-	-	-	0.027	23	0.621	0.027	27	0.729	0.025	3	0.075	0.025	2	0.050	0.025	5	0.125
<i>Secondary Distribution</i>																				
AF				-	-		23	0.621		27	0.729		3	0.075		2	0.050		5	0.125
VAN, MAINTENANCE UTILITY DELIVERY (2320-01-176-2223)	A		-	-	-	0.037	53	1.961	0.037	118	4.366	0.031	49	1.540	0.031	3	0.094	0.031	52	1.634
<i>Secondary Distribution</i>																				
AF				-	-		38	1.406		95	3.515		26	0.816		3	0.094		29	0.910
AFNG				-	-		15	0.555		1	0.037		4	0.126		-	-		4	0.126
AFR				-	-		-	-		22	0.814		19	0.598		-	-		19	0.598
TRUCK, TRACTOR 44.5G (2320-00-271-1432)	A		-	-	-	-	-	-	0.142	38	5.404	0.142	10	1.422	0.142	16	2.275	0.142	26	3.697
<i>Secondary Distribution</i>																				
AF				-	-		-	-		37	5.262		6	0.853		16	2.275		22	3.128

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 02 / 2 **P-1 Line Item Number / Title:** 822990 / Cargo and Utility Vehicles **Aggregated Items Title:** Cargo and Utility Vehicles

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
AFNG				-	-		-	-		-	-		3	0.427		-	-		3	0.427
AFR				-	-		-	-		1	0.142		1	0.142		-	-		1	0.142
TRUCK, VAN PANEL 4X2 (2320-01-013-2754)	A		-	-	-	0.024	36	0.855	0.024	69	1.656	0.028	35	0.963		-	-	0.028	35	0.963
<i>Secondary Distribution</i>																				
AF				-	-		19	0.451		65	1.560		26	0.715		-	-		26	0.715
AFNG				-	-		13	0.309		1	0.024		5	0.138		-	-		5	0.138
AFR				-	-		4	0.095		3	0.072		4	0.110		-	-		4	0.110
TRUCK, TRACTOR 39.5G (2320-01-341-7627)	A		-	-	-	0.118	23	2.714	-	-	-	-	-	-		-	-	-	-	-
<i>Secondary Distribution</i>																				
AF				-	-		20	2.360		-	-		-	-		-	-		-	-
AFNG				-	-		3	0.354		-	-		-	-		-	-		-	-
TRK 1/2 TON (2320-00-540-1428)	A		-	-	-	0.024	75	1.800	0.024	35	0.840	0.020	91	1.850		-	-	0.020	91	1.850
<i>Secondary Distribution</i>																				
AF				-	-		45	1.080		30	0.720		30	0.610		-	-		30	0.610
AFNG				-	-		24	0.576		-	-		50	1.016		-	-		50	1.016
AFR				-	-		6	0.144		5	0.120		11	0.224		-	-		11	0.224
1/4 TON 4X4 EXT CAB P/U (2320-01-500-9498)	A		-	-	-	0.032	12	0.384	-	-	-	-	-	-		-	-	-	-	-
<i>Secondary Distribution</i>																				
AF				-	-		12	0.384		-	-		-	-		-	-		-	-
TRUCK, COMPACT CREW CAB 4X4 (2320-01-500-5203)	A		-	-	-	0.031	46	1.426	0.031	108	3.348	0.032	12	0.388	0.032	7	0.226	0.032	19	0.614
<i>Secondary Distribution</i>																				
AF				-	-		33	1.023		106	3.286		9	0.291		7	0.226		16	0.517
AFNG				-	-		7	0.217		-	-		-	-		-	-		-	-
AFR				-	-		6	0.186		2	0.062		3	0.097		-	-		3	0.097
TRUCK, PICKUP CREW CAB 4X2 (2320-01-504-1443)	A		-	-	-	0.029	25	0.725	0.029	125	3.625	0.028	1	0.028	0.028	42	1.160	0.028	43	1.188
<i>Secondary Distribution</i>																				
AF				-	-		25	0.725		125	3.625		-	-		42	1.160		42	1.160
AFR				-	-		-	-		-	-		1	0.028		-	-		1	0.028

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force															Date: February 2019					
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 02 / 2					P-1 Line Item Number / Title: 822990 / Cargo and Utility Vehicles										Aggregated Items Title: Cargo and Utility Vehicles					
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
TRUCK, 1/4 TON 4X2 EXT CAB (2320-01-496-0404)	A		-	-	-	0.028	84	2.352	0.028	65	1.820	0.026	69	1.799	0.026	1	0.026	0.026	70	1.825
<i>Secondary Distribution</i>																				
AF			-	-	-		52	1.456		52	1.456		27	0.704		1	0.026		28	0.730
AFNG			-	-	-		27	0.756		4	0.112		27	0.704		-	-		27	0.704
AFR			-	-	-		5	0.140		9	0.252		15	0.391		-	-		15	0.391
TRK TRAC MSL SPT (2320-00-344-4397)	A		-	-	-	-	-	-	-	-	-	0.180	5	0.900	-	-	-	0.180	5	0.900
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	-	-	-	-	-	5	0.900	-	-	-	-	5	0.900
12 TON STAKE PLATFM TRAILER (2330-01-331-8867)	A		-	-	-	0.043	14	0.602	-	-	-	-	-	-	-	-	-	-	-	-
<i>Secondary Distribution</i>																				
AF			-	-	-		9	0.387		-	-		-	-		-	-		-	-
AFR			-	-	-		5	0.215		-	-		-	-		-	-		-	-
12 TON STAKE PLATFORM TRAILER (2330-01-657-3331)	A		-	-	-	-	-	-	0.041	9	0.369	0.046	3	0.137	-	-	-	0.046	3	0.137
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	-	-	8	0.328	-	3	0.137	-	-	-	-	3	0.137
AFR			-	-	-	-	-	-	-	1	0.041	-	-	-	-	-	-	-	-	-
STLR VAN 30FT 12T (2330-00-865-5443)	A		-	-	-	0.034	25	0.850	-	-	-	-	-	-	-	-	-	-	-	-
<i>Secondary Distribution</i>																				
AF			-	-	-		12	0.408		-	-		-	-		-	-		-	-
AFNG			-	-	-		9	0.306		-	-		-	-		-	-		-	-
AFR			-	-	-		4	0.136		-	-		-	-		-	-		-	-
TRK TRACTOR (2320-01-482-9775)	A		-	-	-	0.185	21	3.885	0.365	8	2.920	-	-	-	-	-	-	-	-	-
<i>Secondary Distribution</i>																				
AF			-	-	-		13	2.405		8	2.920		-	-		-	-		-	-
AFR			-	-	-		8	1.480		-	-		-	-		-	-		-	-
TRAILER,DETACHABLE GOOSENECK 60TON (2330-00-349-2572)	EA		-	-	-	-	-	-	0.070	32	2.246	0.079	3	0.238	0.079	9	0.715	0.079	12	0.953
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	-	-	32	2.246	-	3	0.238	-	9	0.715	-	12	0.953
Subtotal: Uncategorized (1)			-	-	-	-	-	31.770	-	-	62.376	-	-	23.133	-	-	9.702	-	-	32.835
Total			-	-	-	-	-	31.770	-	-	62.376	-	-	23.133	-	-	9.702	-	-	32.835

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force	Date: February 2019
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Appropriation / Budget Activity / Budget Sub Activity: 3080F / 02 / 2	P-1 Line Item Number / Title: 822990 / Cargo and Utility Vehicles	Aggregated Items Title: Cargo and Utility Vehicles
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Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.

Remarks:

Based on AF Mission changes and/or AF Mission priorities, NSNs and/or quantities may change during year of execution.

UNIT COSTS FOR FY20 ARE SUBJECT TO CHANGE.

PMA OTHER GOVERNMENT COSTS: This line supports the operation of the program office in its management and oversight role via travel, procurement of supplies and studies.

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 02: Vehicular Equipment / BSA 3: Special Purpose Vehicles **P-1 Line Item Number / Title:** 823210 / Joint Light Tactical Vehicle

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>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	-	0.000	46.177	32.027	40.999	73.026	61.915	64.158	61.619	164.275	-	471.170
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	0.000	46.177	32.027	40.999	73.026	61.915	64.158	61.619	164.275	-	471.170
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	0.000	46.177	32.027	40.999	73.026	61.915	64.158	61.619	164.275	-	471.170

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

Description:

FY19 funding totals include \$17.482M appropriated for Overseas Contingency Operations.

The Joint Light Tactical Vehicle (JLTV) Family of Vehicles (FoV) have been chosen as the multi-service (USMC, Army, Navy, and Air Force) tactical vehicle replacement for the HMMWV. JLTV provides major operational improvements in Force Protection (FP), payload, mobility, fuel efficiency and reliability, along with the growth potential to meet future mission requirements. The JLTV also has a companion trailer that is available with the vehicle to replace the HMMWV trailer (M1101/M1102).

The USAF investment in JLTVs began in FY17 and FY18 under 823230 - Security and Tactical Vehicles. Starting in FY19 and throughout the FYDP, JLTVs will be procured under BPAC 823210. The USAF JLTV program will have multiple Work Directives generated and worked through the Joint Program Office (JPO) for USAF specific requirements and kit operability on three JLTV variants and a JLTV trailer.

General Purpose (GP) JLTV - The GP JLTV is the base vehicle that carries a 4 man-crew with a payload of 3,500 lbs. Users: ACC, AFMC, AMC, PACAF, USAFE

Utility (UT) JLTV - The Utility JLTV carries a 2 man crew for cargo delivery or shelter carrier. It supports a payload of 5,100 lbs. Users: ACC, AFMC, AMC, PACAF

Heavy Guns Carrier (HGC) JLTV - The HGC JLTV carries a 4 man-crew and a Gunner in Turret or Remote Weapon System (RWS). It supports crew served weapons (M-2 or MK-19) with Gunner's Protection Kit or RWS. Users: AETC, AFCENT, AFGSC, AFSPC, AMC, PACAF, USAFE

JLTV Trailer - The JLTV Trailer is capable of meeting similar mobility characteristics to the prime mover and is capable of safely carrying payload of 5500 lbs. Users: EOD

Expansion Kits - Expansion kits are made up of both the Contractor Furnished Equipment (CFE) kit and Government Furnished Equipment (GFE) kits. The total unit cost of each JLTV will vary based on the expansion kit requirements selected by each user community (EOD, SFS, TACP, Red Horse, Medical, AFSOC) based on mission requirements. If mission requirements change, certain kits may be added to the vehicle at a later time, post-production, to meet ops tempo.

- Contractor Furnished Equipment (CFE) Kits comes fully installed and integrated into the vehicle during production. CFE kits include, but are not limited to, Armor kits, intercom kit, run flats, combat bumpers, and explosively formed projectile protection kits.

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 02: Vehicular Equipment / BSA 3: Special Purpose Vehicles		P-1 Line Item Number / Title: 823210 / Joint Light Tactical Vehicle
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		

- Government Furnished Equipment (GFE) Kits when ordered as an expansion kit are integrated into the vehicle during production. Integration includes: "all necessary cabling (power, signal, RF), connector(s), and hardware required above and beyond the Contractor furnished Base Vehicle Platforms Infrastructure and Baseline Integration Kits. GFE kits include, but are not limited to, VRC radio kits, CREW-CVRJ kits, DVE kits, and shot detection kits. No LRUs are included in the expansion kits.

Work Directives: Funding will be needed to complete compatibility and operability testing work directives with the OEM on any new AF specific requirements that will be added to the JLTV based on user requirements. Work Directives will also be required for any repairs that will need to be executed prior to JPO long term repair and maintenance contracts are awarded.

Overhead Equipment: Overhead GFE for the HGC JLTVs will consist of: M1114 Turret Ring and Hatch; Improved Turret Drive System (ITDS); Objective Gunners Protection Kit (OGPK); and Common Remotely Operated Weapon Station (CROWS). The M1114 Ring and Hatch will apply to all HGC JLTV configurations. The OGPK and ITDS will be installed on the majority of the HGC JLTV configurations with the rest receiving the CROWS system.

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

Funding for this exhibit contained in PEs: 0202843F, 0502834F, 0502844F, 0702831F

As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
AF	Quantity	0	48	59	75	134	-	-	-	-
	Total Obligation Authority	0.000	45.639	29.919	40.999	70.918	-	-	-	-
AFNG	Quantity	0	1	5	0	5	-	-	-	-
	Total Obligation Authority	0.000	0.669	1.688	0.000	1.688	-	-	-	-
AFR	Quantity	0	1	1	0	1	-	-	-	-
	Total Obligation Authority	0.000	0.269	0.420	0.000	0.420	-	-	-	-
Total: Secondary Distribution	Quantity	0	50	65	75	140	-	-	-	-
	Total Obligation Authority	0.000	46.577	32.027	40.999	73.026	-	-	-	-

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 02: Vehicular Equipment / BSA 3: Special Purpose Vehicles **P-1 Line Item Number / Title:** 823210 / Joint Light Tactical Vehicle

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-40a	Joint Light Tactical Vehicle				- / -	- / -	- / 46.177	- / 32.027	- / 40.999	- / 73.026
P-40	Total Gross/Weapon System Cost				- / -	- / 0.000	- / 46.177	- / 32.027	- / 40.999	- / 73.026

*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. Title represents the P-40a Title when only the P-40a Summary/Total is shown.

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

Justification:

FY20 procurement dollars in the amount of \$73.026M will procure, but not be limited to, 140 vehicles in support of installation and unit mission requirements for Air Force personnel.

FY20 OCO dollars in the amount of \$40.999M will procure, but not be limited to, 75 vehicles in support of installation and unit mission requirements for Air Force personnel.

Quantities are based on current requirements provided by the 441 Vehicle Support Chain Operations Squadron (VSCOS) IAW the process outlined in AFI 24-302, Vehicle Management. The requirements are generated from the priority buy model that is used to support the Planning, Programming, Budgeting and Execution (PPBE) process. The model calculates vehicle requirements by fund year by BPAC using end of life projections based on depreciation and service life of the vehicle, cumulative sustainment cost and mission priority.

Quantities reflected on the PDOCs show current requirements for each year supporting Active Duty, Air Force Reserve Center (AFRC), Air National Guard (ANG), Rapid Airfield Damage Repair (RADR), European Deterrence Initiative (EDI), Set the Theater Initiatives for PACOM, and other initiatives as they arise.

Unit Cost is subject to change from year-to-year based on buy quantities and user expansion kit requirements provided by each user community based on mission requirements. Unit cost is also subject to change based on fluctuations in contract pricing.

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force																Date: February 2019				
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 02 / 3						P-1 Line Item Number / Title: 823210 / Joint Light Tactical Vehicle						Aggregated Items Title: Joint Light Tactical Vehicle								
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
uncategorized																				
JLTV, HEAVY GUNS CARRIER (HGC) 2320-01-653-6495	A		-	-	-	-	-	-	0.269	50	13.450	0.260	42	10.920	0.260	75	19.493	0.260	117	30.413
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	-		48	12.912		39	10.140		75	19.493		114	29.633
AFNG			-	-	-	-	-	-		1	0.269		2	0.520		-	-		2	0.520
AFR			-	-	-	-	-	-		1	0.269		1	0.260		-	-		1	0.260
Objective Gunner Protection Kit (OGPK) 2540-01-543-8325	A		-	-	-	-	-	-	-	-	0.994	-	-	0.605	-	-	0.972	-	-	1.577
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	-	-	-	0.994	-	-	0.605	-	-	0.972	-	-	1.577
IMPROVED TURRET DRIVE SYSTEM (ITDS) 1005-01-591-0452	A		-	-	-	-	-	-	-	-	0.488	-	-	0.297	-	-	0.477	-	-	0.774
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	-	-	-	0.488	-	-	0.297	-	-	0.477	-	-	0.774
CROWs BASELINE v2 1090-25-160-1150	A		-	-	-	-	-	-	-	-	8.185	-	-	3.761	-	-	6.636	-	-	10.397
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	-	-	-	8.185	-	-	3.761	-	-	6.636	-	-	10.397
M1114 TURRET RING AND HATCH ADAPTER 2510-01-599-0252	A		-	-	-	-	-	-	-	-	0.892	-	-	0.910	-	-	1.365	-	-	2.275
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	-	-	-	0.892	-	-	0.910	-	-	1.365	-	-	2.275
PMA: CONTRACTOR SERVICES	A		-	-	-	-	-	-	-	-	1.097	-	-	1.106	-	-	-	-	-	1.106
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	-	-	-	1.097	-	-	1.106	-	-	-	-	-	1.106
JLTV TRAILER 2330-01-653-9745	A		-	-	-	-	-	-	-	-	-	0.060	6	0.360	-	-	-	0.060	6	0.360
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	-	-	-	-	-	6	0.360	-	-	-	-	6	0.360
PMA OTHER GOVERNMENT COSTS	A		-	-	-	-	-	-	-	-	0.021	-	-	0.011	-	-	-	-	-	0.011
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	-	-	-	0.021	-	-	0.011	-	-	-	-	-	0.011

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 02 / 3 **P-1 Line Item Number / Title:** 823210 / Joint Light Tactical Vehicle **Aggregated Items Title:** Joint Light Tactical Vehicle

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
GOVERNMENT FURNISHED EQUIPMENT (GFE) KITS	A		-	-	-	-	-	-	-	-	10.325	-	-	3.689	-	-	6.015	-	-	9.704
<i>Secondary Distribution</i>																				
AF				-	-		-	-		-	10.325		-	3.609		-	6.015		-	9.624
AFR				-	-		-	-		-	-		-	0.080		-	-		-	0.080
JLTV, UTILITY (UT) 2320-01-653-6516	A		-	-	-	-	-	-	-	-	-	0.249	8	1.990	-	-	-	0.249	8	1.990
<i>Secondary Distribution</i>																				
AF				-	-		-	-		-	-		7	1.741		-	-		7	1.741
AFNG				-	-		-	-		-	-		1	0.249		-	-		1	0.249
JLTV, GENERAL PURPOSE (GP) 2320-01-653-6557	A		-	-	-	-	-	-	-	-	-	0.259	9	2.332	-	-	-	0.259	9	2.332
<i>Secondary Distribution</i>																				
AF				-	-		-	-		-	-		7	1.814		-	-		7	1.814
AFNG				-	-		-	-		-	-		2	0.518		-	-		2	0.518
WORK DIRECTIVES	A		-	-	-	-	-	-	-	-	0.400	-	-	0.400	-	-	0.026	-	-	0.426
<i>Secondary Distribution</i>																				
AF				-	-		-	-		-	0.400		-	0.400		-	0.026		-	0.426
AFNG				-	-		-	-		-	0.400		-	-		-	-		-	-
CONTRACTOR FURNISHED EQUIPMENT (CFE) KITS	A		-	-	-	-	-	-	-	-	10.325	-	-	5.646	-	-	6.015	-	-	11.661
<i>Secondary Distribution</i>																				
AF				-	-		-	-		-	10.325		-	5.165		-	6.015		-	11.180
AFNG				-	-		-	-		-	-		-	0.401		-	-		-	0.401
AFR				-	-		-	-		-	-		-	0.080		-	-		-	0.080
Subtotal: unategorized			-	-	-	-	-	-	-	-	46.177	-	-	32.027	-	-	40.999	-	-	73.026
Total			-	-	-	-	-	-	-	-	46.177	-	-	32.027	-	-	40.999	-	-	73.026

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

Remarks:

Based on AF Mission changes and/or AF Mission priorities, NSNs and/or quantities may change during year of execution.

UNIT COSTS FOR FY20 ARE SUBJECT TO CHANGE.

PMA OTHER CONTRACTOR SERVICES: This funding includes provisions for government contract oversight, technical expertise, and program office support associated with the JLTV program.

PMA OTHER GOVERNMENT COSTS: This line supports the operation of the program office in its management and oversight role via travel, procurement of supplies and studies.

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 02 / 3	P-1 Line Item Number / Title: 823210 / Joint Light Tactical Vehicle	Aggregated Items Title: Joint Light Tactical Vehicle
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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 02: Vehicular Equipment / BSA 3: Special Purpose Vehicles **P-1 Line Item Number / Title:** 823230 / Security And Tactical Vehicles

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>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	-	51.280	1.113	1.315	0.000	1.315	1.423	1.533	1.575	8.329	-	66.568
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	51.280	1.113	1.315	0.000	1.315	1.423	1.533	1.575	8.329	-	66.568
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	51.280	1.113	1.315	0.000	1.315	1.423	1.533	1.575	8.329	-	66.568

(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 Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

FY18 funding totals include \$1.100M appropriated for Overseas Contingency Operations.

FY19 funding totals include \$0.130M appropriated for Overseas Contingency Operations.

JLTV PROCUREMENT FY17 & FY18 IN THIS BPAC. FY19 AND OUT WILL BE BPAC 823210.

Funding provides for a variety of security and tactical vehicles essential to strategic military operations. This program previously procured the standard diesel powered High Mobility Multi-purpose Wheeled Vehicle (HMMWV) and all configurations used by the Air Force, Guardian Angel Air-Deployable Rescue Vehicle (GAARV), and cargo trailers. Funding will be used to procure next generation security and tactical vehicles to include the fielding of the Joint Light Tactical Vehicle (JLTV).

The M1101 and M1102 are light tactical trailers (designated by load weight) in a single axle, two wheel trailer designed to be towed by a HMMWV towing vehicle. The trailers have the same tires, wheels, and track width as the HMMWV. The only difference between the M1101 and the M1102 trailer is the model information and payload capacity. The trailers have various applications and provide the forces with a light, nimble, rugged trailer built primarily for hauling cargo.

Joint Light Tactical Vehicles (JLTV) is the HMMWV replacement for the DOD. The USAF investment in JLTVs began in FY17 and will continue through the FYDP. The USAF JLTV program will need multiple STS Work Directives generated and worked through the Joint Program Office (JPO) for USAF specific requirements and kit operability on three JLTV variants and a JLTV trailer. The three variants include the General Purpose (GP) JLTV, the Utility (UT) JLTV, and the Heavy Guns Carrier (HGC) JLTV. FY17 funding defined by the user configurations on each platform prior to Full Rate Production began in FY18. Purchase of CFE and GFE kits, as well as at least one JLTV in each variant: GP, UTL, and HGC was executed in FY17. Technical Data Packages, as well as USAF specific Tech Data and support will also be provisioned and worked during this time to support the incoming inventory once testing is complete.

Guardian Angel Air-Deployable Rescue Vehicle: The Guardian Angel Air-Deployable Rescue Vehicle (GAARV) is an air-deployable surface recovery platform capable of maneuvering over adverse terrain in order to search for and recover isolated personnel and/or equipment. It will provide increased survivability during "outside the wire" personnel recovery operations, more secure transportation capability to the recovery team and injured/isolated personnel from an area of high threat, and necessary training platforms for operators to familiarize themselves with vehicles they utilize in the area of operations. It also provides operators with increased protection from enemy fire and improvised explosive devices. Funding includes, but is not limited to procurement of end items, training, upgrades, spares, Interim Contractor

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 02: Vehicular Equipment / BSA 3: Special Purpose Vehicles **P-1 Line Item Number / Title:** 823230 / Security And Tactical Vehicles

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

Support (ICS), repairs, deployment packages and returns. This funding request will support potential DMS and obsolescence solutions, to include if optimal, life of type buys or bridge buys limited to the program of record quantity. Due to rapidly changing threat environment, the acquisition program manager has the authority to redirect funding as necessary to meet current slated and emerging requirements. On 7 July 2017, ACC/A5/8R terminated the HDT Storm solution to the GAARV requirement. A new solution to the requirement will be developed if/when the GAARV requirement is revalidated. Subsequent funding will fund contract termination and Program Management Administration until a follow-on requirement is identified. Funding for GAARV is in Program Element 0207227F.

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.

Funding for this exhibit contained in PEs 0202834F, 0207227F, 0507831F, 0502831F, 0702831F, 0804731F.

As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
AF	Quantity	120	12	0	0	0	-	-	-	-
	Total Obligation Authority	51.280	0.965	1.171	0.000	1.171	-	-	-	-
AFNG	Quantity	0	8	11	0	11	-	-	-	-
	Total Obligation Authority	0.000	0.099	0.105	0.000	0.105	-	-	-	-
AFR	Quantity	0	4	4	0	4	-	-	-	-
	Total Obligation Authority	0.000	0.049	0.039	0.000	0.039	-	-	-	-
Total: Secondary Distribution	Quantity	120	24	15	0	15	-	-	-	-
	Total Obligation Authority	51.280	1.113	1.315	0.000	1.315	-	-	-	-

Justification:

FY20 procurement dollars in the amount of \$1.315M will procure, but not be limited to, 15 vehicles in support of installation and unit mission requirements for Air Force personnel.

Quantities are based on current requirements provided by the 441 Vehicle Support Chain Operations Squadron (VSCOS) IAW the process outlined in AFI 24-302, Vehicle Management. The requirements are generated from the priority buy model that is used to support the Planning, Programming, Budgeting and Execution (PPBE) process. The model calculates vehicle requirements by fund year by BPAC using end of life projections based on depreciation and service life of the vehicle, cumulative sustainment cost and mission priority.

Quantities reflected on the PDOCs show current requirements for each year supporting Active Duty, Air Force Reserve Center (AFRC), Air National Guard (ANG), Rapid Airfield Damage Repair (RADR), European Deterrence Initiative (EDI), Set the Theater Initiatives for PACOM, and other initiatives as they arise.

As the model applies the life expectancy/sustainment cost/mission priority logic in generating requirements, there can be gaps in individual vehicle type (NSN) requirements from year-to-year.

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 02: Vehicular Equipment / BSA 3: Special Purpose Vehicles		P-1 Line Item Number / Title: 823230 / Security And Tactical Vehicles
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		
<p>Unit Cost is subject to change from year-to-year based on buy quantities, CONUS/OCONUS locations, inflation and additional requirements (options required by users). Examples of options include, but are not limited to, specialized trailer towing packages, export (non-Ultra Low Sulfur Diesel) engines, and mission specific specialized attachments for construction vehicles. Unit cost is also subject to change based on fluctuations in contract pricing.</p>		

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 02: Vehicular Equipment / BSA 3: Special Purpose Vehicles	P-1 Line Item Number / Title: 823990 / Special Purpose Vehicles
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ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	-	52.263	77.683	14.593	52.502	67.095	66.948	53.435	49.068	42.081	-	408.573
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	52.263	77.683	14.593	52.502	67.095	66.948	53.435	49.068	42.081	-	408.573
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	52.263	77.683	14.593	52.502	67.095	66.948	53.435	49.068	42.081	-	408.573

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

Description:

FY18 funding totals include \$32.479M appropriated for Overseas Contingency Operations.

FY19 funding totals include \$34.680M appropriated for Overseas Contingency Operations.

The Special Purpose Vehicles group consists of various vehicles for flightline, maintenance, and facility operations used for a variety of purposes. Examples of these vehicles include the IW 40 tractor, 4 and 8 passenger over-the-snow-carriers, an assortment of wreckers and refuse trucks, potable and non-potable water distribution trucks, refueling vehicles, deicers, staircase trucks, lavatory service trucks, high reach maintenance trucks, glycol recovery vehicles, disabled patient vehicles, and tow tractors. Tow tractors are used to tow aircrafts, munition trailers, and ground support equipment. The IW 40 tractor is a small farm tractor used primarily to pull a mower and for other light tasks; the snow carriers are tracked vehicles which move personnel in snowy conditions and are used in search and rescue missions; the wreckers are used to move disabled vehicles, haul vehicles or to deploy a heavy duty winch. The refuse trucks in this group include one which tilts and dumps a payload and one which compacts refuse prior to discharge. Aircraft refueling vehicles refuel and defuel aircrafts. Potable water distribution trucks provide drinking water to personnel; non-potable water distribution trucks are used primarily to wet down and control dust at a construction site.

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.

Funding for this exhibit contained in PEs 0207142F, 0202834F, 0207597F, 0401221F, 0507831F, 0502831F, 0702831F.

As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
AF									
Quantity	258	338	61	266	327	-	-	-	-
Total Obligation Authority	46.477	75.793	7.531	52.502	60.033	-	-	-	-

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 02: Vehicular Equipment / BSA 3: Special Purpose Vehicles	P-1 Line Item Number / Title: 823990 / Special Purpose Vehicles
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ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: N/A

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
AFNG	Quantity	31	2	43	0	43	-	-	-	-
	Total Obligation Authority	4.001	0.098	5.204	0.000	5.204	-	-	-	-
AFR	Quantity	12	10	16	0	16	-	-	-	-
	Total Obligation Authority	1.785	1.792	1.858	0.000	1.858	-	-	-	-
Total:	Quantity	301	350	120	266	386	-	-	-	-
Secondary Distribution	Total Obligation Authority	52.263	77.683	14.593	52.502	67.095	-	-	-	-

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 02: Vehicular Equipment / BSA 3: Special Purpose Vehicles **P-1 Line Item Number / Title:** 823990 / Special Purpose Vehicles

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-40a	Special Purpose Vehicles				- / -	- / 52.263	- / 77.683	- / 14.593	- / 52.502	- / 67.095
P-40	Total Gross/Weapon System Cost				- / -	- / 52.263	- / 77.683	- / 14.593	- / 52.502	- / 67.095

*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. Title represents the P-40a Title when only the P-40a Summary/Total is shown.

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

Justification:

FY20 procurement dollars in the amount of \$67.095M will procure, but not be limited to, 386 vehicles in support of installation and unit mission requirements for Air Force personnel.

FY20 OCO dollars in the amount of \$52.502M will procure, but not be limited to, 266 vehicles in support of installation and unit mission requirements for Air Force personnel.

Quantities are based on current requirements provided by the 441 Vehicle Support Chain Operations Squadron (VSCOS) IAW the process outlined in AFI 24-302, Vehicle Management. The requirements are generated from the priority buy model that is used to support the Planning, Programming, Budgeting and Execution (PPBE) process. The model calculates vehicle requirements by fund year by BPAC using end of life projections based on depreciation and service life of the vehicle, cumulative sustainment cost and mission priority.

Quantities reflected on the PDOCs show current requirements for each year supporting Active Duty, Air Force Reserve Center (AFRC), Air National Guard (ANG), Rapid Airfield Damage Repair (RADR), European Deterrence Initiative (EDI), Set the Theater Initiatives for PACOM, and other initiatives as they arise.

As the model applies the life expectancy/sustainment cost/mission priority logic in generating requirements, there can be gaps in individual vehicle type (NSN) requirements from year-to-year.

Unit Cost is subject to change from year-to-year based on buy quantities, CONUS/OCONUS locations, inflation and additional requirements (options required by users). Examples of options include, but are not limited to, specialized trailer towing packages, export (non-Ultra Low Sulfur Diesel) engines, and mission specific specialized attachments for construction vehicles. Unit cost is also subject to change based on fluctuations in contract pricing.

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force																Date: February 2019				
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 02 / 3						P-1 Line Item Number / Title: 823990 / Special Purpose Vehicles						Aggregated Items Title: Special Purpose Vehicles								
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Uncategorized																				
C5 STAIRCASE TRK (1730-01-602-5661YW)	A		-	-	-	0.323	8	2.583	-	-	-	-	-	-	-	-	-	-	-	
<i>Secondary Distribution</i>																				
AF			-	-	-		7	2.260		-	-		-	-		-	-		-	
AFNG			-	-	-		1	0.323		-	-		-	-		-	-		-	
TRAC ACFT TWG MB-2 CL II (1740-01-552-9854YW)	A		-	-	-	-	-	-	-	-	-	-	-	0.155	30	4.650	0.155	30	4.650	
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	-	-	-	-	-	-		30	4.650		30	4.650	
HI-REACH TRK 65 FT (2320-00-989-7163YW)	A		-	-	-	-	-	-	-	-	0.572	1	0.572	-	-	-	0.572	1	0.572	
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	-	-	-		1	0.572		-	-		1	0.572	
TRK TK A/ S32A-24 250 GAL (2320-00-089-8979)	A		-	-	-	-	-	-	-	-	0.073	2	0.146	-	-	-	0.073	2	0.146	
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	-	-	-		2	0.146		-	-		2	0.146	
TRK HI REA 30&59FT (2320-00-995-5610YW)	A		-	-	-	-	-	-	-	-	0.268	1	0.268	0.268	4	1.072	0.268	5	1.340	
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	-	-	-		1	0.268		4	1.072		5	1.340	
HI REACH MAINT PLATFORM (2320-01-249-0097YW)	A		-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TRK WKR HYD TYP1 32000GVW (2320-01-303-3010)	A		-	-	-	-	-	-	-	-	-	-	-	0.128	1	0.128	0.128	1	0.128	
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	-	-	-		-	-		1	0.128		1	0.128	
TRK MAINT TP UTIL 10000G (2320-01-343-7375)	A		-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TRK WRECKER TILT-BED (2320-01-380-4755)	A		-	-	-	-	-	-	-	-	-	-	-	0.095	4	0.380	0.095	4	0.380	
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	-	-	-		-	-		4	0.380		4	0.380	
TRK MOBILE X-RAY (2320-01-563-7052)	A		-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 02 / 3 **P-1 Line Item Number / Title:** 823990 / Special Purpose Vehicles **Aggregated Items Title:** Special Purpose Vehicles

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
MOBILE MAINTENANCE TRUCK W/CRANE (2320-01-644-1450)	A		-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TRLR FUEL SRVG 600 GAL (2330-00-289-8934)	A		-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TRK MAINT EXT CAB 4X4 (2320-01-513-8386)	A		-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TRK HILIFT (2320-00-540-3489)	A		-	-	-	0.199	4	0.795	-	-	-	-	-	-	-	-	-	-	-	
<i>Secondary Distribution</i>																				
AF				-	-		3	0.596		-	-		-	-		-	-		-	
AFNG				-	-		1	0.199		-	-		-	-		-	-		-	
4000GAL DEICER (1730-01-605-7637YW)	A		-	-	-	0.304	14	4.256	-	-	-	-	-	-	-	-	-	-	-	
<i>Secondary Distribution</i>																				
AF				-	-		13	3.952		-	-		-	-		-	-		-	
AFNG				-	-		1	0.304		-	-		-	-		-	-		-	
TRAC ACFT TWG MB-4 (1740-00-580-7990YW)	A		-	-	-	0.119	32	3.797	0.119	18	2.136	0.105	6	0.630	0.105	20	2.102	0.105	26	2.732
<i>Secondary Distribution</i>																				
AF				-	-		29	3.441		18	2.136		4	0.420		20	2.102		24	2.522
AFNG				-	-		3	0.356		-	-		-	-		-	-		-	
AFR				-	-		-	-		-	-		2	0.210		-	-		2	0.210
TOW TRACTOR, MB-2 (1740-00-143-8464YW)	A		-	-	-	0.158	36	5.692	0.158	28	4.428	0.139	7	0.973	0.139	1	0.139	0.139	8	1.112
<i>Secondary Distribution</i>																				
AF				-	-		33	5.218		28	4.428		3	0.417		1	0.139		4	0.556
AFNG				-	-		3	0.474		-	-		2	0.278		-	-		2	0.278
AFR				-	-		-	-		-	-		2	0.278		-	-		2	0.278
FLIGHT LINE TOW TRACTOR, 4X2 (1740-01-068-8945YW)	A		-	-	-	0.062	49	3.045	0.062	47	2.921	0.062	13	0.810	0.062	65	4.058	0.062	78	4.868
<i>Secondary Distribution</i>																				
AF				-	-		42	2.610		45	2.797		8	0.499		65	4.058		73	4.557
AFNG				-	-		4	0.249		1	0.062		2	0.124		-	-		2	0.124
AFR				-	-		3	0.186		1	0.062		3	0.187		-	-		3	0.187

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force															Date: February 2019					
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 02 / 3					P-1 Line Item Number / Title: 823990 / Special Purpose Vehicles										Aggregated Items Title: Special Purpose Vehicles					
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
TRUCK, MAINTENANCE 3/4T 4X4 (2320-00-541-1714)	A		-	-	-	0.036	7	0.255	0.035	4	0.139	0.035	17	0.592	0.035	1	0.035	0.035	18	0.627
<i>Secondary Distribution</i>																				
AF			-	-	-		2	0.074		3	0.104		7	0.244		1	0.035		8	0.279
AFNG			-	-	-		4	0.145		-	-		10	0.348		-	-		10	0.348
AFR			-	-	-		1	0.036		1	0.035		-	-		-	-		-	-
TRUCK, TELEPHONE MAINT STD UTIL 4x2 (2320-00-801-9193)	A		-	-	-	-	-	-	0.036	8	0.289	0.030	16	0.485	-	-	-	0.030	16	0.485
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	-	-	5	0.181	-	7	0.212	-	-	-	-	7	0.212
AFNG			-	-	-	-	-	-	-	1	0.036	-	5	0.152	-	-	-	-	5	0.152
AFR			-	-	-	-	-	-	-	2	0.072	-	4	0.121	-	-	-	-	4	0.121
3 TON STAKE AND PLATFORM (2320-00-935-4696)	A		-	-	-	0.168	6	1.011	-	-	-	-	-	-	-	-	-	-	-	-
<i>Secondary Distribution</i>																				
AF			-	-	-		4	0.674		-	-		-	-		-	-		-	-
AFR			-	-	-		2	0.337		-	-		-	-		-	-		-	-
TRK TANK 1200G 4X2 (2320-00-177-6777)	A		-	-	-	-	-	-	0.201	10	2.012	-	-	-	0.130	4	0.518	0.130	4	0.518
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	-	-	10	2.012	-	-	-	-	4	0.518	-	4	0.518
TRK TANK 1200G 4X4 (2320-00-177-6778)	A		-	-	-	-	-	-	0.147	5	0.735	0.152	2	0.304	0.152	3	0.456	0.152	5	0.760
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	-	-	5	0.735	-	-	-	-	3	0.456	-	3	0.456
AFNG			-	-	-	-	-	-	-	-	-	-	2	0.304	-	-	-	-	2	0.304
TRK HI-LIFT 9TON (2320-00-540-3991)	A		-	-	-	-	-	-	0.240	1	0.240	-	-	-	-	-	-	-	-	-
<i>Secondary Distribution</i>																				
AFR			-	-	-	-	-	-	-	1	0.240	-	-	-	-	-	-	-	-	-
TRK MAINT TEL 4DR (2320-00-451-2184)	A		-	-	-	-	-	-	0.040	4	0.160	0.034	12	0.412	-	-	-	0.034	12	0.412
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	-	-	4	0.160	-	7	0.240	-	-	-	-	7	0.240
AFNG			-	-	-	-	-	-	-	-	-	-	5	0.172	-	-	-	-	5	0.172

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force															Date: February 2019					
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 02 / 3					P-1 Line Item Number / Title: 823990 / Special Purpose Vehicles										Aggregated Items Title: Special Purpose Vehicles					
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
LARGE CAPACITY REFUELER VEHICLE (LCRV) (2320-01-592-4114YW)	A		-	-	-	-	-	-	1.245	1	1.245	0.675	1	0.675	-	-	-	0.675	1	0.675
<i>Secondary Distribution</i>																				
AF										1	1.245		1	0.675					1	0.675
TRK TNK FUEL 6000GAL R-11 (2320-00-433-5695)	A		-	-	-	0.209	71	14.844	0.209	48	10.050	0.212	18	3.822	0.212	75	15.925	0.212	93	19.747
<i>Secondary Distribution</i>																				
AF							59	12.331		45	9.423		3	0.637		75	15.925		78	16.562
AFNG							9	1.885		-	-		10	2.123		-	-		10	2.123
AFR							3	0.628		3	0.627		5	1.062		-	-		5	1.062
TRUCK, EXTENDED REACH DEICER (1730-01-495-5449YW)	A		-	-	-	-	-	-	0.676	19	12.842	-	-	-	0.676	16	10.812	0.676	16	10.812
<i>Secondary Distribution</i>																				
AF										19	12.842					16	10.812		16	10.812
TRK MNT DIGGER DERRICK (2320-01-397-7528)	A		-	-	-	0.292	7	2.047	-	-	-	0.305	1	0.305	-	-	-	0.305	1	0.305
<i>Secondary Distribution</i>																				
AF							5	1.462					1	0.305					1	0.305
AFR							2	0.585												
TRLR MAINT (2330-01-308-8926)	A		-	-	-	0.013	21	0.278	-	-	-	-	-	-	-	-	-	-	-	-
<i>Secondary Distribution</i>																				
AF							15	0.199												
AFNG							5	0.066												
AFR							1	0.013												
2000GAL DEICER (1730-01-605-7636YW)	A		-	-	-	0.250	3	0.751	-	-	-	-	-	-	-	-	-	-	-	-
<i>Secondary Distribution</i>																				
AF							3	0.751												
PMA OTHER GOVERNMENT COSTS	A		-	-	-	-	-	0.005	-	-	0.021	-	-	0.017	-	-	-	-	-	0.017
<i>Secondary Distribution</i>																				
AF								0.005			0.021			0.017						0.017
PMA CONTRACTOR SERVICES	A		-	-	-	-	-	-	-	-	-	-	-	0.500	-	-	-	-	-	0.500
<i>Secondary Distribution</i>																				

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 02 / 3	P-1 Line Item Number / Title: 823990 / Special Purpose Vehicles	Aggregated Items Title: Special Purpose Vehicles
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Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
AF				-	-		-	-		-	-		-	0.500		-	-		-	0.500
STAIRCASE TRK (1730-01-601-8086YW)	A		-	-	-	-	-	0.149	18	2.684	0.156	3	0.467		-	-	-	0.156	3	0.467
<i>Secondary Distribution</i>																				
AF				-	-		-	-	18	2.684		2	0.311		-	-			2	0.311
AFNG				-	-		-	-		-		1	0.156		-	-			1	0.156
LAVATORY SERVICE TRK (1730-00-981-7605YW)	A		-	-	-	-	-	0.137	22	3.003	0.157	5	0.783		-	-		0.157	5	0.783
<i>Secondary Distribution</i>																				
AF				-	-		-	-	22	3.003		3	0.470		-	-			3	0.470
AFNG				-	-		-	-		-		2	0.313		-	-			2	0.313
TRAC ACFT TOW (1740-01-367-9485YW)	A		-	-	-	0.346	28	9.674	0.346	19	6.565	0.354	3	1.062	0.354	13	4.604	0.354	16	5.666
<i>Secondary Distribution</i>																				
AF				-	-		28	9.674		18	6.219		1	0.354		13	4.604		14	4.958
AFNG				-	-		-	-		-		2	0.708		-	-			2	0.708
AFR				-	-		-	-		1	0.346		-	-		-	-		-	-
TRK REFRGR 4X2 (2320-00-770-4467)	A		-	-	-	0.097	4	0.390	-	-	-	2	0.250	0.125	6	0.750	0.125	8	1.000	
<i>Secondary Distribution</i>																				
AF				-	-		4	0.390		-	-		2	0.250		6	0.750		8	1.000
TRK HYDRANT FUEL (2320-01-125-2481)	A		-	-	-	0.416	4	1.664	0.410	12	4.919	0.302	2	0.604	0.302	1	0.302	0.302	3	0.906
<i>Secondary Distribution</i>																				
AF				-	-		4	1.664		11	4.509		2	0.604		1	0.302		3	0.906
AFR				-	-		-	-		1	0.410		-	-		-	-		-	-
TRK FUEL AVGAS (2320-01-597-1728)	A		-	-	-	0.168	7	1.176	-	-	-	-	-	-	-	-	-	-	-	-
<i>Secondary Distribution</i>																				
AF				-	-		7	1.176		-	-		-	-		-	-		-	-
FFTT, 4X4 (1740-01-452-4117YW)	A		-	-	-	-	-	-	0.063	41	2.571	0.065	7	0.455	0.065	9	0.584	0.065	16	1.039
<i>Secondary Distribution</i>																				
AF				-	-		-	-		41	2.571		6	0.390		9	0.584		15	0.974
AFNG				-	-		-	-		-	-		1	0.065		-	-		1	0.065
DEICER TRK MOUNTED (1730-00-555-6205YW)	A		-	-	-	-	-	-	0.461	45	20.723	0.461	1	0.461	0.461	13	5.987	0.461	14	6.448
<i>Secondary Distribution</i>																				

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 02 / 3 **P-1 Line Item Number / Title:** 823990 / Special Purpose Vehicles **Aggregated Items Title:** Special Purpose Vehicles

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
AF				-	-		-	-	45	20.723		-	-		13	5.987		13	5.987	
AFNG				-	-		-	-	-	-		1	0.461		-	-		1	0.461	
Subtotal: Uncategorized			-	-	-	-	-	52.263	-	-	77.683	-	-	14.593	-	-	52.502	-	-	67.095
Total			-	-	-	-	-	52.263	-	-	77.683	-	-	14.593	-	-	52.502	-	-	67.095

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

Remarks:

Based on AF Mission changes and/or AF Mission priorities, NSNs and/or quantities may change during year of execution.

UNIT COSTS FOR FY20 ARE SUBJECT TO CHANGE.

PMA OTHER CONTRACTOR SERVICES: This funding includes provisions for government contract oversight, technical expertise, and program office support for contracts on all aircraft tow vehicles, refuelers, staircase trucks, and deicers.

PMA OTHER GOVERNMENT COSTS: This line supports the operation of the program office in its management and oversight role via travel, procurement of supplies and studies.

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 02: Vehicular Equipment / BSA 4: Fire Fighting Equipment	P-1 Line Item Number / Title: 824010 / Fire Fighting/Crash Rescue Vehicles
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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: 0202834F, 0901279F
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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>)	-	37.351	33.064	28.604	16.652	45.256	50.446	49.531	36.405	44.460	-	296.513
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	37.351	33.064	28.604	16.652	45.256	50.446	49.531	36.405	44.460	-	296.513
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	37.351	33.064	28.604	16.652	45.256	50.446	49.531	36.405	44.460	-	296.513

(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 Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

FY18 funding totals include \$22.583M appropriated for Overseas Contingency Operations.

FY19 funding totals include \$9.736M appropriated for Overseas Contingency Operations.

This P-1 line procures a variety of critical fire fighting and crash rescue vehicles. Vehicles typically include, but are not limited to, the following:

-- The P-19 Crash Truck is an Air Rescue and Fire Fighting (ARFF) vehicle that is a first response vehicle on the scene of an aircraft fire emergency. It equips bases with the capability to rapidly extinguish aircraft fires. This truck is a mandatory flight line operations safety requirement and is essential at bases with a flying mission. The P-19 also provides fire fighting capability for Air National Guard and Air Force Reserve installations located at municipal airports. An installation's P-19 requirement is determined by the type of aircraft frequenting the aerial facility and the resulting gallons per minute of fire fighting agent required. This vehicle provides aircrew, passenger, weapons, and airframe fire protection at a crash site.

-- The P-21 Aerial Lift Truck is a fire fighting vehicle with a 105 foot aerial ladder. It provides improved agent delivery over older model vehicles, as well as the capability to provide elevated delivery of agent involving high rise buildings and warehouse facilities.

-- The P-22 4x2 and P-24 4x4 Pumper Trucks are designed primarily to fight structural fires. The trucks have a 750-gallon water tank and a 50-gallon Aqueous FilmFoam class "A" foam tank and are capable of applying 1250 gallons per minute. P-24 is built on a rugged 4x4 chassis that equips forces with limited off-road/rugged terrain capability. The P-22 4x2 Pumper Truck has the same fire fighting capability as the P-24, but is used in urban areas.

-- The P-23 Crash Truck is a larger version of the P-19 ARFF truck and has a larger fire suppression capacity. It is primarily assigned at transport, bomber, depot, and cargo aircraft bases.

-- The P-26 Water Tanker Truck is a 4000-gallon resupply truck used to support the ARFF vehicles, fight wild land fires, and provide mutual assistance to communities.

-- The P-29 Wild Land Firefighting Truck is a four-person crew cab truck which contains a modular agent and pump and roll delivery system as well as firefighting tools and equipment. This truck is outfitted with a Compressed Air Foam System (CAFS) and has a 500 gallon water tank. The truck is intended to combat wild land and brush type fires.

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 02: Vehicular Equipment / BSA 4: Fire Fighting Equipment		P-1 Line Item Number / Title: 824010 / Fire Fighting/Crash Rescue Vehicles
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0202834F, 0901279F
Line Item MDAP/MAIS Code: N/A		

-- The P-30 is a Medium Rescue Vehicle. It is designed to bring equipment, lighting, a winch, and a generator to the scene of a rescue event. This vehicle has 450 cubic feet of storage space and affords easy equipment access and improved storage compartments. This truck is assigned to the larger industrial bases.

-- The P-31 Hazardous Material Vehicle is a dual purpose vehicle that stows and transports hazardous material response equipment for the purpose of mitigating chemical leaks, spills, and releases. This vehicle also provides an incident command workstation area for the purpose of research, command, control, and communications during containment/cleanup operations.

-- The P-33 Quint Truck is a fire fighting truck with a 75 foot aerial ladder. It provides improved agent delivery over older models as well as the capability to provide elevated delivery of agent involving high rise and warehouse facilities.

-- The P-34 is a first response Air Rescue and Fire Fighting (ARFF) vehicle which equips forces with initial "knock down" capability. The P-34 is the first fire truck to employ Ultra High Pressure (UHP) technology which allows the vehicle to discharge a mixture of water and foam at 1350 psi. This UHP technology makes the vehicle three times more effective than a conventional ARFF truck. The truck has a 400 gallon water tank and a 50 gallon foam tank along with a bumper turret and 200 feet of hand line all mounted on an F-550 chassis.

-- The Rapid Intervention Vehicle (RIV) is a first response aircraft fire truck; it is the newest addition to the Air Force's fleet of crash response vehicles. The RIV is the first vehicle in the AF to use new Ultra High Pressure (UHP) fire fighting technology which makes this truck 3 to 3.5 times more efficient at knock-down than conventional ARFF vehicles. This feature increases the length of time the vehicle can remain on the scene without having to be resupplied. Perched on an F550 chassis, the RIV is equipped with a 4-wheel drive train; it provides seating for four, equips fire fighters with limited storage for rescue equipment; has a bumper turret, a 200 ft hand line and a winch. Because of its size, speed and agility this truck can get to a crash scene quickly and perform fire fighting operations until the larger trucks can arrive at the scene.

These vehicles are all built to meet the performance standards of the National Fire Protection Association (NFPA), Occupational Safety and Health Administration (OSHA), Federal Aviation Administration (FAA), and Air Force safety regulations.

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.

Funding for this exhibit contained in PE 0202834F, 0702831, 0901279F.

As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 02: Vehicular Equipment / BSA 4: Fire Fighting Equipment	P-1 Line Item Number / Title: 824010 / Fire Fighting/Crash Rescue Vehicles
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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: 0202834F, 0901279F
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Line Item MDAP/MAIS Code: N/A

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	Fire Fighting/Crash Rescue Vehicles				- / -	- / 37.351	- / 33.064	- / 28.604	- / 16.652	- / 45.256
P-40	Total Gross/Weapon System Cost				- / -	- / 37.351	- / 33.064	- / 28.604	- / 16.652	- / 45.256

*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. Title represents the P-40a Title when only the P-40a Summary/Total is shown.

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

Justification:

FY20 procurement dollars in the amount of \$45.256M will procure, but not be limited to, 92 vehicles in support of installation and unit mission requirements for Air Force personnel.

FY20 OCO dollars in the amount of \$16.652M will procure, but not be limited to, 30 vehicles in support of installation and unit mission requirements for Air Force personnel.

Quantities are based on current requirements provided by the 441 Vehicle Support Chain Operations Squadron (VSCOS) IAW the process outlined in AFI 24-302, Vehicle Management. The requirements are generated from the priority buy model that is used to support the Planning, Programming, Budgeting and Execution (PPBE) process. The model calculates vehicle requirements by fund year by BPAC using end of life projections based on depreciation and service life of the vehicle, cumulative sustainment cost and mission priority.

Quantities reflected on the PDOCs show current requirements for each year supporting Active Duty, Air Force Reserve Center (AFRC), Air National Guard (ANG), Rapid Airfield Damage Repair (RADR), European Deterrence Initiative (EDI), Set the Theater Initiatives for PACOM, and other initiatives as they arise.

As the model applies the life expectancy/sustainment cost/mission priority logic in generating requirements, there can be gaps in individual vehicle type (NSN) requirements from year-to-year.

Unit Cost is subject to change from year-to-year based on buy quantities, CONUS/OCONUS locations, inflation and additional requirements (options required by users). Examples of options include, but are not limited to, specialized trailer towing packages, export (non-Ultra Low Sulfur Diesel) engines, and mission specific specialized attachments for construction vehicles. Unit cost is also subject to change based on fluctuations in contract pricing.

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force																Date: February 2019				
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 02 / 4						P-1 Line Item Number / Title: 824010 / Fire Fighting/Crash Rescue Vehicles						Aggregated Items Title: Fire Fighting/Crash Rescue Vehicles								
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
Uncategorized																				
TRUCK, AERIAL P-21 4210-01-057-0696	A		-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TRK FFGT 1000G ARFF P-19C AIR TRANSPORTABLE (4210-01-671-4966)	A		-	-	-	-	-	-	-	-	593,000.00	10	5.930	-	-	-	593,000.00	10	5.930	
TRUCK, PUMPER 4X2 P-22 4210-00-224-4564	A		-	-	-	731,000.00	3	2.193	452,000.00	6	2.712	454,000.00	9	4.086	-	-	454,000.00	9	4.086	
TRUCK, PUMPER 4X4 P-24 4210-00-233-1538	A		-	-	-	489,000.00	6	2.934	504,000.00	7	3.528	462,000.00	5	2.310	462,000.00	6	2.772	462,000.00	11	5.082
TRK FIRE CRS STRIKER 4210-00-702-6801	A		-	-	-	-	-	-	-	-	-	-	-	-	-	0.000	-	-	0.000	
TRUCK, WATER TANKER P-26 4210-01-356-4907	A		-	-	-	308,000.00	11	3.388	318,000.00	9	2.862	319,000.00	8	2.552	328,000.00	6	1.968	322,857.14	14	4.520
VEHICLE, MEDIUM RESCUE P-30 4210-01-452-5121	A		-	-	-	-	-	-	255,000.00	12	3.060	293,000.00	6	1.758	293,000.00	1	0.293	293,000.00	7	2.051
TRUCK, QUINT P-33 4210-01-500-1083	A		-	-	-	629,000.00	1	0.629	-	-	-	-	-	-	-	0.000	-	-	0.000	
TRUCK, WILDLAND P-29 4210-01-483-1025	A		-	-	-	405,000.00	1	0.405	419,000.00	2	0.838	419,000.00	5	2.095	-	-	0.000	419,000.00	5	2.095
TRUCK, QUICK ATTACK P-34 4210-01-553-4534	A		-	-	-	341,000.00	1	0.341	344,000.00	3	1.032	353,000.00	1	0.353	-	-	0.000	353,000.00	1	0.353
TRUCK, HAZMAT FIRE FIGHTING P31 4210-01-396-5219	A		-	-	-	477,000.00	3	1.431	493,000.00	4	1.972	435,000.00	5	2.175	-	-	0.000	435,000.00	5	2.175
TRUCK, ARFF P19UHP 4210-01-608-7285	A		-	-	-	628,000.00	26	16.328	649,000.00	12	7.788	653,000.00	8	5.224	-	-	0.000	653,000.00	8	5.224
TRK FIRE P23 4210-01-625-9765	A		-	-	-	-	-	-	-	-	-	-	-	-	-	0.000	-	-	0.000	
TRUCK, ARFF P23UHP 4210-01-608-7287	A		-	-	-	693,000.00	14	9.702	705,000.00	13	9.165	705,000.00	3	2.115	683,470.59	17	11.619	686,700.00	20	13.734
PMA OTHER GOVERNMENT COSTS	A		-	-	-	-	-	-	-	-	0.107	-	-	0.006	-	-	-	-	-	0.006
Subtotal: Uncategorized			-	-	-	-	-	37.351	-	-	33.064	-	-	28.604	-	-	16.652	-	-	45.256
Total			-	-	-	-	-	37.351	-	-	33.064	-	-	28.604	-	-	16.652	-	-	45.256

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 02 / 4	P-1 Line Item Number / Title: 824010 / Fire Fighting/Crash Rescue Vehicles	Aggregated Items Title: Fire Fighting/Crash Rescue Vehicles

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

Remarks:
Based on AF Mission changes and/or AF Mission priorities, NSNs and/or quantities may change during year of execution.

UNIT COSTS FOR FY20 ARE SUBJECT TO CHANGE.

PMA OTHER GOVERNMENT COSTS: This line supports the operation of the program office in its management and oversight role via travel, procurement of supplies and studies.

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 02: Vehicular Equipment / BSA 5: Materials Handling Equipment	P-1 Line Item Number / Title: 825990 / Materials Handling Vehicles
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ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	-	24.419	36.217	21.848	2.944	24.792	33.182	38.042	45.930	29.281	-	231.863
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	24.419	36.217	21.848	2.944	24.792	33.182	38.042	45.930	29.281	-	231.863
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	24.419	36.217	21.848	2.944	24.792	33.182	38.042	45.930	29.281	-	231.863

(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 Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

FY18 funding totals include \$5.353M appropriated for Overseas Contingency Operations.

FY19 funding totals include \$24.680M appropriated for Overseas Contingency Operations.

This program includes various material handling vehicles with an individual item procurement value of less than \$5M. These vehicles consist of Forklifts, Container Handlers, Locomotive, Baggage Conveyors, Warehouse Tugs and Warehouse Cranes critical to Depot and Base Supply Operations.

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

Funding for these exhibits contained in PEs: 0202834F, 0207142F, 0207597F, 0208028F, 0507831F, 0702831F.

As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
AF	Quantity	158	276	204	17	221	-	-	-
	Total Obligation Authority	22.029	33.824	19.442	2.944	22.386	-	-	-
AFNG	Quantity	0	0	0	0	0	-	-	-
	Total Obligation Authority	0.000	0.000	0.000	0.000	0.000	-	-	-
AFR	Quantity	30	25	24	0	24	-	-	-
	Total Obligation Authority	2.390	2.393	2.406	0.000	2.406	-	-	-

UNCLASSIFIED

Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 02: Vehicular Equipment / BSA 5: Materials Handling Equipment	P-1 Line Item Number / Title: 825990 / Materials Handling Vehicles
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ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: N/A

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
Total:	Quantity	188	301	228	17	245	-	-	-	-
Secondary Distribution	Total Obligation Authority	24.419	36.217	21.848	2.944	24.792	-	-	-	-

UNCLASSIFIED

Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 02: Vehicular Equipment / BSA 5: Materials Handling Equipment	P-1 Line Item Number / Title: 825990 / Materials Handling Vehicles
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ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: N/A

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	Materials Handling Vehicles				- / -	- / 24.419	- / 36.217	- / 21.848	- / 2.944	- / 24.792
P-40	Total Gross/Weapon System Cost				- / -	- / 24.419	- / 36.217	- / 21.848	- / 2.944	- / 24.792

*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. Title represents the P-40a Title when only the P-40a Summary/Total is shown.

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

Justification:

FY20 procurement dollars in the amount of \$24.792M will procure, but not be limited to, 244 vehicles in support of installation and unit mission requirements for Air Force personnel.

FY20 OCO dollars in the amount of \$2.944M will procure, but not be limited to, 17 vehicles in support of installation and unit mission requirements for Air Force personnel.

Quantities are based on current requirements provided by the 441 Vehicle Support Chain Operations Squadron (VSCOS) IAW the process outlined in AFI 24-302, Vehicle Management. The requirements are generated from the priority buy model that is used to support the Planning, Programming, Budgeting and Execution (PPBE) process. The model calculates vehicle requirements by fund year by BPAC using end of life projections based on depreciation and service life of the vehicle, cumulative sustainment cost and mission priority.

Quantities reflected on the PDOCs show current requirements for each year supporting Active Duty, Air Force Reserve Center (AFRC), Air National Guard (ANG), Rapid Airfield Damage Repair (RADR), European Deterrence Initiative (EDI), Set the Theater Initiatives for PACOM, and other initiatives as they arise.

As the model applies the life expectancy/sustainment cost/mission priority logic in generating requirements, there can be gaps in individual vehicle type (NSN) requirements from year-to-year.

Unit Cost is subject to change from year-to-year based on buy quantities, CONUS/OCONUS locations, inflation and additional requirements (options required by users). Examples of options include, but are not limited to, specialized trailer towing packages, export (non-Ultra Low Sulfur Diesel) engines, and mission specific specialized attachments for construction vehicles. Unit cost is also subject to change based on fluctuations in contract pricing.

UNCLASSIFIED

Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 02 / 5 **P-1 Line Item Number / Title:** 825990 / Materials Handling Vehicles **Aggregated Items Title:** Materials Handling Vehicles

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
Uncategorized																				
FORKLIFT, 4K TRUCK 014221657	A		-	-	-	72,000.00	3	0.216	-	-	-	-	-	-	-	-	-	-	-	
<i>Secondary Distribution</i>																				
AF			-	-	-		3	0.216		-	-	-	-	-	-	-	-	-	-	
Halvorsen 25K Loader - ECAOS/EDI only (3930-01-466-3515CT)	A		-	-	-	873,000.00	3	2.619	899,000.00	6	5.394	-	-	-	-	-	-	-	-	
<i>Secondary Distribution</i>																				
AF			-	-	-		3	2.619		6	5.394		-	-	-	-	-	-	-	
TRK FL DED 4000# PT (3930-01-188-3585)	A		-	-	-	-	-	-	-	-	-	50,000.00	1	0.050	-	-	-	50,000.00	1	0.050
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	-	-	-	-		1	0.050		-	-		1	0.050
FORKLIFT, 4K ELECTRIC STANDARD 000539175	A		-	-	-	47,000.00	2	0.094	47,000.00	16	0.752	47,000.00	3	0.141	-	-	-	47,000.00	3	0.141
<i>Secondary Distribution</i>																				
AF			-	-	-		1	0.047		16	0.752		3	0.141		-	-		3	0.141
AFR			-	-	-		1	0.047		-	-		-	-		-	-		-	-
FORKLIFT, 2K ELECTRIC STANDARD 006782580	A		-	-	-	31,000.00	5	0.155	31,000.00	9	0.279	33,000.00	6	0.198	-	-	-	33,000.00	6	0.198
<i>Secondary Distribution</i>																				
AF			-	-	-		2	0.062		9	0.279		6	0.198		-	-		6	0.198
AFR			-	-	-		3	0.093		-	-		-	-		-	-		-	-
FORKLIFT, 4K DED 010130338	A		-	-	-	46,000.00	8	0.368	46,000.00	25	1.150	46,000.00	28	1.288	-	-	-	46,000.00	28	1.288
<i>Secondary Distribution</i>																				
AF			-	-	-		5	0.230		21	0.966		22	1.012		-	-		22	1.012
AFR			-	-	-		3	0.138		4	0.184		6	0.276		-	-		6	0.276
FORKLIFT, 4K COMMERCIAL 014330885	A		-	-	-	44,000.00	6	0.264	44,000.00	21	0.924	44,000.00	22	0.968	-	-	-	44,000.00	22	0.968
<i>Secondary Distribution</i>																				
AF			-	-	-		6	0.264		21	0.924		22	0.968		-	-		22	0.968
FORKLIFT, 15K COMMERCIAL 010471597	A		-	-	-	-	-	-	100,000.00	1	0.100	84,000.00	5	0.420	-	-	-	84,000.00	5	0.420

UNCLASSIFIED

Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force																Date: February 2019					
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 02 / 5						P-1 Line Item Number / Title: 825990 / Materials Handling Vehicles						Aggregated Items Title: Materials Handling Vehicles									
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total			
			Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	
<i>Secondary Distribution</i>																					
AF				-	-		-	-		-	-		5	0.420		-	-		5	0.420	
AFR				-	-		-	-		1	0.100		-	-		-	-		-	-	
FORKLIFT, 6K RT 008792157	A			-	-		-	-	125,000.00	4	0.500	125,000.00	1	0.125		-	-		125,000.00	1	0.125
<i>Secondary Distribution</i>																					
AF				-	-		-	-		4	0.500		1	0.125		-	-		1	0.125	
TRUCK MOUNTED CONVEYOR BELT 000195630	A			-	-	58,000.00	8	0.464	62,461.54	13	0.812	73,000.00	1	0.073		-	-		73,000.00	1	0.073
<i>Secondary Distribution</i>																					
AF				-	-		6	0.348		13	0.812		1	0.073		-	-		1	0.073	
AFR				-	-		2	0.116		-	-		-	-		-	-		-	-	
TRUCK, FORKLIFT NARROW AISLE 6K 014214083	A			-	-	72,500.00	8	0.580	145,000.00	4	0.580	145,000.00	6	0.870		-	-		145,000.00	6	0.870
<i>Secondary Distribution</i>																					
AF				-	-		8	0.580		4	0.580		6	0.870		-	-		6	0.870	
FORKLIFT, 6K DED 010525219	A			-	-	54,000.00	15	0.810	54,000.00	32	1.728	54,000.00	23	1.242	55,000.00	2	0.110	54,080.00	25	1.352	
<i>Secondary Distribution</i>																					
AF				-	-		14	0.756		32	1.728		23	1.242		2	0.110		25	1.352	
AFR				-	-		1	0.054		-	-		-	-		-	-		-	-	
4K AT 23.5FT RT BOOM FL 012104756	A			-	-	124,000.00	3	0.372	124,000.00	5	0.620	252,000.00	11	2.772		-	-		252,000.00	11	2.772
<i>Secondary Distribution</i>																					
AF				-	-		3	0.372		5	0.620		11	2.772		-	-		11	2.772	
FORKLIFT, 6K COMMERCIAL 014330887	A			-	-	45,000.00	10	0.450	45,000.00	26	1.170	45,000.00	30	1.350		-	-		45,000.00	30	1.350
<i>Secondary Distribution</i>																					
AF				-	-		5	0.225		23	1.035		30	1.350		-	-		30	1.350	
AFR				-	-		5	0.225		3	0.135		-	-		-	-		-	-	
FORKLIFT, FAT 10K AT 004889695	A			-	-	211,000.00	20	4.220	211,000.00	33	6.963	205,931.03	29	5.972	190,000.00	3	0.570	204,437.50	32	6.542	
<i>Secondary Distribution</i>																					
AF				-	-		16	3.376		28	5.908		22	4.642		3	0.570		25	5.212	
AFR				-	-		4	0.844		5	1.055		7	1.330		-	-		7	1.330	
FORKLIFT, 10K STANDARD 008566897	A			-	-	90,000.00	21	1.890	90,000.00	46	4.140	92,000.00	29	2.668	92,000.00	2	0.184	92,000.00	31	2.852	

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force																Date: February 2019				
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 02 / 5						P-1 Line Item Number / Title: 825990 / Materials Handling Vehicles						Aggregated Items Title: Materials Handling Vehicles								
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
<i>Secondary Distribution</i>																				
AF				-	-		13	1.170		37	3.330		22	2.024		2	0.184		24	2.208
AFR				-	-		8	0.720		9	0.810		7	0.644		-	-		7	0.644
FORKLIFT, 3K ELECTRIC 011022185	A			-	-	25,000.00	5	0.125	25,000.00	4	0.100	25,000.00	1	0.025	-	-	-	25,000.00	1	0.025
<i>Secondary Distribution</i>																				
AF				-	-		5	0.125		3	0.075		1	0.025		-	-		1	0.025
AFR				-	-		-	-		1	0.025		-	-		-	-		-	-
FORKLIFT, 6K ELECTRIC 010471157	A			-	-	46,000.00	3	0.138	46,000.00	4	0.184	39,000.00	12	0.468	-	-	-	39,000.00	12	0.468
<i>Secondary Distribution</i>																				
AF				-	-		3	0.138		4	0.184		8	0.312		-	-		8	0.312
AFR				-	-		-	-		-	-		4	0.156		-	-		4	0.156
10K 55' REACH TELEHANDLER 015769312	A			-	-	205,000.00	44	9.020	222,000.00	15	3.330	208,000.00	3	0.624	208,000.00	10	2.080	208,000.00	13	2.704
<i>Secondary Distribution</i>																				
AF				-	-		44	9.020		15	3.330		3	0.624		10	2.080		13	2.704
4K WHSE TRAC 010070115	A			-	-	51,000.00	9	0.459	51,000.00	20	1.020	57,000.00	7	0.399	-	-	-	57,000.00	7	0.399
<i>Secondary Distribution</i>																				
AF				-	-		6	0.306		19	0.969		7	0.399		-	-		7	0.399
AFR				-	-		3	0.153		1	0.051		-	-		-	-		-	-
FORKLIFT, 20K DED 010396763	A			-	-	157,000.00	4	0.628	-	-	-	-	-	-	-	-	-	-	-	-
<i>Secondary Distribution</i>																				
AF				-	-		4	0.628		-	-		-	-		-	-		-	-
FORKLIFT, 3K ELECTRIC 011028903	A			-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FORKLIFT, TRUCK 22000 DED 012203657	A			-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FORKLIFT, TRUCK 50000 ATCNTR 013073658	A			-	-	678,000.00	1	0.678	746,000.00	5	3.730	440,000.00	3	1.320	-	-	-	440,000.00	3	1.320
<i>Secondary Distribution</i>																				
AF				-	-		1	0.678		5	3.730		3	1.320		-	-		3	1.320
FORKLIFT, 25K 013904562	A			-	-	181,000.00	3	0.543	697,000.00	1	0.697	234,000.00	1	0.234	-	-	-	234,000.00	1	0.234

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 02 / 5 **P-1 Line Item Number / Title:** 825990 / Materials Handling Vehicles **Aggregated Items Title:** Materials Handling Vehicles

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
<i>Secondary Distribution</i>																				
AF				-	-		3	0.543		1	0.697		1	0.234		-	-		1	0.234
FORKLIFT, TRUCK ELEC NARI 3000# 011028906	A		-	-	43,000.00	7	0.301	33,000.00	3	0.099	33,000.00	4	0.132		-	-		33,000.00	4	0.132
<i>Secondary Distribution</i>																				
AF				-	-	7	0.301		2	0.066		4	0.132		-	-			4	0.132
AFR				-	-				1	0.033			-	-		-	-			-
PMA OTHER GOVERNMENT COSTS	A		-	-	-	-	0.025	-	-	0.017	-	-	0.027	-	-	-	-	-	-	0.027
<i>Secondary Distribution</i>																				
AF				-	-			0.025		-	0.017		-	0.027		-	-		-	0.027
FORKLIFT, TRUCK AT LGE CAP 13K 011260457	A		-	-	-	-		-	241,000.00	8	1.928	241,000.00	2	0.482	-	-	-	241,000.00	2	0.482
<i>Secondary Distribution</i>																				
AF				-	-					8	1.928		2	0.482		-	-		2	0.482
Subtotal: Uncategorized			-	-	-	-	24.419	-	-	36.217	-	-	21.848	-	-	2.944	-	-	24.792	
Total			-	-	-	-	24.419	-	-	36.217	-	-	21.848	-	-	2.944	-	-	24.792	

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

Remarks:

Based on AF Mission changes and/or AF Mission priorities, NSNs and/or quantities may change during year of execution.

UNIT COSTS FOR FY20 ARE SUBJECT TO CHANGE.

PMA OTHER GOVERNMENT COSTS: This line supports the operation of the program office in its management and oversight role via travel, procurement of supplies and studies.

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity:
3080F: Other Procurement, Air Force / BA 02: Vehicular Equipment / BSA 6: Base Maintenance Support

P-1 Line Item Number / Title:
826210 / Runway Snow Remov And Cleaning Equ

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>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	-	14.524	47.280	2.925	3.753	6.678	7.227	7.075	8.914	10.684	-	102.382
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	14.524	47.280	2.925	3.753	6.678	7.227	7.075	8.914	10.684	-	102.382
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	14.524	47.280	2.925	3.753	6.678	7.227	7.075	8.914	10.684	-	102.382

(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 Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

FY18 funding totals include \$11.315M appropriated for Overseas Contingency Operations.

FY19 funding totals include \$9.680M appropriated for Overseas Contingency Operations.

This program procures snow removal vehicles and commercial sweepers used on all airfield surfaces to remove snow and help prevent foreign object damage (FOD) to aircraft engines and tires. Snow removal equipment includes front mounted brooms, multi-purpose blowers, and plows. These vehicles provide critical mission support to airfield operations because fighter aircraft cannot land or take off with ice on the runway. Multi-purpose vacuum sweepers maintain airfields, roads, and grounds. Vacuum sweepers provide equally important support at all air bases due to the high cost of FOD and the potential for loss in FOD-related engine accidents.

These assets are critical to the Air Force mission. They are the primary equipment used for snow, ice, and debris removal from runways and taxiways year round. The vital functions of these vehicles prevent the closing of airfields due to debris and/or snow and ice buildup.

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.

Funding for this exhibit contained in PEs: 0202834F, 0207142F, 0208028F, 0502831F, 0507831F, 0702831F.

As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
AF									
Quantity	59	124	11	20	31	-	-	-	-
Total Obligation Authority	14.146	46.902	2.513	3.753	6.266	-	-	-	-

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 02: Vehicular Equipment / BSA 6: Base Maintenance Support	P-1 Line Item Number / Title: 826210 / Runway Snow Remov And Cleaning Equ
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ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: N/A

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
AFNG	Quantity	1	1	1	0	1	-	-	-	-
	Total Obligation Authority	0.303	0.303	0.335	0.000	0.335	-	-	-	-
AFR	Quantity	1	1	1	0	1	-	-	-	-
	Total Obligation Authority	0.075	0.075	0.077	0.000	0.077	-	-	-	-
Total: Secondary Distribution	Quantity	61	126	13	20	33	-	-	-	-
	Total Obligation Authority	14.524	47.280	2.925	3.753	6.678	-	-	-	-

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 02: Vehicular Equipment / BSA 6: Base Maintenance Support **P-1 Line Item Number / Title:** 826210 / Runway Snow Remov And Cleaning Equ

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-40a	Runway Snow Remov And Cleaning Equ				- / -	- / 14.524	- / 47.280	- / 2.925	- / 3.753	- / 6.678
P-40	Total Gross/Weapon System Cost				- / -	- / 14.524	- / 47.280	- / 2.925	- / 3.753	- / 6.678

*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. Title represents the P-40a Title when only the P-40a Summary/Total is shown.

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

Justification:

FY20 procurement dollars in the amount of \$6.678M will procure, but not be limited to, 33 vehicles in support of installation and unit mission requirements for Air Force personnel.

FY20 OCO dollars in the amount of \$3.753M will procure, but not be limited to, 20 vehicles in support of installation and unit mission requirements for Air Force personnel.

Quantities are based on current requirements provided by the 441 Vehicle Support Chain Operations Squadron (VSCOS) IAW the process outlined in AFI 24-302, Vehicle Management. The requirements are generated from the priority buy model that is used to support the Planning, Programming, Budgeting and Execution (PPBE) process. The model calculates vehicle requirements by fund year by BPAC using end of life projections based on depreciation and service life of the vehicle, cumulative sustainment cost and mission priority.

Quantities reflected on the PDOCs show current requirements for each year supporting Active Duty, Air Force Reserve Center (AFRC), Air National Guard (ANG), Rapid Airfield Damage Repair (RADR), European Deterrence Initiative (EDI), Set the Theater Initiatives for PACOM, and other initiatives as they arise.

As the model applies the life expectancy/sustainment cost/mission priority logic in generating requirements, there can be gaps in individual vehicle type (NSN) requirements from year-to-year.

Unit Cost is subject to change from year-to-year based on buy quantities, CONUS/OCONUS locations, inflation and additional requirements (options required by users). Examples of options include, but are not limited to, specialized trailer towing packages, export (non-Ultra Low Sulfur Diesel) engines, and mission specific specialized attachments for construction vehicles. Unit cost is also subject to change based on fluctuations in contract pricing.

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force																Date: February 2019				
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 02 / 6						P-1 Line Item Number / Title: 826210 / Runway Snow Remov And Cleaning Equ						Aggregated Items Title: Runway Snow Remov And Cleaning Equ								
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
Uncategorized																				
CLEANER, VAC MULTIPURPOSE (2438)	A		-	-	-	173,000.00	34	5.882	172,772.73	44	7.602	173,000.00	4	0.692	173,000.00	12	2.076	173,000.00	16	2.768
<i>Secondary Distribution</i>																				
AF			-	-	-		34	5.882		44	7.602		4	0.692		12	2.076		16	2.768
RAPID RUNWAY REPAIR DIRT SWEEPER (1997)	A		-	-	-	75,000.00	10	0.750	73,142.86	14	1.024	77,000.00	3	0.231	77,000.00	5	0.385	77,000.00	8	0.616
<i>Secondary Distribution</i>																				
AF			-	-	-		9	0.675		13	0.949		2	0.154		5	0.385		7	0.539
AFR			-	-	-		1	0.075		1	0.075		1	0.077		-	-		1	0.077
54K PLOW (7657)	A		-	-	-	303,000.00	1	0.303	303,181.82	11	3.335	-	-	-	-	-	-	-	-	-
<i>Secondary Distribution</i>																				
AF			-	-	-		-	-		10	3.032		-	-		-	-		-	-
AFNG			-	-	-		1	0.303		1	0.303		-	-		-	-		-	-
DUMP W/SNOW PLOW (3963)	A		-	-	-	-	-	-	-	-	-	180,000.00	2	0.360	-	-	-	180,000.00	2	0.360
<i>Secondary Distribution</i>																				
AF			-	-	-		-	-		-	-		2	0.360		-	-		2	0.360
SNOW BROOM AND BLOWER (3770)	A		-	-	-	527,000.00	5	2.635	1,053K	14	14.745	449,000.00	1	0.449	449,000.00	2	0.898	449,000.00	3	1.347
<i>Secondary Distribution</i>																				
AF			-	-	-		5	2.635		14	14.745		1	0.449		2	0.898		3	1.347
SNOW REMOVAL UNIT 3K TON PER HOUR (5554)	A		-	-	-	526,000.00	5	2.630	527,321.43	28	14.765	496,000.00	1	0.496	-	-	-	496,000.00	1	0.496
<i>Secondary Distribution</i>																				
AF			-	-	-		5	2.630		28	14.765		1	0.496		-	-		1	0.496
45K REVERSIBLE PLOW (1944)	A		-	-	-	386,000.00	6	2.316	386,200.00	15	5.793	335,000.00	2	0.670	335,000.00	1	0.335	335,000.00	3	1.005
<i>Secondary Distribution</i>																				
AF			-	-	-		6	2.316		15	5.793		1	0.335		1	0.335		2	0.670
AFNG			-	-	-		-	-		-	-		1	0.335		-	-		1	0.335
PMA OTHER GOVERNMENT COSTS	A		-	-	-	-	-	0.008	-	-	0.016	-	-	0.027	-	-	0.059	-	-	0.086
<i>Secondary Distribution</i>																				
AF			-	-	-		-	0.008		-	0.016		-	0.027		-	0.059		-	0.086
Subtotal: Uncategorized			-	-	-	-	-	14.524	-	-	47.280	-	-	2.925	-	-	3.753	-	-	6.678
Total			-	-	-	-	-	14.524	-	-	47.280	-	-	2.925	-	-	3.753	-	-	6.678

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 02 / 6	P-1 Line Item Number / Title: 826210 / Runway Snow Remov And Cleaning Equ	Aggregated Items Title: Runway Snow Remov And Cleaning Equ

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

Remarks:

Based on AF Mission changes and/or AF Mission priorities, NSNs and/or quantities may change during year of execution.

UNIT COSTS FOR FY20 ARE SUBJECT TO CHANGE.

PMA OTHER GOVERNMENT COSTS: This line supports the operation of the program office in its management and oversight role via travel, procurement of supplies and studies.

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 02: Vehicular Equipment / BSA 6: Base Maintenance Support	P-1 Line Item Number / Title: 826990 / Base Maintenance Support Vehicles
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ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	-	95.241	114.603	55.776	11.837	67.613	74.485	70.604	68.042	71.849	-	562.437
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	95.241	114.603	55.776	11.837	67.613	74.485	70.604	68.042	71.849	-	562.437
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	95.241	114.603	55.776	11.837	67.613	74.485	70.604	68.042	71.849	-	562.437

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

Description:

FY18 funding totals include \$40.451M appropriated for Overseas Contingency Operations.

FY19 funding totals include \$9.680M appropriated for Overseas Contingency Operations.

This vehicle group consist of maintenance/test vans, water distribution trucks and heavy construction equipment (dozers, large cranes, large dump trucks, rock crushers, motorized scrapers, well-drilling vehicles, compactors, wheel loaders, graders, cement mixers, paving machines, excavators, sewer trucks, refuse trucks, trenches and backhoes). The assets are critical to the Air Force mission and are crucial to keeping many sortie generation/sortie sustainment missions supported and operational. The types of items contained in this P-1 line are critical (deployed) assets used in direct support of Air Force units engaged in contingency operations.

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

Funding for this exhibit contained in PEs: 0202834F, 0207597, 0208028F, 0401221F, 0502831F, 0507831F, 0702831F.

As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
AF	Quantity	421	604	302	75	377	-	-	-
	Total Obligation Authority	92.917	112.346	54.726	11.837	66.563	-	-	-
AFNG	Quantity	19	7	5	0	5	-	-	-
	Total Obligation Authority	2.043	1.978	0.776	0.000	0.776	-	-	-

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 02: Vehicular Equipment / BSA 6: Base Maintenance Support	P-1 Line Item Number / Title: 826990 / Base Maintenance Support Vehicles
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ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: N/A

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
AFR	Quantity	4	1	4	0	4	-	-	-	-
	Total Obligation Authority	0.281	0.279	0.274	0.000	0.274	-	-	-	-
Total: Secondary Distribution	Quantity	444	612	311	75	386	-	-	-	-
	Total Obligation Authority	95.241	114.603	55.776	11.837	67.613	-	-	-	-

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 02: Vehicular Equipment / BSA 6: Base Maintenance Support **P-1 Line Item Number / Title:** 826990 / Base Maintenance Support Vehicles

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-40a	Base Maintenance Support Vehicles				- / -	- / 95.241	- / 114.603	- / 55.776	- / 11.837	- / 67.613
P-40	Total Gross/Weapon System Cost				- / -	- / 95.241	- / 114.603	- / 55.776	- / 11.837	- / 67.613

*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. Title represents the P-40a Title when only the P-40a Summary/Total is shown.

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

Justification:

FY20 procurement dollars in the amount of \$67.613M will procure, but not be limited to, 386 vehicles in support of installation and unit mission requirements for Air Force personnel.

FY20 OCO dollars in the amount of \$11.837M will procure, but not be limited to, 75 vehicles in support of installation and unit mission requirements for Air Force personnel.

Quantities are based on current requirements provided by the 441 Vehicle Support Chain Operations Squadron (VSCOS) IAW the process outlined in AFI 24-302, Vehicle Management. The requirements are generated from the priority buy model that is used to support the Planning, Programming, Budgeting and Execution (PPBE) process. The model calculates vehicle requirements by fund year by BPAC using end of life projections based on depreciation and service life of the vehicle, cumulative sustainment cost and mission priority.

Quantities reflected on the PDOCs show current requirements for each year supporting Active Duty, Air Force Reserve Center (AFRC), Air National Guard (ANG), Rapid Airfield Damage Repair (RADR), European Deterrence Initiative (EDI), Set the Theater Initiatives for PACOM, and other initiatives as they arise.

As the model applies the life expectancy/sustainment cost/mission priority logic in generating requirements, there can be gaps in individual vehicle type (NSN) requirements from year-to-year.

Unit Cost is subject to change from year-to-year based on buy quantities, CONUS/OCONUS locations, inflation and additional requirements (options required by users). Examples of options include, but are not limited to, specialized trailer towing packages, export (non-Ultra Low Sulfur Diesel) engines, and mission specific specialized attachments for construction vehicles. Unit cost is also subject to change based on fluctuations in contract pricing.

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force																Date: February 2019				
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 02 / 6						P-1 Line Item Number / Title: 826990 / Base Maintenance Support Vehicles						Aggregated Items Title: Base Maintenance Support Vehicles								
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Uncategorized																				
DUMP TRUCK, 6X4, 64k GVW (2320-01-524-6043)	A		-	-	-	-	-	-	0.160	18	2.883	0.154	2	0.308	-	-	-	0.154	2	0.308
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	-	-	18	2.883	-	2	0.308	-	-	-	-	2	0.308
BATCHING PLANT (3895-01-063-2722)	A		-	-	-	-	-	-	-	-	-	1.193	1	1.193	-	-	-	1.193	1	1.193
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	-	-	-	-	-	1	1.193	-	-	-	-	1	1.193
MKR TRAFFIC (3825-00-542-2515)	A		-	-	-	0.311	10	3.110	-	-	-	-	-	-	-	-	-	-	-	-
<i>Secondary Distribution</i>																				
AF			-	-	-	-	10	3.110	-	-	-	-	-	-	-	-	-	-	-	-
CRANE 25TON ROUGH TERRAIN (3810-01-479-9745)	A		-	-	-	-	-	-	0.279	1	0.279	-	-	-	-	-	-	-	-	-
<i>Secondary Distribution</i>																				
AFR			-	-	-	-	-	-	-	1	0.279	-	-	-	-	-	-	-	-	-
MIXER, CONCRETE TRK (3895-01-543-8568)	A		-	-	-	-	-	-	-	-	-	0.250	5	1.250	-	-	-	0.250	5	1.250
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	-	-	-	-	-	5	1.250	-	-	-	-	5	1.250
TRAC FTRACD SZT4 (2410-00-166-4176)	A		-	-	-	0.119	14	1.666	0.119	5	0.595	0.146	2	0.292	0.146	3	0.438	0.146	5	0.730
<i>Secondary Distribution</i>																				
AF			-	-	-	-	14	1.666	-	5	0.595	-	1	0.146	-	3	0.438	-	4	0.584
AFR			-	-	-	-	-	-	-	-	-	-	1	0.146	-	-	-	-	1	0.146
FRONT HOIST REF TRK (2320-01-470-6102)	A		-	-	-	0.209	6	1.254	-	-	-	0.225	3	0.675	-	-	-	0.225	3	0.675
<i>Secondary Distribution</i>																				
AF			-	-	-	-	6	1.254	-	-	-	-	3	0.675	-	-	-	-	3	0.675
SCOOP LOADER (3805-00-260-1967)	A		-	-	-	0.149	11	1.639	0.149	23	3.427	0.153	5	0.766	-	-	-	0.153	5	0.766
<i>Secondary Distribution</i>																				
AF			-	-	-	-	10	1.490	-	22	3.278	-	5	0.766	-	-	-	-	5	0.766
AFNG			-	-	-	-	1	0.149	-	1	0.149	-	-	-	-	-	-	-	-	-
TRK DP 24000-33000G 4X2 (2320-00-833-6117)	A		-	-	-	0.082	27	2.214	0.082	23	1.886	0.082	3	0.246	-	-	-	0.082	3	0.246

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force																Date: February 2019					
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 02 / 6						P-1 Line Item Number / Title: 826990 / Base Maintenance Support Vehicles						Aggregated Items Title: Base Maintenance Support Vehicles									
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total			
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	
<i>Secondary Distribution</i>																					
AF				-	-		16	1.312		23	1.886		3	0.246			-	-		3	0.246
AFNG				-	-		8	0.656		-	-		-	-			-	-		-	-
AFR				-	-		3	0.246		-	-		-	-			-	-		-	-
5 TON DUMP TRUCK (2320-00-706-5348)	A			-	-		-	-	0.116	7	0.814	0.116	1	0.116			-	-	0.116	1	0.116
<i>Secondary Distribution</i>																					
AF				-	-		-	-		6	0.698		-	-			-	-		-	-
AFNG				-	-		-	-		1	0.116		1	0.116			-	-		1	0.116
2.5 CY SCOOP LOADER FT (3805-00-728-9718)	A			-	-	0.252	19	4.788	-	-	-	-	-	-			-	-	-	-	-
<i>Secondary Distribution</i>																					
AF				-	-		19	4.788		-	-		-	-			-	-		-	-
EXCAVATOR DIESEL ENGINE DRIVEN PT (3805-01-106-7176)	A			-	-	0.108	7	0.757	0.278	14	3.889	0.329	7	2.301			-	-	0.329	7	2.301
<i>Secondary Distribution</i>																					
AF				-	-		7	0.757		14	3.889		7	2.301			-	-		7	2.301
WHEELED DITCHING MACHINE (3805-01-032-9974)	A			-	-	-	-	-	0.211	22	4.639	0.213	3	0.639			-	-	0.213	3	0.639
<i>Secondary Distribution</i>																					
AF				-	-		-	-		22	4.639		3	0.639			-	-		3	0.639
1.5 CY SCOOP LDR W/Q CPLR (3805-01-074-8111)	A			-	-	0.126	34	4.284	0.126	22	2.772	0.121	3	0.363			-	-	0.121	3	0.363
<i>Secondary Distribution</i>																					
AF				-	-		27	3.402		22	2.772		3	0.363			-	-		3	0.363
AFNG				-	-		7	0.882		-	-		-	-			-	-		-	-
LODR SCP PT 4CY (3805-01-075-1816)	A			-	-	-	-	-	0.244	39	9.529	0.262	9	2.362	0.262	15	3.936	0.262	24	6.298	
<i>Secondary Distribution</i>																					
AF				-	-		-	-		38	9.285		9	2.362			-	-	3.936	24	6.298
AFNG				-	-		-	-		1	0.244		-	-			-	-		-	-
SCOOP LDR W/BKHOE (3805-00-148-2169)	A			-	-	0.084	24	2.016	0.084	38	3.174	0.119	8	0.950			-	-	0.119	8	0.950
<i>Secondary Distribution</i>																					
AF				-	-		24	2.016		38	3.174		8	0.950			-	-		8	0.950

UNCLASSIFIED

Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force																Date: February 2019				
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 02 / 6						P-1 Line Item Number / Title: 826990 / Base Maintenance Support Vehicles						Aggregated Items Title: Base Maintenance Support Vehicles								
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
SCOOP LOADER, SKID STEER 1CY (3805-01-257-5636)	A		-	-	-	-	-	-	0.076	15	1.144	0.076	4	0.305	-	-	-	0.076	4	0.305
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	-		15	1.144		4	0.305					4	0.305
DISTR BIT TRK MTD (3895-00-352-8105)	A		-	-	-	0.170	23	3.916	-	-	-	-	-	-	-	-	-	-	-	-
<i>Secondary Distribution</i>																				
AF			-	-	-		23	3.916		-	-		-	-					-	-
PAVING MACH BITU (3895-01-057-5288)	A		-	-	-	0.334	6	2.004	-	-	-	-	-	-	-	-	-	-	-	-
<i>Secondary Distribution</i>																				
AF			-	-	-		6	2.004		-	-		-	-					-	-
ROLLER MOT PT SP 15T (3895-00-078-5898)	A		-	-	-	0.088	14	1.232	0.088	11	0.968	0.080	22	1.756	-	-	-	0.080	22	1.756
<i>Secondary Distribution</i>																				
AF			-	-	-		13	1.144		11	0.968		22	1.756					22	1.756
AFNG			-	-	-		1	0.088		-	-		-	-					-	-
RLR RD TAND 2RL (3895-00-243-6797)	A		-	-	-	0.035	37	1.303	0.035	4	0.141	0.048	4	0.191	-	-	-	0.048	4	0.191
<i>Secondary Distribution</i>																				
AF			-	-	-		36	1.268		4	0.141		4	0.191					4	0.191
AFR			-	-	-		1	0.035		-	-		-	-					-	-
RLR VIB TYPE II (3895-01-071-5625)	A		-	-	-	0.150	35	5.250	0.150	25	3.750	0.148	12	1.781	0.148	3	0.445	0.148	15	2.226
<i>Secondary Distribution</i>																				
AF			-	-	-		35	5.250		25	3.750		12	1.781		3	0.445		15	2.226
1500G WATER DISTR (3825-00-554-1808)	A		-	-	-	-	-	-	0.181	17	3.077	0.156	19	2.955	0.156	10	1.555	0.156	29	4.510
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	-		17	3.077		19	2.955		10	1.555		29	4.510
TRAC IND IW-70 (2420-00-113-8984)	A		-	-	-	0.067	10	0.672	0.067	58	3.899	0.054	13	0.696	-	-	-	0.054	13	0.696
<i>Secondary Distribution</i>																				
AF			-	-	-		10	0.672		58	3.899		9	0.482					9	0.482
AFNG			-	-	-		-	-		-	-		2	0.107					2	0.107
AFR			-	-	-		-	-		-	-		2	0.107					2	0.107
DOZER T7 (2410-00-756-1161)	A		-	-	-	0.713	5	3.567	0.713	29	20.690	0.269	23	6.181	-	-	-	0.269	23	6.181

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 02 / 6 **P-1 Line Item Number / Title:** 826990 / Base Maintenance Support Vehicles **Aggregated Items Title:** Base Maintenance Support Vehicles

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
<i>Secondary Distribution</i>																				
AF				-	-		5	3.567		28	19.977		23	6.181		-	-		23	6.181
AFNG				-	-		-	-		1	0.713		-	-		-	-		-	-
GRADER, SIZE V, TYPE III (3805-01-337-4624)	A			-	-	0.312	20	6.240	0.312	32	9.984	0.203	10	2.031	0.203	5	1.015	0.203	15	3.046
<i>Secondary Distribution</i>																				
AF				-	-		20	6.240		32	9.984		10	2.031		5	1.015		15	3.046
TRACTOR, WHLD IND. (2420-01-536-8542)	A			-	-	0.149	46	6.854	-	-	-	-	-	-	-	-	-	-	-	-
<i>Secondary Distribution</i>																				
AF				-	-		46	6.854		-	-		-	-		-	-		-	-
SEWER TRK TANDEM AXLE (2320-01-500-5501)	A			-	-	0.415	5	2.075	0.415	3	1.245	0.423	2	0.846	-	-	-	0.423	2	0.846
<i>Secondary Distribution</i>																				
AF				-	-		5	2.075		3	1.245		2	0.846		-	-		2	0.846
WATER WAGON (3825-01-539-6813)	A			-	-	-	-	-	0.112	11	1.237	-	-	-	-	-	-	-	-	-
<i>Secondary Distribution</i>																				
AF				-	-		-	-		11	1.237		-	-		-	-		-	-
TLR DITCHING MACH (2330-01-079-4053)	A			-	-	-	-	-	0.017	3	0.052	0.021	4	0.083	-	-	-	0.021	4	0.083
<i>Secondary Distribution</i>																				
AF				-	-		-	-		3	0.052		2	0.041		-	-		2	0.041
AFNG				-	-		-	-		-	-		1	0.021		-	-		1	0.021
AFR				-	-		-	-		-	-		1	0.021		-	-		1	0.021
CR HYD TRK 100-150T (3810-01-259-9992)	A			-	-	0.969	7	6.783	-	-	-	-	-	-	-	-	-	-	-	-
<i>Secondary Distribution</i>																				
AF				-	-		7	6.783		-	-		-	-		-	-		-	-
7.5 T CRANE (3810-01-106-3991)	A			-	-	0.309	5	1.543	-	-	-	0.307	23	7.050	-	-	-	0.307	23	7.050
<i>Secondary Distribution</i>																				
AF				-	-		5	1.543		-	-		23	7.050		-	-		23	7.050
TLR MANHOLE CLNR (2330-00-307-3295)	A			-	-	0.055	16	0.880	0.055	5	0.275	0.105	2	0.209	-	-	-	0.105	2	0.209
<i>Secondary Distribution</i>																				

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 02 / 6 **P-1 Line Item Number / Title:** 826990 / Base Maintenance Support Vehicles **Aggregated Items Title:** Base Maintenance Support Vehicles

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
AF				-	-		16	0.880		5	0.275		2	0.209		-	-		2	0.209
TRUCK, DUMP (2320-01-344-9282)	A		-	-	-	0.139	6	0.836	0.139	86	11.976	0.143	9	1.290	0.143	13	1.863	0.143	22	3.153
<i>Secondary Distribution</i>																				
AF				-	-		6	0.836		86	11.976		9	1.290		13	1.863		22	3.153
DRIER-MXR, BIT CONCR (3895-01-624-1958)	A		-	-	-	-	-	-	-	-	-	0.155	20	3.100	-	-	-	0.155	20	3.100
<i>Secondary Distribution</i>																				
AF				-	-		-	-		-	-		20	3.100		-	-		20	3.100
2000 GAL WATER TANK (3825-01-624-1963)	A		-	-	-	-	-	-	0.067	11	0.734	0.066	14	0.928	0.066	10	0.663	0.066	24	1.591
<i>Secondary Distribution</i>																				
AF				-	-		-	-		11	0.734		14	0.928		10	0.663		24	1.591
MIXER, BITUMINOUS MA (3895-01-627-1341)	A		-	-	-	-	-	-	0.205	11	2.256	0.203	10	2.033	-	-	-	0.203	10	2.033
<i>Secondary Distribution</i>																				
AF				-	-		-	-		11	2.256		10	2.033		-	-		10	2.033
T11 DOZER (2410-00-731-7872)	A		-	-	-	0.581	15	8.715	-	-	-	-	-	-	-	-	-	-	-	-
<i>Secondary Distribution</i>																				
AF				-	-		15	8.715		-	-		-	-		-	-		-	-
MIXER CON TRLR MTD (3895-01-005-5422)	A		-	-	-	-	-	-	0.286	10	2.861	-	-	-	-	-	-	-	-	-
<i>Secondary Distribution</i>																				
AF				-	-		-	-		9	2.575		-	-		-	-		-	-
AFNG				-	-		-	-		1	0.286		-	-		-	-		-	-
COMPACT EXCAVATOR CRAWLER (3805-01-565-8767)	A		-	-	-	-	-	-	0.053	4	0.210	0.056	1	0.056	-	-	-	0.056	1	0.056
<i>Secondary Distribution</i>																				
AF				-	-		-	-		4	0.210		1	0.056		-	-		1	0.056
SCRAPPER MOTORIZED 18CY (3805-00-234-9778)	A		-	-	-	-	-	-	0.704	4	2.815	0.759	2	1.518	-	-	-	0.759	2	1.518
<i>Secondary Distribution</i>																				
AF				-	-		-	-		4	2.815		2	1.518		-	-		2	1.518

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 02 / 6 **P-1 Line Item Number / Title:** 826990 / Base Maintenance Support Vehicles **Aggregated Items Title:** Base Maintenance Support Vehicles

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
CRUSH-SCREEN 150TH (3820-00-060-1841)	A		-	-	-	2.323	4	9.293	-	-	-	-	-	-	-	-	-	-	-	
<i>Secondary Distribution</i>																				
AF				-	-		4	9.293		-	-		-	-		-	-		-	
T7 DOZER (2410-00-816-5091)	A		-	-	-	0.488	10	4.881	0.488	5	2.441	0.532	3	1.597	-	-	-	0.532	3	1.597
<i>Secondary Distribution</i>																				
AF				-	-		10	4.881		5	2.441		2	1.065		-	-		2	1.065
AFNG				-	-		-	-		-	-		1	0.532		-	-		1	0.532
TRK CNTRN-MAINT 4X2 SZ 5 (2320-01-030-7370)	A		-	-	-	-	-	-	0.108	5	0.541	-	-	-	-	-	-	-	-	-
<i>Secondary Distribution</i>																				
AF				-	-		-	-		5	0.541		-	-		-	-		-	-
LOADER SKID STEER TRACK MTD (3805-00-278-1245)	A		-	-	-	-	-	-	0.062	5	0.309	0.075	3	0.225	-	-	-	0.075	3	0.225
<i>Secondary Distribution</i>																				
AF				-	-		-	-		5	0.309		3	0.225		-	-		3	0.225
CR WHLD HYD 15T (3810-00-329-4154)	A		-	-	-	-	-	-	0.343	4	1.372	0.308	1	0.308	-	-	-	0.308	1	0.308
<i>Secondary Distribution</i>																				
AF				-	-		-	-		4	1.372		1	0.308		-	-		1	0.308
CR HYD TRK MTD 60-65T (3810-01-038-8315)	A		-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CRANE HYDRAULIC 15T (3810-01-485-8693)	A		-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CRANE TRK MTD 28 TON (3810-001-506-6637)	A		-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PAVEMENT PROFILER (3895-01-108-3606)	A		-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TRUCK, WASTE WATER TANKER (2320-01-627-2536)	A		-	-	-	-	-	-	0.336	9	3.020	-	-	-	-	-	-	-	-	-
<i>Secondary Distribution</i>																				
AF				-	-		-	-		8	2.684		-	-		-	-		-	-
AFNG				-	-		-	-		1	0.336		-	-		-	-		-	-

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 02 / 6 **P-1 Line Item Number / Title:** 826990 / Base Maintenance Support Vehicles **Aggregated Items Title:** Base Maintenance Support Vehicles

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
ROLLER MOTORIZED (3895-01-603-8654)	A		-	-	-	0.042	8	0.336	0.041	7	0.290	0.029	19	0.546	0.029	1	0.029	0.029	20	0.575
<i>Secondary Distribution</i>																				
AF				-	-		8	0.336		7	0.290		19	0.546		1	0.029		20	0.575
DUMP TRUCK 6X4 55K GVW (2320-01-058-5725)	A		-	-	-	0.134	7	0.938	0.134	16	2.144	0.132	17	2.250	-	-	-	0.132	17	2.250
<i>Secondary Distribution</i>																				
AF				-	-		5	0.670		15	2.010		17	2.250		-	-		17	2.250
AFNG				-	-		2	0.268		1	0.134		-	-		-	-		-	-
EXCAVATOR CRAWLER MTD (3805-01-058-3562)	A		-	-	-	-	-	-	0.178	5	0.889	0.250	1	0.250	-	-	-	0.250	1	0.250
<i>Secondary Distribution</i>																				
AF				-	-		-	-		5	0.889		1	0.250		-	-		1	0.250
COMPACT TRACK LOADER (3805-01-603-8653)	A		-	-	-	0.503	9	4.526	-	-	-	0.126	10	1.260	0.126	15	1.890	0.126	25	3.150
<i>Secondary Distribution</i>																				
AF				-	-		9	4.526		-	-		10	1.260		15	1.890		25	3.150
COMPACT SHEEPS FOOT (3805-01-359-7626)	A		-	-	-	-	-	-	-	-	-	0.461	2	0.921	-	-	-	0.461	2	0.921
<i>Secondary Distribution</i>																				
AF				-	-		-	-		-	-		2	0.921		-	-		2	0.921
DRILL ROCK (3820-00-00-050-9964)	A		-	-	-	-	-	-	0.476	5	2.381	-	-	-	-	-	-	-	-	-
<i>Secondary Distribution</i>																				
AF				-	-		-	-		5	2.381		-	-		-	-		-	-
50T CRANE (3810-01-079-8358)	A		-	-	-	0.414	4	1.654	-	-	-	0.439	9	3.947	-	-	-	0.439	9	3.947
<i>Secondary Distribution</i>																				
AF				-	-		4	1.654		-	-		9	3.947		-	-		9	3.947
PMA OTHER GOVERNMENT COSTS	A		-	-	-	-	-	0.015	-	-	0.015	-	-	0.002	-	-	0.003	-	-	0.005
<i>Secondary Distribution</i>																				
AF				-	-		-	0.015		-	0.015		-	0.002		-	0.003		-	0.005
Subtotal: Uncategorized			-	-	-	-	-	95.241	-	-	114.603	-	-	55.776	-	-	11.837	-	-	67.613
Total			-	-	-	-	-	95.241	-	-	114.603	-	-	55.776	-	-	11.837	-	-	67.613

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

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 02 / 6	P-1 Line Item Number / Title: 826990 / Base Maintenance Support Vehicles	Aggregated Items Title: Base Maintenance Support Vehicles

Remarks:
Based on AF Mission changes and/or AF Mission priorities, NSNs and/or quantities may change during year of execution.

UNIT COSTS FOR FY20 ARE SUBJECT TO CHANGE.

PMA OTHER GOVERNMENT COSTS: This line supports the operation of the program office in its management and oversight role via travel, procurement of supplies and studies.

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 1: Comm Security Equipment(Comsec)	P-1 Line Item Number / Title: 831010 / Comsec Equipment
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ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: 0207448F	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	-	106.681	104.230	91.461	-	91.461	96.421	118.348	117.153	131.146	-	765.440
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	106.681	104.230	91.461	-	91.461	96.421	118.348	117.153	131.146	-	765.440
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	106.681	104.230	91.461	-	91.461	96.421	118.348	117.153	131.146	-	765.440

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

Description:

These programs support Cyberspace Activities.

PE 0208064F AF Operational HQ-Cyber/Cyberspace Command and Control Mission System (C3MS)

Provides the AFCYBER Commander with the tools necessary to effectively and efficiently plan, monitor, and execute missions in the cyber domain. This includes development and dissemination of Cyberspace Tasking Orders to ensure commander's intent is supported through the application of cyber forces using the latest intelligence. C3MS provides a common operational picture to maintain cyberspace threat activities and integrates cyberspace indications and warnings, analysis, and other actionable intelligence products into overall situational awareness, planning, and execution. In FY20 C3MS will field security patches, vendor unique patches, operating system upgrades, and DoD mandated policy updates. Funding supports capital equipment replacements/updates to maintain security posture and field updates to two locations.

PE 0208087F DISTRIBUTED CYBER WARFARE OPERATIONS (DCWO)

PE 0208087F, Distributed Cyber Warfare Operations, changed from AF Offensive Cyber Operations.

Provides for the support and deployment of cyberspace solutions in the form of material and non-material cyberspace network attack tools and exploits for DCWO portfolio to include but not limited to AF Offensive Cyberspace Operations (OCO) units, the Cyber Mission Forces, Combatant Commands (COCOMs), and other authorized agencies. Funding procures specialized hardware/software necessary for real time deployment, exploit identification, tool development, and testing in an environment simulating real-world operational infrastructures and enclaves. Funding also is used for the procurement of the AF operated cyber test and training range, operated by the 346th Test Squadron under the 688th Cyber Wing.

PE 0208088F AF DEFENSIVE CYBERSPACE OPERATIONS (DCO)

Provides defensive counter cyberspace capability that protects the AFNet and DoD network enclaves, to include their associated computer systems, software applications and sensitive operational information against unauthorized intrusion, corruption, and/or destruction. 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 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 1: Comm Security Equipment(Comsec)		P-1 Line Item Number / Title: 831010 / Comsec Equipment
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: 0207448F	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A		

PE 0303135F PUBLIC KEY INFRASTRUCTURE (PKI)

PKI provides identity management (IDM) services to support warfighter requirements. AF IDM programs align with DoD IDM efforts and support DoD IDM Roadmap and Strategic Plan. PKI provides the basic framework and services implemented within DoD to ensure information systems security. It provides the capability to attach digital signatures to electronic documents for IDM, and to encrypt and decrypt electronic documents for secure transmission. PKI-enabled applications afford confidentiality and authentication services to communications and/or network transactions, as well as verification of the data integrity and non-repudiation of those transactions. PKI is one of many security solutions used to protect information and provide attributes enabling authorization access to critical resources in the Air Force Information Networks (AFIN) and is used concurrently with other solutions. Funding supports several different requirement areas to procure infrastructure equipment for the field in support of AFIN, PKI, evolutionary PKI end user equipment to include multi-factor authentication technologies and authorization services and Less Than Medium Assurance (LTMA) capabilities and services. The current DoD PKI token (DoD Common Access Card (CAC)) is undergoing a gradual evolution towards a higher assurance token. Additionally, Homeland Security Presidential Directive-12 (HSPD-12) mandates a common identification card across the Federal Government. Based on the HSPD-12 requirements, the National Institute of Standards and Technology (NIST) developed Federal Information Processing Standard 201 (FIPS 201) which adds security requirements to the identification card.

PE 0303140F INFORMATION SYSTEMS SECURITY PROGRAM (ISSP):

This program funds procurement of Communications Security (COMSEC) equipment, ancillary encryption/decryption devices, and related equipment to ensure confidentiality, integrity, and availability and enable the secure transport of information. ISSP delivers on rising national, DoD, and AF priorities to address cybersecurity threats and increasing warfighter dependence on cyberspace. AF and DoD require the capability to collect, process, and disseminate an uninterrupted flow of information while denying an adversary the ability to intercept, collect, destroy, interpret, or manipulate our information flows. Secure communication allows the DoD to achieve and maintain decision superiority, the key to successful application of the military instrument of national power in modern, high-tempo, full spectrum operations. AF COMSEC equipment protects information such as, warfighter positions, mission planning, target strikes, commander's orders, intelligence, force strength, and force readiness. This COMSEC program ensures adversaries cannot interpret, manipulate, or destroy information. When an adversary is capable of interpretation, manipulation, or destruction of the information used by the warfighter, DoD military forces may suffer devastating mission degradation that can result in loss of life and resources and/or exceptionally grave damage to national security. The COMSEC program includes equipment upgrades and replacements which incorporate the best technologies mandated to provide mission critical warfighter secure voice and data communications in tactical, strategic, and network applications for our globally-deployed COMSEC crypto assets supporting both AF and DoD missions. Details of the assets are included in each section's narrative.

Funding for this exhibit contained in PE 0208064F; PE 0208087F; PE 0208088F; PE 0303135F; PE 0303140F.

As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications **P-1 Line Item Number / Title:** 831010 / Comsec Equipment
Equip / BSA 1: Comm Security Equipment(Comsec)

ID Code (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** 0207448F **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	OPERATIONAL HQ - CYBER		B		- / -	- / 6.408	- / 11.705	- / 5.113	- / -	- / 5.113
P-40a	Distributed Cyber Warfare Operations				- / -	- / 0.000	- / 0.070	- / 2.790	- / -	- / 2.790
P-5	AF Defensive Cyberspace Operations	P-5a	A		- / -	- / 33.871	- / 32.465	- / 26.796	- / -	- / 26.796
P-5	Public Key Infrastructure (PKI)		A		- / -	- / 0.203	- / 4.165	- / 4.160	- / -	- / 4.160
P-5	Information Systems Security Program	P-5a	A		- / -	- / 66.199	- / 55.825	- / 52.602	- / -	- / 52.602
P-40	Total Gross/Weapon System Cost				- / -	- / 106.681	- / 104.230	- / 91.461	- / -	- / 91.461

*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. Title represents the P-40a Title when only the P-40a Summary/Total is shown.

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

Justification:

These programs support Cyberspace Activities.

PE 0208064F AIR FORCE Operational HQ-Cyber/Cyberspace Command and Control Mission System (C3MS)

1. C3MS HARDWARE AND COMMERCIAL OFF-THE-SHELF SOFTWARE: FY20 funding replaces end-of-life weapon system Secure Internet Protocol Router Network (SIPRNet) hardware and software, completes hardware procurement for extension of weapon system footprint on Joint Worldwide Intelligence Communications System (JWICS) to the Alternate Operating Location, and provides for Program Management Administration (PMA) support.

PE 0208087F DISTRIBUTED CYBER WARFARE OPERATIONS

1. CYBER WORKFORCE TRAINING 39th Information Operations Squadron (39 IOS) Formal Training Unit (FTU) EXPANSION EQUIPMENT: Funds the fit-out of the 39 IOS FTU expansion. FY20 funding procures non-MILCON hardware, software, and training equipment for the 39 IOS Formal Training Unit facility expansion to support Cyber Mission Forces (CMF) training throughput objective of 2000 students per year.

PE 0208088F AF DEFENSIVE CYBERSPACE OPERATIONS

1. CYBERSPACE VULNERABILITY ASSESSMENT /HUNTER (CVA/H): Equipping the Cyber Protection Teams (CPT) to Full Operational Capability of CVA/H equipment (Garrison Interceptor Platform (GIP), Deployable Interceptor Platform (DIP), Mobile Interceptor Platform (MIP), and Information Operations Platform - Fly Away Kit (IOP-FAK)) was achieved in FY18 (Total of 30 CPTs - 18 Active Duty and 12 Air National Guard). FY20 funding provides for the start of hardware recapitalization of subsystems delivered to the CPTs. This includes the initial fielding of an enhanced DIP which is capable of 10GB throughput and combines the DIP and IOP-FAK into one modular subsystem. Note: P-5 change in how quantities are reported. Previously reported by number of CPTs fielded vice number of subsystems (MIP, DIP, GIP, IOP-FAK). Change is to better articulate the quantities of the CVA/H weapon system being procured.

2. COMPUTER SECURITY ASSISTANCE PROGRAM (CSAP) COUNTERMEASURES: FY20 funding procures hardware/software necessary for vulnerability analysis, vulnerability identification, countermeasure development, and functional assessments in numerous simulated real-world operational environments. Vulnerability efforts include reverse engineering adversary malware and Internet of Things (IOT) devices, exploring n-day vulnerabilities in AF infrastructure. From combat operations to social media use, network use and corresponding threats are increasing. To thwart adversary strategies, effective and innovative solutions are being developed to give us an operational advantage over advanced persistent threats. These organically produced solutions provide daily support to U.S. Cyber Command and other

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 1: Comm Security Equipment(Comsec)		P-1 Line Item Number / Title: 831010 / Comsec Equipment
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: 0207448F	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A		
<p>Combatant Commanders; 24th Air Force, the 624 Operations Center, 688th Cyberspace Wing, and 67th Cyberspace Wing, Air Force Office of Special Investigations, and other partnering organizations integral to defending the Department of Defense network enterprise and weapon systems. Threat relevant and time critical countermeasures are developed to maintain a cyber advantage against agile and capable adversaries. Where feasible the innovative, rapid solutions are transitioned to programs of record in established system program offices. Without the CSAP efforts, the security of AF networks and capabilities of Air Force cyber maneuver forces would be critically reduced at time that adversaries are increasing their cyber threat capabilities.</p> <p>3. CYBER DEFENSE ANALYSIS (CDA): FY20 funding procures necessary hardware and software related to projects that will help the CDA weapon system achieve Full Operational Capability (FOC), as well as additional projects. These projects include Alternate Operating Location (AOL), Analysis and Reporting database search capabilities, Voice Over Internet Protocol (VoIP) monitoring and collection at all AF installations, early system development for CDA Training Simulator, early systems development for Data Loss Prevention, along with other CDA sub-system components and pathfinder efforts.</p> <p>4. WEAPON SYSTEM CYBER RESPONSE (WSCR): For the FY20 Cyber Squadron Initiative (CSI), the CVA/H weapon system Mobile Interceptor Platforms (MIP) and Deployable Interceptor Platforms (DIP) will be provided to the SAF/CIO directed Mission Defense Teams (MDT). The MDTs will use the MIPs and DIPs to provide cyber assurance of the Air Force core missions. Funding is required to increase the cyber resiliency of AF weapon systems and accelerate the defend cyberspace fielded weapon systems. Note: P-5 change in how quantities are reported. Previously reported by number of MDTs fielded vice number of subsystems (MIP and DIP). Change is to better articulate the quantities of the CVA/H WS being procured.</p> <p>PE 0303135F PUBLIC KEY INFRASTRUCTURE (PKI):</p> <p>1. EVOLUTIONARY PKI END USER EQUIPMENT: FY20 funding procures PKI Identity and Access Management equipment to defend the Air Force Information Network (AFIN) from new and evolving vulnerabilities. Funding and quantities directly support PKI-based software authentication and hardware security afforded by smartcards or other hardware methods, enabling users to authenticate securely to the network. PKI continues to evolve to alternative methods of two-factor authentication as well as multi-factor authentication methods. The classic paradigm for authentication systems identifies three factors as the cornerstone of authentication: 1) Something you know (e.g., a password or PIN), 2) Something you have (e.g., an ID badge or a cryptographic key), and 3) Something you are (e.g., a fingerprint or biometric data). The strength of authentication systems is largely determined by the number of factors incorporated by the system. While the Alternative Tokens (ALT) provide usable two-factor authentication for many use cases, the sustainability of hardware tokens is short-lived. This effort will examine alternate e-authentication technologies that may provide appropriate multi-factor authentication for users, privileged users and system administrators. FY20 funding also supports identity management for mobile solutions and Less Than Medium Assurance (LTMA) solutions for non-person devices.</p> <p>2. AIR FORCE DIRECTORY SERVICES (AFDS): AFDS is one of three pillars of DoD Identity Management. The others are PKI and CAC. AFDS ensures that AF user identities are common and synchronized across directories and information stores of various networks, systems, and applications. AFDS eliminates the disparity of maintaining stove-piped systems and through the use of directory technology, alleviates latency associated with the sharing/replication of identity data attributes. AFDS supports delivery of an enterprise security service and backbone for AF networks (both in-garrison and tactical), by providing AF user credentials to the AF Network Enterprise and AF system applications. AFDS addresses challenges and enhances AF mission performance through seamless integrated access to the right information anywhere, anytime. AFDS leverages and provides a core meta-directory service that "joins" and synchronizes personal identity data attributes from authoritative AF and DoD repositories for use by all AF systems and applications. FY20 funds will procure hardware, software, and support upgrades.</p> <p>PE 0303140F INFORMATION SYSTEMS SECURITY PROGRAM:</p> <p>1. AIR AND GROUND (A&G) COMSEC PROGRAM: The Air and Ground COMSEC Program procures and supports a wide range of secure encryption products supporting AF, inter-service, and various DoD agency customers; and includes items approved under the National Security Agency (NSA) Commercial COMSEC Evaluation Program (CCEP) such as KIV-7M, Tactical Fast Lane (TACLANE), and other High Assurance Internet Protocol Encryptor (HAIPE) devices. The program includes equipment upgrades and replacements that incorporate state-of-the-art technologies for mission-critical warfighter secure voice and data communications. The program provides needed upgrades to encryption devices in FY20 and FY21 to comply with NSA's Advanced Cryptographic Capabilities (ACC) directives. The program supports tactical, strategic, and network applications for globally deployed cryptologic assets supporting AF and DoD. Supported systems fall within AF Information Systems Security and Information Assurance arenas. Funding for this effort is in PE 0303140F.</p>		

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 1: Comm Security Equipment(Comsec)		P-1 Line Item Number / Title: 831010 / Comsec Equipment
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: 0207448F	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A		
<p>a. IN-LINE NETWORK ENCRYPTORS (INE): Previously called Network Encryption Systems. FY20 funding fields the new INE required to maintain the confidentiality, data integrity, and non-repudiation of classified communications. INEs are the mainstay for securing communications used in classified terrestrial and airborne communications networks. The new INEs feature robust data encryption improvements included in the HAIPE Interoperability Specification (HAIPE IS) as well as Internet Protocol (IP) Version 6 capability that will improve security and expand the bandwidth of USAF secure IP networks.</p> <p>b. LINK ENCRYPTION FAMILY (LEF): FY20 funds provide for the replacement of the legacy LEF with new more secure crypto modernization compliant LEF devices. The LEF provides near real-time secure communications for national and command level decision making authorities up to TOP SECRET SCI. The new LEF devices include more robust encryption algorithms, as well as dual-channel, increased bandwidth capability, and reprogrammability. NSA has issued classified instructions regarding the use of specific LEF devices.</p> <p>c. AIR AND GROUND COMSEC CONSOLIDATED: Several requirements have been combined into one line: Secure Telephones, COMSEC Acquisition Reform (CAR), Peculiar Support Equipment, Secure Communications Voice/Data, Embedded Encryption Devices, and Telemetry Encryption Devices. FY20 funds procure secure voice/data equipment, latest generation Tier 3 devices (SKLs/NGLD-Ms/TKLs), DoD Type 1 COMSEC equipment and commercial cryptography products, testing and support equipment, embedded COMSEC modules, and telemetry devices and Link-16. The Air and Ground COMSEC line is an aggregate of numerous items. Each year the types and quantities of items utilized to meet requirements vary; an average unit cost is based on number/type of units planned for purchase.</p> <p>2. CRYPTOGRAPHIC MODERNIZATION (CM): The DoD is transforming its existing operational capabilities to realize a seamless Joint network of information and engagement grids that securely link sensors, command and control cells, and tactical units to support current and future warfighting capabilities. This includes cryptographic devices that are more robust, modular, scalable, capable, net-centric, and durable--allowing more effective and efficient performance including reduced inventory, expanded data rates, simplified upgrades, reduced costs, and ensured Global Information Grid (GIG) compatibility. The GIG requires a transformed cryptographic inventory. The DoD Cryptographic Modernization (CM) Initiative delivers that inventory, ensuring a strong security posture for national security and tactical communications systems by providing transparent cryptographic capabilities consistent with operational imperatives, NSA mandates, and mission environments. The future inventory will provide security devices that ease logistics, support Joint and coalition interoperability, enable network-centric and transparent key/equipment management, and allow effective future upgrades. These CM programs enable information dominance by developing and procuring communications security devices that deter and deny known and emerging threats, while accommodating significantly increased bandwidths and processing speeds, and without increasing communication transient and information holding risk. Current CM programs will ensure modernized, secure communications capability to Vinson/ANDVT devices and miniaturized crypto for small unmanned systems. Current programs will replace/upgrade over 30,000 devices out of the Air Force's 245,000+ crypto devices and provided over 100,000 new devices where none were previously available. Other programs are undergoing development under the auspices of other lines in this PE in order to meet emerging COMSEC requirements for Key Management Infrastructure compatibility, as well as various enterprise-wide technological upgrades mandated under the NSA assessments and Policy #3-9 "Cryptographic Modernization Initiative Requirements for Type 1 Cryptographic Products". Funding for this effort is in PE 0303140F.</p> <p>a. IDENTIFICATION FRIEND OR FOE (IFF) MODE 5 CM: This program developed and is procuring devices to encrypt/decrypt IFF Mode 4 and Mode 5 interrogator and transponder operations. These devices, built to Air Traffic Control Radar Beacon System (ATCRBS), IFF, Mark XIIA, System (AIMS) 04-900 Cryptographic Interface Standard, are integrated into all airborne platforms and ground radar applications to provide critical, immediate tactical aircraft identification data to ground and airborne systems. Procurement of the two primary devices, KIV-77 and KIV-78: KIV-77 concluded in FY16 and KIV-78 concludes in FY20 (required to outfit all of the AF fleet, except trainers) and a remote form factor for certain C2 AF aircraft:</p> <p>(1) KIV-78 DEVICES: The FY20 funding procures the technical support and travel for the KIV-78s. KIV-78 is a cryptographic device developed by the AF in conjunction with Navy IFF Mode 5 upgrades for AF F-16s and Navy/Marine Corps F/A-18s.</p> <p>(2) KIV-77 DEVICES: Concluded in FY16</p> <p>b. VINSON/ANDVT CRYPTOGRAPHIC MODERNIZATION (VACM): FY20 funds support the VACM program. VACM is an element of the AF CM Program. This program developed and is procuring devices designed to replace the legacy capability on VINSON/ANDVT secure voice communications on aircraft, ships, and ground fixed and mobile platforms including critical Nuclear Command and Control (NC2) and other Top Secret and Secret networks (Devices: KY-57/58, KY-99/100 and USC-43). The VACM Embedded Project upgrades the Baseband Input/Output (BBIO) module as a permanent modification of the ARC-234. The VACM Remote Control Unit (RCU) project is a permanent sustainment modification effort that will augment and replace legacy RCU inventory.</p>		

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 1: Comm Security Equipment(Comsec)		P-1 Line Item Number / Title: 831010 / Comsec Equipment
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: 0207448F	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A		
<p>(1) VACM COMPONENTS (ARC-234): The VACM Embedded Project was established to modernize cryptographic devices that are integrated within various VINSON/ANDVT radios. The BBIO module performs COMSEC functions for the ARC-234. The Permanent Sustainment Modification of the ARC-234 will retain Embedded COMSEC capability by upgrading the BBIO module with reprogrammable hardware and modern crypto algorithms. The upgraded BBIOs will be installed/modified into the ARC-234 radios.</p> <p>(2) VACM DEVICES: The VACM program is procuring modernized secure voice communication devices. The production line will replace five legacy crypto device types on critical national leadership networks including airborne, ground and mobile platforms.</p> <p>(3) Remote Control Unit (RCU): The RCU is a permanent sustainment modification project that will provide a form fit replacement and backward capability with legacy devices. This effort fixes existing sustainment challenges.</p> <p>c. MISSILE ELECTRONIC ENCRYPTION DEVICE (MEED): The MEED Modification will procure modified Missile Entry Control System (MECS) KL-90 devices used encrypt/decrypt personnel authentication and lock combination transmission to ensure only authorized personnel enter into Intercontinental Ballistic Missile (ICBM) control centers and facilities. This effort will field the MEED equipment in compliance with current NSA information assurance (IA) security design guidance.</p> <p>FY20 Plans: (1) Manage Production Task Order for production of KL-90s (2083 units) (2) Begin fielding FY20 to FY21</p> <p>d. MINI CRYPTO (MC): The MC program will procure a Tactical Key Management (TKM) miniaturized cryptographic solution to protect Secret and Below (SaB) Command and Control (C2) and mission data for Size, Weight, and Power (SWaP) constrained small form factor platforms and unmanned systems/sensors--many of which currently have no cryptographic capability and transmit in the clear. MC's Tactical Key Management (TKM) solution uses unclassified algorithms, can perform all aspects of key management, and can self-generate its own key. This unique combination enables "lose-able" tactical crypto to protect lives and valuable assets, removing the requirement for pre-placed key material, reducing the logistical/operational burden on tactical users, while allowing the ability to add/remove users as the tactical situation dictates.</p> <p>FY20 Plans: (1) Complete 1st Full Rate Production (FRP) option activities (2) Provide remaining FRP units to MC Users (3) Provide support to MC Users as they integrate MC into their platforms (4) Prepare IDIQ follow-on contract in support of additional User MC quantity requirements</p> <p>e. PROGRAM MANAGEMENT ADMINISTRATION (PMA): FY20 program management administration funding supports management with engineering and technical expertise in support of development and procurement activities.</p> <p>3. AIR FORCE ELECTRONIC KEY MANAGEMENT SYSTEM (AF EKMS): AF EKMS is a part of the AF Key Management Enterprise (KME), a sustainment program that works in concert with the DoD EKMS Program to provide secure, flexible, and timely upgrades to cryptographic key generation, distribution, and management systems. AF EKMS sustains the current EKMS and serves as the bridge to the full operational capability (FOC) of DoD KMI. The Air Force continues to purchase AF EKMS physical products required under the COMSEC Material Control System (CMCS). Funding for this effort is in PE 0303140F.</p> <p>a. AF EKMS Technical Update FY20 funds not requested.</p> <p>b. AF EKMS Simple Key Loader (SKL) & Refresh FY20 funds not requested.</p>		

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 1: Comm Security Equipment(Comsec)		P-1 Line Item Number / Title: 831010 / Comsec Equipment
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: 0207448F	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A		
<p>4. AIR FORCE KEY MANAGEMENT ENTERPRISE (AF KME): The DoD has directed the replacement of the legacy Air Force Electronic Key Management System (AF EKMS) portion of the AF KME with the DoD KMI. The AF KMI transition activity procures and deploys the DoD KMI training, equipment and software within the AF to provide mission critical Communications Security support for all AF mission and platforms implementing the core capability for the AF's future KME. The AF KMI transition activity procures KMI connectivity, key management and cryptographic unique/certified products (Tier 2) to replace legacy AF EKMS equipment per NSA mandates and to field KMI-enabled products that have been under previous years DOD development. Remote ReKey, a system for multiple Homeland Defense and other radar sites, will complete installation of the few remaining, unmodernized Nuclear Command and Control (NC2) networks. Funding for this effort is in program element 0303140F.</p> <p>a. KMI Hardware (Tier 2): FY20 funding procures: KMI Management Clients (MGCs) that provide the user interface; Advanced Key Processors (AKPs) that provide the cryptographic capability to interact with the DoD KMI.</p> <p>b. REMOTE REKEY (RRK) (CI-33) DEVICES: The RRK System requires two requirements in order to strengthen the security/sustainment posture of the RRK system. The technology insertion and security enhancement activities are required to meet DoD, NSA and AF mandates for the workstations and software used for the operational configuration and management of the RRK system. The first requirement of this effort is an operating system update to the RRK workstation. This update from Standard Desktop Configuration (SDC) 3.X (Microsoft Windows 7) to SDC 5.X (Microsoft Windows 10), will require further enhancements of the custom commercial software to identify with the new Win 10 operating system. The second element of this requirement is to eliminate the static link in the software to allow for compatibility with any version of a KG-175D, adding flexibility to host next generation Inline Network Encryptor.</p>		

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Exhibit P-5, Cost Analysis: PB 2020 Air Force						Date: February 2019			
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 1				P-1 Line Item Number / Title: 831010 / Comsec Equipment			Item Number / Title [DODIC]: OPERATIONAL HQ - CYBER		
ID Code (A=Service Ready, B=Not Service Ready) : B						MDAP/MAIS Code:			
Resource Summary				Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity (Units in Each)				-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)				-	6.408	11.705	5.113	-	5.113
Less PY Advance Procurement (\$ in Millions)				-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)				-	6.408	11.705	5.113	-	5.113
Plus CY Advance Procurement (\$ in Millions)				-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)				-	6.408	11.705	5.113	-	5.113
<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 Millions)				-	-	-	-	-	-

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 (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Hardware - OPERATIONAL HQ - CYBER Cost																		
Recurring Cost																		
HARDWARE AND COMMERCIAL OFF THE SHELF SOFTWARE	-	-	-	-	-	0.308	9.547	1	9.547	4.640	1	4.640	-	-	-	4.640	1	4.640
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	0.308	-	-	9.547	-	-	4.640	-	-	-	-	-	4.640
Non Recurring Cost																		
TRAINING AND FIELDING	-	-	-	5.900	1	5.900	-	-	1.068	-	-	-	-	-	-	-	-	-
<i>Subtotal: Non Recurring Cost</i>	-	-	-	-	-	5.900	-	-	1.068	-	-	-	-	-	-	-	-	-
<i>Subtotal: Hardware - OPERATIONAL HQ - CYBER Cost</i>	-	-	-	-	-	6.208	-	-	10.615	-	-	4.640	-	-	-	-	-	4.640
Support - OPERATIONAL HQ - CYBER Cost																		
PROGRAM MANAGEMENT ADMINISTRATION (PMA) CONTRACTOR SERVICES	-	-	-	-	-	0.200	-	-	1.090	-	-	0.473	-	-	-	-	-	0.473
<i>Subtotal: Support - OPERATIONAL HQ - CYBER Cost</i>	-	-	-	-	-	0.200	-	-	1.090	-	-	0.473	-	-	-	-	-	0.473
Gross/Weapon System Cost	-	-	-	-	-	6.408	-	-	11.705	-	-	5.113	-	-	-	-	-	5.113

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 1	P-1 Line Item Number / Title: 831010 / Comsec Equipment	Aggregated Items Title: Distributed Cyber Warfare Operations
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Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Cyber Workforce Training PE 0208087F																				
1. 39 IOS FTU Expansion Equipment	A		-	-	-	-	-	0.000	0.070	1	0.070	2.790	1	2.790	-	-	-	2.790	1	2.790
Subtotal: Cyber Workforce Training PE 0208087F			-	-	-	-	-	0.000	-	-	0.070	-	-	2.790	-	-	-	-	-	2.790
Total			-	-	-	-	-	0.000	-	-	0.070	-	-	2.790	-	-	-	-	-	2.790

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

Remarks:
Funding supports Cyber Workforce Training requirements.

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Exhibit P-5, Cost Analysis: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 1	P-1 Line Item Number / Title: 831010 / Comsec Equipment	Item Number / Title [DODIC]: AF Defensive Cyberspace Operations

ID Code (A=Service Ready, B=Not Service Ready) : A	MDAP/MAIS Code:
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Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	-	33.871	32.465	26.796	-	26.796
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	-	33.871	32.465	26.796	-	26.796
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	-	33.871	32.465	26.796	-	26.796

(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 Millions)	-	-	-	-	-	-

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 (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Hardware - 0208088F COMSEC Cost																		
Recurring Cost																		
1. Cyberspace Vulnerability Assessment/Hunter ^(t)	-	-	-	0.023	568	13.226	0.051	448	23.063	0.052	250	12.997	-	-	-	0.052	250	12.997
2. Computer Security Assistance Program (CSAP) Countermeasures	-	-	-	0.791	5	3.954	0.879	5	4.393	0.894	5	4.469	-	-	-	0.894	5	4.469
3. Cyberspace Defense Analysis	-	-	-	1.312	10	13.125	1.259	1	1.259	1.698	1	1.698	-	-	-	1.698	1	1.698
4. WSCR ^(t)	-	-	-	0.023	150	3.566	0.025	150	3.750	0.025	300	7.632	-	-	-	0.025	300	7.632
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	33.871	-	-	32.465	-	-	26.796	-	-	-	-	-	26.796
<i>Subtotal: Hardware - 0208088F COMSEC Cost</i>	-	-	-	-	-	33.871	-	-	32.465	-	-	26.796	-	-	-	-	-	26.796
Gross/Weapon System Cost	-	-	-	-	-	33.871	-	-	32.465	-	-	26.796	-	-	-	-	-	26.796

Remarks:

Note: P-5 change in how quantities are reported. Previously reported by number of CPTs fielded vice number of subsystems (MIP, DIP, GIP, IOP-FAK). Change is to better articulate the quantities of the CVA/H weapon system being procured.

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

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Exhibit P-5a, Procurement History and Planning: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 1	P-1 Line Item Number / Title: 831010 / Comsec Equipment	Item Number / Title [DODIC]: AF Defensive Cyberspace Operations
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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>(\$ M)</i>	Specs Avail Now?	Date Revision Available	RFP Issue Date
1. Cyberspace Vulnerability Assessment/Hunter		2018	Multiple / Various	Various	CPSG	Mar 2018	Sep 2018	568	0.023	Y		
1. Cyberspace Vulnerability Assessment/Hunter		2019	Multiple / Various	Various	CPSG	Dec 2018	Mar 2019	448	0.051	Y		
1. Cyberspace Vulnerability Assessment/Hunter		2020	Multiple / Various	Various	CPSG	Jan 2020	Mar 2020	250	0.052	Y		
4. WSCR		2018	Multiple / Various	Various	CPSG	Apr 2018	Jun 2018	150	0.023	Y		
4. WSCR		2019	Multiple / Various	Various	CPSG	Jan 2019	Feb 2019	150	0.025	Y		
4. WSCR		2020	Multiple / Various	Various	CPSG	Jan 2020	Mar 2020	300	0.025	Y		

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Exhibit P-5, Cost Analysis: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 1	P-1 Line Item Number / Title: 831010 / Comsec Equipment	Item Number / Title [DODIC]: Public Key Infrastructure (PKI)

ID Code (A=Service Ready, B=Not Service Ready) : A	MDAP/MAIS Code:
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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>)	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	-	0.203	4.165	4.160	-	4.160
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	0.203	4.165	4.160	-	4.160
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	0.203	4.165	4.160	-	4.160

(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 Millions</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 (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Hardware - 0303135F COMSEC Cost																		
Recurring Cost																		
1. EVOLUTIONARY PKI END USER EQUIPMENT	-	-	-	0.000	4,060	0.203	0.000	69,740	3.462	0.000	69,398	3.445	-	-	-	0.000	69,398	3.445
2. AIR FORCE DIRECTORY SERVICES	-	-	-	-	-	0.000	0.141	5	0.703	0.143	5	0.715	-	-	-	0.143	5	0.715
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	0.203	-	-	4.165	-	-	4.160	-	-	-	-	-	4.160
<i>Subtotal: Hardware - 0303135F COMSEC Cost</i>	-	-	-	-	-	0.203	-	-	4.165	-	-	4.160	-	-	-	-	-	4.160
Gross/Weapon System Cost	-	-	-	-	-	0.203	-	-	4.165	-	-	4.160	-	-	-	-	-	4.160

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Exhibit P-5, Cost Analysis: PB 2020 Air Force						Date: February 2019			
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 1				P-1 Line Item Number / Title: 831010 / Comsec Equipment			Item Number / Title [DODIC]: Information Systems Security Program		
ID Code (A=Service Ready, B=Not Service Ready) : A						MDAP/MAIS Code:			
Resource Summary				Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity (Units in Each)				-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)				-	66.199	55.825	52.602	-	52.602
Less PY Advance Procurement (\$ in Millions)				-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)				-	66.199	55.825	52.602	-	52.602
Plus CY Advance Procurement (\$ in Millions)				-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)				-	66.199	55.825	52.602	-	52.602
<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 Millions)				-	-	-	-	-	-

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 (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Hardware - 1. AIR and GROUND COMSEC (PE 0303140F) Cost																		
Recurring Cost																		
a. IN-LINE NETWORK ENCRYPTORS ^(f)	-	-	-	0.016	1,110	17.759	0.016	465	7.437	0.016	545	8.724	-	-	-	0.016	545	8.724
b. LINK ENCRYPTION FAMILY	-	-	-	-	-	-	0.009	387	3.479	0.009	270	2.436	-	-	-	0.009	270	2.436
c. AIR AND GROUND CONSOLIDATED ^(f)	-	-	-	0.003	1,074	3.221	0.003	1,193	3.580	0.003	4,932	14.736	-	-	-	0.003	4,932	14.736
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	20.980	-	-	14.496	-	-	25.896	-	-	-	-	-	25.896
<i>Subtotal: Hardware - 1. AIR and GROUND COMSEC (PE 0303140F) Cost</i>	-	-	-	-	-	20.980	-	-	14.496	-	-	25.896	-	-	-	-	-	25.896
Hardware - 2. CRYPTOGRAPHIC MODERNIZATION (PE 0303140F) Cost																		
Recurring Cost																		
a (1). KIV-78	-	-	-	0.008	229	1.828	0.008	25	0.199	0.008	25	0.203	-	-	-	0.008	25	0.203
b. (1) VINSON/ANDVT CRYPTOGRAPHIC MODERNIZATION (VACM) COMPONENTS (ARC-234) INSTALLATION	-	-	-	0.006	126	0.753	-	-	-	-	-	-	-	-	-	-	-	-
b. (2) VINSON/ANDVT CRYPTOGRAPHIC MODERNIZATION (VACM) DEVICES ^(f)	-	-	-	0.011	1,494	16.435	0.011	1,132	12.454	0.011	1,661	18.274	-	-	-	0.011	1,661	18.274

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Exhibit P-5, Cost Analysis: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 1 **P-1 Line Item Number / Title:** 831010 / Comsec Equipment **Item Number / Title [DODIC]:** Information Systems Security Program

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

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
c. MISSILE ELECTRONIC ENCRYPTION DEVICES (MEED)	-	-	-	-	-	0.388	0.010	1,837	18.366	0.010	82	0.811	-	-	-	0.010	82	0.811
d. MINI CRYPTO	-	-	-	0.002	950	1.735	0.001	3,550	5.150	0.001	1,643	1.643	-	-	-	0.001	1,643	1.643
e. PROGRAM MANAGEMENT (PMA)	-	-	-	-	-	3.568	-	-	2.802	-	-	3.296	-	-	-	-	-	3.296
b. (3) REMOTE CONTROL UNIT (RCU)	-	-	-	-	-	-	-	-	1.550	-	-	1.682	-	-	-	-	-	1.682
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	24.707	-	-	40.521	-	-	25.909	-	-	-	-	-	25.909
<i>Subtotal: Hardware - 2. CRYPTOGRAPHIC MODERNIZATION (PE 0303140F) Cost</i>	-	-	-	-	-	24.707	-	-	40.521	-	-	25.909	-	-	-	-	-	25.909
Hardware - 3. AF EKMS (PE 0303140F) Cost																		
Recurring Cost																		
a. TECHNICAL UPDATES	-	-	-	-	-	0.714	-	-	-	-	-	-	-	-	-	-	-	-
b. SIMPLE KEY LOADER (SKL) and REFRESH	-	-	-	0.003	892	2.675	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	3.389	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Hardware - 3. AF EKMS (PE 0303140F) Cost</i>	-	-	-	-	-	3.389	-	-	-	-	-	-	-	-	-	-	-	-
Hardware - 4. AF KMI (PE 0303140F) Cost																		
Recurring Cost																		
a. KMI HARDWARE	-	-	-	0.035	65	2.283	0.043	6	0.259	0.038	7	0.265	-	-	-	0.038	7	0.265
b. REMOTE REKEY (RRK) (CI-33)	-	-	-	0.412	36	14.840	0.549	1	0.549	0.532	1	0.532	-	-	-	0.532	1	0.532
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	17.123	-	-	0.808	-	-	0.797	-	-	-	-	-	0.797
<i>Subtotal: Hardware - 4. AF KMI (PE 0303140F) Cost</i>	-	-	-	-	-	17.123	-	-	0.808	-	-	0.797	-	-	-	-	-	0.797
Gross/Weapon System Cost	-	-	-	-	-	66.199	-	-	55.825	-	-	52.602	-	-	-	-	-	52.602

Remarks:
COMSEC Equipment is procured as a centrally managed item using 3080.

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Exhibit P-5, Cost Analysis: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 1	P-1 Line Item Number / Title: 831010 / Comsec Equipment	Item Number / Title [DODIC]: Information Systems Security Program
ID Code (A=Service Ready, B=Not Service Ready) : A	MDAP/MAIS Code:	

(†) indicates the presence of a P-5a

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Exhibit P-5a, Procurement History and Planning: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 1	P-1 Line Item Number / Title: 831010 / Comsec Equipment	Item Number / Title [DODIC]: Information Systems Security Program
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Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty <i>(Each)</i>	Unit Cost <i>(\$ M)</i>	Specs Avail Now?	Date Revision Available	RFP Issue Date
a. IN-LINE NETWORK ENCRYPTORS		2018	General Dynamics / Various	Various	NSA	Nov 2017	Jan 2018	1,110	0.016	Y		
a. IN-LINE NETWORK ENCRYPTORS		2019	General Dynamics / Various	Various	NSA	Nov 2018	Jan 2019	465	0.016	Y		
a. IN-LINE NETWORK ENCRYPTORS		2020	General Dynamics / Various	Various	NSA	Nov 2019	Jan 2020	545	0.016	Y		
c. AIR AND GROUND CONSOLIDATED		2018	General Dynamics / Various	Various	NSA	Nov 2017	Jan 2018	1,074	0.003	Y		
c. AIR AND GROUND CONSOLIDATED		2019	General Dynamics / Various	Various	NSA	Nov 2018	Jan 2019	1,193	0.003	Y		
c. AIR AND GROUND CONSOLIDATED		2020	General Dynamics / Various	Various	NSA	Nov 2019	Jan 2020	4,932	0.003	Y		
b. (2) VINSON/ANDVT CRYPTOGRAPHIC MODERNIZATION (VACM) DEVICES		2018	Raytheon / Florida	Various	CPSG	Dec 2017	Jan 2019	1,494	0.011	Y		
b. (2) VINSON/ANDVT CRYPTOGRAPHIC MODERNIZATION (VACM) DEVICES		2019	Raytheon / Florida	Various	CPSG	Mar 2019	Apr 2020	1,132	0.011	Y		
b. (2) VINSON/ANDVT CRYPTOGRAPHIC MODERNIZATION (VACM) DEVICES		2020	Raytheon / Florida	Various	CPSG	Mar 2020	Apr 2021	1,661	0.011	Y		

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity:
3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications
Equip / BSA 2: Intelligence Programs

P-1 Line Item Number / Title:
832050 / International Intel Tech & Architectures

ID Code (A=Service Ready, B=Not Service Ready): B **Program Elements for Code B Items:** 0305600F **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>)	-	25.208	8.290	11.386	0.000	11.386	11.314	10.884	11.167	11.368	-	89.617
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	25.208	8.290	11.386	0.000	11.386	11.314	10.884	11.167	11.368	-	89.617
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	25.208	8.290	11.386	0.000	11.386	11.314	10.884	11.167	11.368	-	89.617

(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 Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

International Intelligence Technology and Architectures oversees, manages, and provides the United States (US) component of the multi-national Battlefield Information Collection and Exploitation System (US BICES) with a collaborative environment and intelligence sharing enterprise required for processing and disseminating critical intelligence information between and among US, North Atlantic Treaty Organization (NATO), allied and coalition forces. The US BICES program procures and maintains a standing intelligence information sharing capability across Department of Defense (DoD), Combat Support Agencies, and multiple Combatant Commands (CCMD) for the Office of the Under Secretary of Defense, Intelligence (OUSD(I)). At the request of OUSD(I), US BICES is extended beyond U.S. European Command (EUCOM) into all CCMDs and is known as US BICES Extended (US BICES-X). US BICES provides an "enduring" US and Coalition interoperable intelligence sharing multi-level secure technical architecture utilizing releasable elements of the Defense Intelligence Information Enterprise (DI2E) framework and functions to support the full spectrum of intelligence operations and dissemination throughout the DoD community. Also, it enables instantiation of US BICES/BICES-X as the intelligence contribution to the Mission Partner Environment (MPE).

Funding for this exhibit contained in PE 0305600F.

As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications **P-1 Line Item Number / Title:** 832050 / International Intel Tech & Architectures
Equip / BSA 2: Intelligence Programs

ID Code (A=Service Ready, B=Not Service Ready): B **Program Elements for Code B Items:** 0305600F **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	International Intel Tech & Architectures	P-5a	B		- / -	- / 25.208	- / 8.290	- / 11.386	- / 0.000	- / 11.386
P-40	Total Gross/Weapon System Cost				- / -	- / 25.208	- / 8.290	- / 11.386	- / 0.000	- / 11.386

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

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

Justification:
 In response to CCMD requirements, funding for US BICES/US BICES-X capabilities implements OUSD(I) global intelligence sharing arrangements. FY2020 funding procures hardware and software to support the expansion of the US BICES-X coalition information sharing capabilities for US Combatant Commanders to meet theater strategy worldwide. Specifically funding will support J2 (Joint Intelligence) network requirements to exchange intelligence information with bi-lateral, multi-lateral, and NATO partners. Will deliver procedures, workstations, switches, servers, cross-domain solutions, communications infrastructure, video teleconference suites, network equipment, storage and backup, encryption equipment, software licenses, infrastructure, deployable suites, Trusted Network Environment (TNE) equipment and software communications. Variations in quantity and unit price reflect planned capital investment.

Other Procurement funding will:

- Provide and support extension of the US BICES multilateral, and bilateral intelligence information sharing capabilities within each of the Combatant Commands via expanded communications, information technology systems, integrated wide area and meshed networking, deployable containers/elements, and advanced Joint Intelligence Operations Center (JIOC)-IT/Distributed Common Ground/Surface Systems (DCGS) releasable analytical applications.
- Procure the hardware and software needed to establish US BICES-X capabilities as a core infrastructure and enterprise for the intelligence component of the DoD MPE.
- Continue support to the (US as framework nation) US/Coalition Special Operations Forces (SOF) supporting NATO and worldwide intelligence needs for the Global Pursuit mission and the US contribution to the NATO Intelligence Fusion Center at the Joint Analysis Center, United Kingdom (UK).
- Procure work stations, enterprise hardware and software, security accreditation, and network connections supporting strategic, operational and forward deployed warfighting forces in multiple theaters.
- Provide enhanced capabilities for coalition Special Operations Command intelligence sharing capabilities.

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Exhibit P-5, Cost Analysis: PB 2020 Air Force						Date: February 2019			
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 2				P-1 Line Item Number / Title: 832050 / International Intel Tech & Architectures			Item Number / Title [DODIC]: International Intel Tech & Architectures		
ID Code (A=Service Ready, B=Not Service Ready) : B						MDAP/MAIS Code:			
Resource Summary				Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity (Units in Each)				-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)				-	25.208	8.290	11.386	0.000	11.386
Less PY Advance Procurement (\$ in Millions)				-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)				-	25.208	8.290	11.386	0.000	11.386
Plus CY Advance Procurement (\$ in Millions)				-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)				-	25.208	8.290	11.386	0.000	11.386
<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 Dollars)				-	-	-	-	-	-

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 (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
Hardware - International Intel Tech Cost																		
Recurring Cost																		
Workstation Suites	-	-	-	2,000.00	466	0.932	2,000.00	216	0.432	2,000.00	317	0.634	-	-	0.000	2,000.00	317	0.634
Server Suites	-	-	-	15,000.00	105	1.575	15,000.00	26	0.390	15,000.00	35	0.525	-	-	0.000	15,000.00	35	0.525
Laptop Suites	-	-	-	2,000.00	22	0.044	2,000.00	5	0.010	2,000.00	7	0.014	-	-	0.000	2,000.00	7	0.014
Printers	-	-	-	-	-	0.041	-	-	0.010	-	-	-	-	-	0.000	-	-	0.000
Storage and Backup Suites	-	-	-	24,000.00	23	0.552	24,000.00	7	0.168	24,000.00	9	0.216	-	-	0.000	24,000.00	9	0.216
Network Equipment ^(†)	-	-	-	561,000.00	5	2.805	516,000.00	9	4.644	516,000.00	13	6.708	-	-	0.000	516,000.00	13	6.708
Video Teleconference Suite	-	-	-	83,000.00	25	2.075	83,000.00	4	0.332	83,000.00	8	0.664	-	-	0.000	83,000.00	8	0.664
Encryption Equipment	-	-	-	15,000.00	109	1.635	15,000.00	27	0.405	15,000.00	29	0.435	-	-	0.000	15,000.00	29	0.435
Infrastructure	-	-	-	56,000.00	47	2.632	56,000.00	22	1.232	56,000.00	23	1.288	-	-	0.000	56,000.00	23	1.288
Deployable System Monitors 32 inch LCD (373 Base, 80 OCO)	-	-	-	-	-	0.111	-	-	0.028	-	-	0.027	-	-	0.000	-	-	0.027
Subtotal: Recurring Cost	-	-	-	-	-	12.402	-	-	7.651	-	-	10.511	-	-	0.000	-	-	10.511
Non Recurring Cost																		
Fly-Away Deployable BICES Mobile Units with Video	-	-	-	42,000.00	6	0.252	42,000.00	3	0.126	42,000.00	5	0.210	-	-	0.000	42,000.00	5	0.210
Subtotal: Non Recurring Cost	-	-	-	-	-	0.252	-	-	0.126	-	-	0.210	-	-	0.000	-	-	0.210

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Exhibit P-5, Cost Analysis: PB 2020 Air Force													Date: February 2019					
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 2						P-1 Line Item Number / Title: 832050 / International Intel Tech & Architectures						Item Number / Title [DODIC]: International Intel Tech & Architectures						
ID Code (A=Service Ready, B=Not Service Ready) : B										MDAP/MAIS Code:								

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
<i>Subtotal: Hardware - International Intel Tech Cost</i>	-	-	-	-	-	12.654	-	-	7.777	-	-	10.721	-	-	0.000	-	-	10.721
Software - International Intel Tech Cost																		
Recurring Cost																		
Software Licenses	-	-	-	776,000.00	16	12.416	76,000.00	5	0.380	76,000.00	7	0.532	-	-	0.000	76,000.00	7	0.532
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	12.416	-	-	0.380	-	-	0.532	-	-	0.000	-	-	0.532
<i>Subtotal: Software - International Intel Tech Cost</i>	-	-	-	-	-	12.416	-	-	0.380	-	-	0.532	-	-	0.000	-	-	0.532
Support - International Intel Tech Cost																		
US BICES Mobility	-	-	-	-	-	0.044	-	-	0.044	-	-	0.044	-	-	0.000	-	-	0.044
Program Support	-	-	-	-	-	0.094	-	-	0.089	-	-	0.089	-	-	0.000	-	-	0.089
<i>Subtotal: Support - International Intel Tech Cost</i>	-	-	-	-	-	0.138	-	-	0.133	-	-	0.133	-	-	0.000	-	-	0.133
Gross/Weapon System Cost	-	-	-	-	-	25.208	-	-	8.290	-	-	11.386	-	-	0.000	-	-	11.386

Remarks:

Automated P-Doc system rounds unit cost and does not allow unit costs below \$1,000.

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

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Exhibit P-5a, Procurement History and Planning: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 2	P-1 Line Item Number / Title: 832050 / International Intel Tech & Architectures	Item Number / Title [DODIC]: International Intel Tech & Architectures
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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>(\$)</i>	Specs Avail Now?	Date Revision Available	RFP Issue Date
Network Equipment		2018	GDIT / Springfield VA	SS / IDIQ	AA-CDM	Jan 2018	Apr 2018	5	561,000.00	N	Dec 2017	
Network Equipment		2019	GDIT / Springfield VA	SS / IDIQ	AA-CDM	Jan 2019	Apr 2019	9	516,000.00	N	Dec 2018	
Network Equipment		2020	GDIT / Springfield VA	SS / IDIQ	AA-CDM	Jan 2020	Apr 2020	13	516,000.00	N	Dec 2019	

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity:
3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications
Equip / BSA 2: Intelligence Programs

P-1 Line Item Number / Title:
832060 / Intelligence Training Equipment

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

Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	-	5.892	1.599	7.619	-	7.619	7.044	5.787	5.889	5.995	-	39.825
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	5.892	1.599	7.619	-	7.619	7.044	5.787	5.889	5.995	-	39.825
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	5.892	1.599	7.619	-	7.619	7.044	5.787	5.889	5.995	-	39.825

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

Description:

The Intelligence Training Equipment P-1 line procures equipment for use in initial and advanced training in the General Intelligence and Cryptologic and Signals Intelligence related career fields. The equipment supports training for intelligence officers, geospatial analysts, targeteers, operations analysts, linguists, network analysts, and all communications (except communications security) and electronic intelligence analysts. The systems support intelligence, surveillance, and reconnaissance applications. The major focus of the systems is to provide the sole source for functional training on the newest generation of intelligence systems with an emphasis on computer-based training systems through modeling and simulation. This equipment is critical in preparing military intelligence personnel to support warfighting commanders and the National Intelligence Program (NIP). The equipment supports enterprise-wide intelligence training for Air Force (AF), Department of Defense (DoD), Department of Homeland Security (DHS), and Joint/Coalition Partner personnel at Goodfellow Air Force Base (GAFB), Texas.

PE 0804733F GENERAL INTELLIGENCE SKILL TRAINING (GIST)

GOODFELLOW INTELLIGENCE TRAINING ARCHITECTURE (GITA) UPGRADE: Continues to incorporate new equipment to support the development of the enterprise architecture, consolidating multiple networks and systems into a single integrated GITA.

Funding for this exhibit contained in PE 0804733F.

As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 2: Intelligence Programs **P-1 Line Item Number / Title:** 832060 / Intelligence Training Equipment

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

Line Item MDAP/MAIS Code: N/A

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	Intelligence Training Equipment				- / -	- / 5.892	- / 1.599	- / 7.619	- / -	- / 7.619
P-40	Total Gross/Weapon System Cost				- / -	- / 5.892	- / 1.599	- / 7.619	- / -	- / 7.619

*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. Title represents the P-40a Title when only the P-40a Summary/Total is shown.

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

Justification:

PE 0804733F GENERAL INTELLIGENCE SKILL TRAINING

GOODFELLOW INTELLIGENCE TRAINING ARCHITECTURE (GITA) FY20 funding will be used on the GITA infrastructure to modernize/upgrade the training network backbone and delivery systems supporting over 7600 students annually. Upgrades ensure that GITA meets/exceeds the latest in cyber security requirements at each security level. GITA provides lifecycle support of the hardware and software required to deliver training designed to meet operational customer requirements. GITA encompasses the following: student workstations; network; servers; storage solutions; thin client technology; scenario-based modeling and simulation models; courseware development software; delivery servers; application hardware; and networking equipment. GITA aligns technologies with advanced teaching techniques; increases system capabilities to support ever-evolving operational intelligence tools; and addresses uncertainty in continued sustainment capabilities to reduce failure rates and outages.

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 2	P-1 Line Item Number / Title: 832060 / Intelligence Training Equipment	Aggregated Items Title: Intelligence Training Equipment
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Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
UNCATEGORIZED																				
GITA UPGRADE	A		-	-	-	-	-	5.892	-	-	1.599	-	-	7.619	-	-	-	-	-	7.619
Subtotal: UNCATEGORIZED			-	-	-	-	-	5.892	-	-	1.599	-	-	7.619	-	-	-	-	-	7.619
Total			-	-	-	-	-	5.892	-	-	1.599	-	-	7.619	-	-	-	-	-	7.619

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

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 2: Intelligence Programs **P-1 Line Item Number / Title:** 832070 / Intelligence Comm Equipment

ID Code (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0305022F, 0305220F, 0305221F, 1203400F

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>)	-	38.309	21.720	35.558	0.000	35.558	35.711	35.660	36.249	36.836	-	240.043
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	38.309	21.720	35.558	0.000	35.558	35.711	35.660	36.249	36.836	-	240.043
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	38.309	21.720	35.558	0.000	35.558	35.711	35.660	36.249	36.836	-	240.043

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

Description:

PE 0207431F Combat Air Intelligence System Activities - P-40A

Enhanced GEOSPATIAL PRODUCT LIBRARY (eGPL): eGPL provides all AF units access to digital GEOINT and targeting data products in support of targeting, intelligence and mission planning processes, including support to units deploying to South West Asia and North Africa. It provides the sole resource to store and immediately retrieve large digital files and mission essential GEOINT data required to conduct AF mission sets. This storage includes tape drives to ensure data survivability and rapid back-up/restoration 20 times faster than network technology, freeing units critical time to support mission tasks.

UNIT LEVEL INTELLIGENCE (ULI) SYSTEMS & Center of Excellence (COE): ULI fields the Personal Computer- Integrated Imagery and Intelligence (PC-I3/T) and Targeting Application Workstation (TAW) systems which are used by intelligence analysts to produce Targeting and Mission Planning materials. The ULI COE provides reach back support for the field units on hardware and software issues. The COE also provides MX/IA patch development and distribution services.

JOINT TARGETING TOOLBOX (JTT): Provides JTT servers for interfacing programs to test against. Servers are needed on Unclassified and Secret environments and will require software licenses to support operations.

INFORMATION FOR OPERATIONAL AND TACTICAL ANALYSIS (IOTA): Provides web-based information management in the form of automated ingest and analysis of combat intelligence, surveillance, and reconnaissance (ISR) reports. The two ISR-related components of IOTA are the mission report (MISREP) analysis tool (MAT) and ISR Assessment Tool (IAT).

Targeting and Geospatial-Intelligence (T&G) Program Management Office (PMO): Provides the infrastructure that enables the agile development, sustainment, and fielding of new T&G capabilities, and ensures that the technical baseline is established and controlled by the Government. Sustainment includes help desk support, documentation, information assurance, STIGs/TCNOs, software patches and fixes. Fielding supports ULI, eGPL, JTT, IOTA, and any new T&G capability not fielded via other paths.

PE 0208288F Intel Data Applications - P-40A

Enhance existing radar system via additional antennas and transmitters in order to expand simultaneous collection capability while providing an permanent capability for operations eliminating the need for full system maintenance downtime.

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 2: Intelligence Programs		P-1 Line Item Number / Title: 832070 / Intelligence Comm Equipment
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0305022F, 0305220F, 0305221F, 1203400F
Line Item MDAP/MAIS Code: N/A		
<p>PE 0305022F ISR Modernization & Automation Dvmt (IMAD) - P-40A IT equipment required for kill chain automation to centrally manage ISR data wrangling, data aggregation, AI/machine learning, tool development, and automation.</p> <p>PE 0305146F Defense Joint Counterintelligence Activities - P-40A Enables Cyber Counterintelligence and Technical Surveillance/Technical Surveillance Countermeasures (TSCM) support to counterintelligence operations conducted by the Air Force Office of Special Investigations (AFOSI) for AF and DoD entities, to detect and deter covert activities conducted by Foreign Intelligence Services seeking to compromise classified or sensitive information. The technical equipment required for these investigations is unique and complex, and is a part of the formally designated USAF TSCM weapons system and/or the Cyber Counterintelligence suite of tools.</p> <p>PE 0305192F Military Intelligence Program (MIP) Activities - P-40A Will fund information recovery technology for Enterprise Service Centers. Funds will also be used to procure servers, storage devices, associated hardware upgrades, and installation costs.</p> <p>PE 0305208F Distributed Common Ground/Surface Systems - P-5 The FY19 OCO funding request will be used to procure communications equipment for the DCGS program.</p> <p>PE 0305221F Network-Centric Collaborative Targeting - P-40A Network Centric Collaborative Targeting (NCCT) is the Air Force program of record responsible for developing core technologies supporting the horizontal and/or vertical integration of Intelligence, Surveillance and Reconnaissance (ISR) sensor systems. The result of such integration is a multi-intelligence (multi-INT) sensor network. Operationally, NCCT Core Technologies provide a tactical collaborative multi-INT geolocation capability employed against high-value targets. NCCT software supports Machine-to-Machine (M2M) cross-cueing and Internet Protocol (IP) connectivity to coordinate collection activities across the NCCT network. NCCT correlation and fusion software ingests collection data to produce a single, composite track (geolocation and identification) in near real-time for high value targets.</p> <p>NCCT Core Technology includes, but is not limited to, network management software, a network messaging standard, correlation and fusion software, software supporting tactical-to-national Signals Intelligence (SIGINT) Concept of Operations (CONOPS), NCCT multi-level security hardware and software items, and operator interfaces. Development funds support software modifications required for technology modernization specific to network and fusion architecture design, data fusion algorithms, and cybersecurity, while keeping pace with evolving adversary tactics, techniques, and procedures (TTPs). FY 2020 funding will be dedicated to transitioning software development from Core Technology to a cloud architecture (v6.0) and fielding follow-on Core Technology Software versions as necessary.</p> <p>PE 0307577F Intelligence Mission Data (IMD) - P-40A Funding will enable procurement of equipment for Advanced NCTR Collect and storage systems supporting Operational Reconnaissance data automation.</p> <p>PE 0305179F Integrated Broadcast Service (IBS) - P-40A INTEGRATED BROADCAST SERVICE (IBS): The IBS is a multi-sensor, multisource system of systems for the dissemination of integrated threat warning and blue force tracking information. IBS provides intelligence producers and information sources the means to analyze and disseminate strategic, operational, and tactical intelligence and warning information directly to the warfighter. The IBS operational baseline represents the migration, integration, and consolidation of existing tactical data dissemination into a future common architecture message format.</p> <p>PE 1203400F Space Superiority Intelligence - P-40A PE 123400F, SPACE SUPERIORITY INTELLIGENCE</p> <p>This PE executes requirements for SSI. Funds may be used for other AFNet requirements if required. Current year funding includes \$2M in Overseas Contingency Operations funds requested in the FY18 PB.</p> <p>ARC STORM: Uses commercially available technology and systems to provide the rapid geo-location of commercial satellite communication emitter locations, utilizing unmanned, remotely operated systems located in key area throughout the world.</p>		

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 2: Intelligence Programs		P-1 Line Item Number / Title: 832070 / Intelligence Comm Equipment
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0305022F, 0305220F, 0305221F, 1203400F
Line Item MDAP/MAIS Code: N/A		
<p>Funds are required to re-capitalize current fielded systems that have operated for 4 years. Processing equipment runs 24/7 to support high utilization rates. Antennas and supporting equipment are fully exposed to the elements, experience a great deal of physical movement, and are reaching end of life expectancy.</p> <p>ARC STORM systems will become inoperable without equipment recapitalization; resulting in loss of geo-location collection. Funds will allow immediate re-capitalization of two fielded systems plus an additional spare, allowing for continued support to operations.</p> <p>As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.</p>		

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity:
3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 2: Intelligence Programs

P-1 Line Item Number / Title:
832070 / Intelligence Comm Equipment

ID Code (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0305022F, 0305220F, 0305221F, 1203400F

Line Item MDAP/MAIS Code: N/A

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	Combat Air Intelligence System Activities				- / -	- / 6.549	- / 6.835	- / 5.363	- / -	- / 5.363
P-40a	Intel Data Applications				- / -	- / 0.000	- / 5.000	- / 0.000	- / -	- / 0.000
P-40a	ISR Modernization & Automation Dvmt (IMAD)				- / -	- / 0.000	- / 0.000	- / 3.510	- / -	- / 3.510
P-40a	Defense Joint Counterintelligence Activities				- / -	- / 1.181	- / 0.952	- / 2.644	- / -	- / 2.644
P-40a	Military Intelligence Program (MIP) Activities				- / -	- / 4.434	- / 4.080	- / 4.150	- / -	- / 4.150
P-5	Distributed Common Ground/Surface Systems		A		- / -	- / 0.000	- / 0.400	- / 0.000	- / 0.000	- / 0.000
P-40a	Network-Centric Collaborative Targeting				- / -	- / 3.312	- / 3.095	- / 3.148	- / -	- / 3.148
P-40a	Intelligence Mission Data (IMD)				- / -	- / 1.313	- / 0.602	- / 0.000	- / -	- / 0.000
P-40a	Integrated Broadcast Service (IBS)				- / -	- / 17.270	- / 0.000	- / 16.743	- / -	- / 16.743
P-40a	Space Superiority Intelligence				- / -	- / 4.250	- / 0.756	- / 0.000	- / -	- / 0.000
P-40	Total Gross/Weapon System Cost				- / -	- / 38.309	- / 21.720	- / 35.558	- / 0.000	- / 35.558

*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. Title represents the P-40a Title when only the P-40a Summary/Total is shown.

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

Justification:

This program, Intelligence Comm Equipment P-40A Category IMAD Kill Chain Automation IT Eqmt PE 35022F Item IT Equipment, is a new start.

PE 0207431F Combat Air Intelligence System Activities - P-40A

ENHANCED GEOSPATIAL PRODUCT LIBRARY (EGPL): Funding provides for the capital equipment replacement of EGPL servers, drives, and associated equipment to ensure current, dependable data repository for intelligence threat assessment and combat mission planning support at over 260 units worldwide.

UNIT LEVEL INTELLIGENCE (ULI) SYSTEMS & Center of Excellence (COE): Funding provides for the capital equipment replacement of ULI systems providing crucial capabilities to the Warfighter to include Intelligence Preparation of the Operational Environment (IPOE), data gathering and compilation, support to mission execution, intelligence reporting, targeting, weapon systems video processing, and post-mission assessment support at over 327 units worldwide. The COE is critical to the ULI mission performing all system integration work, functional testing, cyber security scans, MX/IA releases, help desk support, and fields the hardware and software components needed to successfully employ the Targeting Applications Workstation and the Personal Computer - Integrated Imagery and Intelligence/Targeting systems.

JOINT TARGETING TOOLBOX (JTT): Funding will be used to provide software sustainment and fielding support for existing JTT operational instances. This includes Help Desk, training, and MX/IA patch updates. In addition, funding will support the testing and fielding of the JTT software into a non-GCCS stand alone cloud environment for greater accessibility and maintenance response capability.

INFORMATION FOR OPERATIONAL AND TACTICAL ANALYSIS (IOTA): Funding will be used to provide software sustainment and fielding support for existing IOTA operational instances. This includes Help Desk, training, and MX/IA patch updates

Targeting and Geospatial Intelligence (T&G) PMO: Funding will be used to ensure the T&G PMO maintains management oversight of both the technical and programmatic aspects of existing T&G capabilities.

PE 0208288F Intel Data Applications - P-40A

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 2: Intelligence Programs		P-1 Line Item Number / Title: 832070 / Intelligence Comm Equipment
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0305022F, 0305220F, 0305221F, 1203400F
Line Item MDAP/MAIS Code: N/A		
<p>FY19 funding will be used to enhance existing radar system via additional antennas and transmitters in order to expand simultaneous collection capability while providing an permanent capability for operations eliminating the need for full system maintenance downtime.</p> <p>This effort will be supported via the NASIC ATEP II contract. The project will be delivered 12 months from the date of obligation.</p> <p>PE 0305022F ISR Modernization & Automation Dvmt (IMAD) - P-40A IT equipment required for kill chain automation to centrally manage ISR data wrangling, data aggregation, AI/machine learning, tool development, and automation.</p> <p>PE 0305146F Defense Joint Counterintelligence Activities - P-40A Funding procures the periodic refresh of equipment to provide state of the art capabilities to detect and neutralize foreign intelligence entity (FIE) and criminal activities targeted against sensitive and classified AF and DoD information and activities.</p> <p>PE 0305192F Military Intelligence Program (MIP) Activities - P-40A FY19 funding will procure information recovery technology for Enterprise Service Centers. Funds will also be used to procure servers, storage devices, associated hardware upgrades, and installation costs.</p> <p>PE 0305208F Distributed Common Ground/Surface Systems - P-5 The FY19 OCO funding request will be used to procure communications equipment for the DCGS program.</p> <p>PE 0305221F Network-Centric Collaborative Targeting - P-40A FY 2020 funding will procure NCCT hardware at ground stations in support of a new software baseline roll out and user requested upgrades. NCCT Core Technology and cloud architecture investments include, but are not limited to, operational interfaces, network controllers, fusion engines, and data guards for multi-level security hardware and software items based on operator specified rule sets. NCCT Core Technology and cloud architecture will also support Air Force and Joint experiments, demonstrations and exercises as necessary.</p> <p>PE 0307577F Intelligence Mission Data (IMD) - P-40A IMD Advanced NCTR Collect: Funding will deliver 2 items</p> <p>Operational Reconnaissance Data Automation: Funding will deliver 2x Servers, 1x Storage Area Network, 2x Fiber Channel switches, 1 x KVM, 2x Rack, 2x Management switches, server management and database software</p> <p>PE 0305179F Integrated Broadcast Service (IBS) - P-40A FY20 funding for IBS procurement efforts are focused in the following areas:</p> <ol style="list-style-type: none"> 1. CIB UPLINK SITE (CUS) TACTICAL INFORMATION PROCESSOR AND ONLINE FUSION FACILITY (TIPOFF): TIPOFF serves as the control system for the CIB Uplink Site and interface to the IBS Network Services (IBS-NS). Each major release of the software incorporates approved requirements as necessitated by mission changes, system interoperability requirements, and system security. The new release supports migration to CIB Uplink Sites. 2. COMMON INTERACTIVE BROADCAST PLANNING TOOL (CIB-PT): The CIB-PT provides the COCOM Planners an integrated software/hardware mechanism to allocate space-based communications resources to theater and national producers, specifically to reliably optimize the timeliness of scarce bandwidth allocation of extremely time-critical messages. Each major release of the software/hardware incorporates updated producer prioritization, bandwidth allocation, mission monitoring and interfaces to the STRATCOM systems as necessitated by mission changes, system interoperability, and system security compliance to achieve threshold requirements. 		

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 2: Intelligence Programs		P-1 Line Item Number / Title: 832070 / Intelligence Comm Equipment
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0305022F, 0305220F, 0305221F, 1203400F
Line Item MDAP/MAIS Code: N/A		
<p>3. COMMON MESSAGE FORMATE PARSER LIBRARY (CMFPL): The CMF repository is required for the automatic exchange of data among processing, exploitation, and dissemination (PED) systems. This effort procures the infrastructure for dynamic software library updates for multiple operating systems essential to broadcast operation.</p> <p>4. IBS V&V Environment: Procures simulation and stimulation tools to certify and verify mission equipment for operational use. Included is the MULTI-AREA REMOTE SIMULATOR (MARS) a component of the IBS verification and validation process used to emulate multiple systems messaging under operational conditions and the UNIVERSAL CIB TEST SET (UCTS) a component that emulates the UHF SATCOM environment.</p> <p>5. TERMINAL, DATALINK, & ENTERPRISE SERVER MITIGATION: Funds direct mission support activities such as verification & validation documentation; uplink receive and transmit terminal upgrade, enhancements and spares; mitigation; CMF product support; JOINT TACTICAL DATA LINK, i.e., Link 16 support; product documentation; studies and analyses; IBS Web Support and contractor system engineering activities.</p> <p>6. IBS-NS: Scaling capability is required for messaging under operational use. Funds approved modernization of Global IBS Network Servers (GINS) and Theater Interface Nodes (TINS), technology refreshment and integration as necessitated by mission changes, system interoperability, and system security.</p> <p>PE 1203400F Space Superiority Intelligence - P-40A PE 123400F, SPACE SUPERIORITY INTELLIGENCE (SSI)</p> <p>FY19 funding executes requirements for SSI. FY19 OCO funding of \$.756M is being requested to support satellite communication interference detection for the intelligence and operational communities. Funds may be used for other AFNet requirements if required.</p> <p>ARC STORM: Uses commercially available technology and systems to provide the rapid geo-location of commercial satellite communication emitter locations, utilizing unmanned, remotely operated systems located in key area throughout the world.</p> <p>Funds are required to re-capitalize current fielded systems that have operated for 4 years. Processing equipment runs 24/7 to support high utilization rates. Antennas and supporting equipment are fully exposed to the elements, experience a great deal of physical movement, and are reaching end of life expectancy.</p> <p>ARC STORM systems will become inoperable without equipment recapitalization; resulting in loss of geo-location collection. Funds will allow immediate re-capitalization of two fielded systems plus an additional spare, allowing for continued support to operations.</p>		

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 2 **P-1 Line Item Number / Title:** 832070 / Intelligence Comm Equipment **Aggregated Items Title:** Combat Air Intelligence System Activities

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Uncategorized																				
CAIS PE 0207431F	A		-	-	-	-	-	0.504	-	-	2.523	-	-	1.887	-	-	-	-	-	1.887
ULI	A		-	-	-	-	-	2.540	-	-	2.312	-	-	3.476	-	-	-	-	-	3.476
GPL	A		-	-	-	-	-	2.337	-	-	2.000	-	-	-	-	-	-	-	-	-
IStore	A		-	-	-	-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-
GCCS-I3	A		-	-	-	-	-	0.345	-	-	-	-	-	-	-	-	-	-	-	-
IOTA	A		-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COE T&G Integrator	A		-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
JTT	A		-	-	-	-	-	0.823	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Uncategorized			-	-	-	-	-	6.549	-	-	6.835	-	-	5.363	-	-	-	-	-	5.363
Total			-	-	-	-	-	6.549	-	-	6.835	-	-	5.363	-	-	-	-	-	5.363

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

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 2 **P-1 Line Item Number / Title:** 832070 / Intelligence Comm Equipment **Aggregated Items Title:** Intel Data Applications

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Intel Data Applications																				
New Item	A		-	-	-	-	-	0.000	5.000	1	5.000	-	-	0.000	-	-	-	-	-	0.000
Subtotal: Intel Data Applications			-	-	-	-	-	0.000	-	-	5.000	-	-	0.000	-	-	-	-	-	0.000
Total			-	-	-	-	-	0.000	-	-	5.000	-	-	0.000	-	-	-	-	-	0.000

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

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force														Date: February 2019					
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 2						P-1 Line Item Number / Title: 832070 / Intelligence Comm Equipment						Aggregated Items Title: ISR Modernization & Automation Dvmt (IMAD)							

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
IMAD Kill Chain Automation IT Eqmt PE 35022F																				
IT Equipment	A		-	-	-	-	-	0.000	-	-	0.000	-	-	3.510	-	-	-	-	-	3.510
Subtotal: IMAD Kill Chain Automation IT Eqmt PE 35022F			-	-	-	-	-	0.000	-	-	0.000	-	-	3.510	-	-	-	-	-	3.510
Total			-	-	-	-	-	0.000	-	-	0.000	-	-	3.510	-	-	-	-	-	3.510

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

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force														Date: February 2019					
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 2						P-1 Line Item Number / Title: 832070 / Intelligence Comm Equipment						Aggregated Items Title: Defense Joint Counterintelligence Activities							

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Uncategorized																				
DEFENSE JOINT COUNTERINTELLIGENCE PROGRAM PE 0305146F	A		-	-	-	-	-	1.181	-	-	0.952	-	-	2.644	-	-	-	-	-	2.644
Subtotal: Uncategorized			-	-	-	-	-	1.181	-	-	0.952	-	-	2.644	-	-	-	-	-	2.644
Total			-	-	-	-	-	1.181	-	-	0.952	-	-	2.644	-	-	-	-	-	2.644

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

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force															Date: February 2019				
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 2						P-1 Line Item Number / Title: 832070 / Intelligence Comm Equipment						Aggregated Items Title: Military Intelligence Program (MIP) Activities							

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Equipment																				
Equipment	A		-	-	-	4.434	1	4.434	4.080	1	4.080	4.150	1	4.150	-	-	-	4.150	1	4.150
Subtotal: Equipment			-	-	-	-	-	4.434	-	-	4.080	-	-	4.150	-	-	-	-	-	4.150
Total			-	-	-	-	-	4.434	-	-	4.080	-	-	4.150	-	-	-	-	-	4.150

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

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Exhibit P-5, Cost Analysis: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 2	P-1 Line Item Number / Title: 832070 / Intelligence Comm Equipment	Item Number / Title [DODIC]: Distributed Common Ground/Surface Systems

ID Code (A=Service Ready, B=Not Service Ready) : A	MDAP/MAIS Code:
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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>)	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	-	0.000	0.400	0.000	0.000	0.000
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	0.000	0.400	0.000	0.000	0.000
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	0.000	0.400	0.000	0.000	0.000

(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 Millions</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 <i>(\$ M)</i>	Qty <i>(Each)</i>	Total Cost <i>(\$ M)</i>	Unit Cost <i>(\$ M)</i>	Qty <i>(Each)</i>	Total Cost <i>(\$ M)</i>	Unit Cost <i>(\$ M)</i>	Qty <i>(Each)</i>	Total Cost <i>(\$ M)</i>	Unit Cost <i>(\$ M)</i>	Qty <i>(Each)</i>	Total Cost <i>(\$ M)</i>	Unit Cost <i>(\$ M)</i>	Qty <i>(Each)</i>	Total Cost <i>(\$ M)</i>	Unit Cost <i>(\$ M)</i>	Qty <i>(Each)</i>	Total Cost <i>(\$ M)</i>
Hardware - Distributed Common Ground/Surface Systems Cost																		
Non Recurring Cost																		
Equipment	-	-	-	-	-	0.000	-	-	0.400	-	-	0.000	-	-	-	-	-	0.000
<i>Subtotal: Non Recurring Cost</i>	-	-	-	-	-	0.000	-	-	0.400	-	-	0.000	-	-	-	-	-	0.000
<i>Subtotal: Hardware - Distributed Common Ground/Surface Systems Cost</i>	-	-	-	-	-	0.000	-	-	0.400	-	-	0.000	-	-	-	-	-	0.000
Gross/Weapon System Cost	-	-	-	-	-	0.000	-	-	0.400	-	-	0.000	-	-	0.000	-	-	0.000

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 2 **P-1 Line Item Number / Title:** 832070 / Intelligence Comm Equipment **Aggregated Items Title:** Network-Centric Collaborative Targeting

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Uncategorized																				
Network Centric Collaborative Targeting	A		-	-	-	-	-	3.312	-	-	3.095	-	-	3.148	-	-	-	-	-	3.148
Subtotal: Uncategorized			-	-	-	-	-	3.312	-	-	3.095	-	-	3.148	-	-	-	-	-	3.148
Total			-	-	-	-	-	3.312	-	-	3.095	-	-	3.148	-	-	-	-	-	3.148

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

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 2 **P-1 Line Item Number / Title:** 832070 / Intelligence Comm Equipment **Aggregated Items Title:** Intelligence Mission Data (IMD)

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Intelligence Mission Data (IMD)																				
Operational Reconnaissance Data Automation	A		-	-	-	-	-	0.500	-	-	0.301	-	-	0.000	-	-	-	-	-	0.000
Intelligence Mission Data (IMD) Advanced NCTR Collect	A		-	-	-	-	-	0.813	-	-	0.301	-	-	0.000	-	-	-	-	-	0.000
Subtotal: Intelligence Mission Data (IMD)			-	-	-	-	-	1.313	-	-	0.602	-	-	0.000	-	-	-	-	-	0.000
Total			-	-	-	-	-	1.313	-	-	0.602	-	-	0.000	-	-	-	-	-	0.000

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

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 2 **P-1 Line Item Number / Title:** 832070 / Intelligence Comm Equipment **Aggregated Items Title:** Integrated Broadcast Service (IBS)

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Integrated Broadcast Service-Network Services																				
CIB Uplink Site	A		-	-	-	-	-	3.357	-	-	-	-	-	3.925	-	-	-	-	-	3.925
COMMON INTERACTIVE BROADCAST PLANNING TOOL (CIB-PT)	A		-	-	-	-	-	3.125	-	-	-	-	-	1.325	-	-	-	-	-	1.325
COMMON MESSAGE FORMAT PARSER LIBRARY (CMFPL)	A		-	-	-	-	-	1.349	-	-	-	-	-	2.800	-	-	-	-	-	2.800
IBS V&V	A		-	-	-	-	-	2.325	-	-	-	-	-	4.125	-	-	-	-	-	4.125
TERMINAL, DATALINK, & ENTERPRISE SERVER MIGRATION	A		-	-	-	-	-	3.145	-	-	0.000	-	-	3.200	-	-	-	-	-	3.200
IBS-NS	A		-	-	-	-	-	3.969	-	-	-	-	-	1.368	-	-	-	-	-	1.368
Subtotal: Integrated Broadcast Service-Network Services			-	-	-	-	-	17.270	-	-	0.000	-	-	16.743	-	-	-	-	-	16.743
Total			-	-	-	-	-	17.270	-	-	0.000	-	-	16.743	-	-	-	-	-	16.743

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

Remarks:
 (6) IBS-NS: Capital equipment replacement of the Global IBS Servers (GINS), Theater Interface Nodes (TINS), CIB Uplink Sites (CUS), and IBS Network equipment

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 2 **P-1 Line Item Number / Title:** 832070 / Intelligence Comm Equipment **Aggregated Items Title:** Space Superiority Intelligence

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Space Superiority Intel																				
Space Superiority Intel Activities	A		-	-	-	4.250	1	4.250	-	-	0.756	-	-	0.000	-	-	-	-	-	0.000
Subtotal: Space Superiority Intel			-	-	-	-	-	4.250	-	-	0.756	-	-	0.000	-	-	-	-	-	0.000
Total			-	-	-	-	-	4.250	-	-	0.756	-	-	0.000	-	-	-	-	-	0.000

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

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity:
 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications
 Equip / BSA 3: Electronics Programs

P-1 Line Item Number / Title:
 833010 / Air Traffic Control & Landing Sys

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>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	-	55.793	83.730	17.939	0.000	17.939	66.654	99.614	51.319	51.595	-	426.644
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	55.793	83.730	17.939	0.000	17.939	66.654	99.614	51.319	51.595	-	426.644
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	55.793	83.730	17.939	0.000	17.939	66.654	99.614	51.319	51.595	-	426.644

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

Initial Spares (<i>\$ in Millions</i>)	-	1.855	1.074	1.394	-	1.394	4.573	6.280	3.122	0.488	-	18.786
Flyaway Unit Cost (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

Air Traffic Control and Landing Systems (ATCALs) procures and supports fixed-base and tactical radar, navigation aids, voice communications, and data processing/automation capabilities which enables Air Force (AF) air traffic controllers to provide advisory, sequencing, separation, and landing guidance services to all aircraft in AF-assigned airspace. In support of Global Mobility, Agile Combat Support, Global Strike, Homeland Security, and Global Response concepts of operation, ATCALs centrally manages the Air Force's Air Traffic Control capability to ensure Air Traffic Control facilities/equipment can safely and expeditiously support en route and terminal operations in benign and combat areas of responsibility. ATCALs operational and training systems must be interoperable with systems operated by other services, the Federal Aviation Administration (FAA), or host nations.

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.

AIR TRAFFIC CONTROL AND AIRFIELD OPERATIONS (ATC OPS): ATC OPS provides for procurement of new systems and replacement, modification, or mitigation of diminishing manufacturing source issues of legacy ATC navigation and landing systems, as well as related voice communications, data processing/automation systems, and ancillary equipment such as ATC digital audio legal recorders, flight data input/output systems, electronic flight strip systems, air traffic information systems, instrument procedures, and airfield management systems. Key elements of ATC OPS are:

1. DIGITAL AIR TRAFFIC CONTROL (ATC) RADIO REPLACEMENT: The ATC ground-to-air Very High Frequency (VHF) and Ultra High Frequency (UHF) radios are 30 years old and difficult to maintain. The Digital ATC Radio Replacement Program will replace ATC fixed-base and mobile ATC tower radios with state-of-the-art systems that will include a remote maintenance capability and 8.33kHz channel spacing (mandatory requirement in Europe by FY2018, completed on time). In order to ensure system commonality and common logistics support and training, ATC radios are being procured as a centrally managed item by the Air Force Life Cycle Management Center at Tinker AFB. Approximately 5,400 radios will be replaced.

2. DEPLOYABLE RADAR APPROACH CONTROL SYSTEM (D-RAPCON): D-RAPCON will replace the 1960/1970s era AN/MPN-14K and AN/TPN-19 Airport Surveillance Radar and Operations Shelter subsystems with state-of-the-art digital systems. Modification and overhaul of the existing systems has proven to be ineffective due to diminishing manufacturing sources. Currently only four legacy system are deployable and they are just partially mission capable. Three of these are currently deployed. Two of which are at a single location (one for spare parts). D-RAPCON will provide aircraft surveillance/sequencing, air traffic control communications, and automation capabilities for terminal area air traffic control operations. D-RAPCON will also be deployed with a D-ILS, mobile control tower, and mobile TACAN to provide a complete air traffic control capability. The D-RAPCON will support tactical military and worldwide humanitarian operations and also support domestic disaster relief. The primary surveillance radar coverage (non-cooperative targets) is out to 60 nautical miles (nm) and the secondary surveillance radar coverage (cooperative targets) will increase from 120 nm up to 200 nm. Due to diminishing

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 3: Electronics Programs	P-1 Line Item Number / Title: 833010 / Air Traffic Control & Landing Sys
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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

manufacturing sources, life of type purchases will be required each year. A total of 16 D-RAPCONs will be procured. Four for the Active Duty (three for the 53rd Air Traffic Control Squadron (ATCS) at Robins AFB, one for the 1st ATCS at Ramstein AB), one trainer, and one depot rotatable and one for each of 10 ANG ATCSs.

3. DEPLOYABLE INSTRUMENT LANDING SYSTEM (D-ILS): D-ILS is a Category I (200ft decision height/2400ft runway visual range) ILS with remote monitoring and maintenance capabilities. D-ILS will provide precision approach capability in adverse weather conditions to support tactical military and worldwide humanitarian/disaster relief operations and provide interoperability with the Civil Reserve Air Fleet in an area of responsibility. D-ILS also replaces the current Air Force mobile Precision Approach Radar (PAR) system. The PAR systems were procured in the 1970s, are manpower intensive, and logistically unsupportable. On average, only four of 14 mobile PAR systems are operational on a daily basis and none are fully mission capable. Due to diminishing manufacturing sources, life of type purchases will be required as required. A total of 19 D-ILSs will be procured (8 AD, 10 Air National Guard (ANG), and one depot rotatable). D-ILS is normally deployed with the Deployable Radar Approach Control System, a mobile Air Traffic Control Tower, and mobile TACAN.

4. ATCALs Fixed Base (FB) Navigational Aids (NAVAIDS) FOS: The FB NAVAIDS FOS program replaces the current 1970s era systems which have reached the end of their normal lifespan, are manpower intensive, and costly to support. New systems will include remote maintenance, monitoring, alignment, and flight inspection support capabilities via Remote Maintenance Centers (RMC). One VOR (Active Duty (AD)), 28 VORTACs (25 AD/1 Air National Guard (ANG)/2 Air Force Reserve (AFR)), and 92 fixed-based TACANs (74 AD/11 ANG/7 AFR) were procured from FY2012 through FY2018. FY2018 was last year of Other Procurement funding. Installations and organic depot stand-up are on-going.

With these systems, the AF will have a reliable, adaptable, and enduring capability that will support all joint, coalition, and civil operations.

5. FIXED BASE PRECISION APPROACH RADAR (PAR): The Fixed Base PAR will replace the unsupportable 1970s era AN/GPN-22 system at Joint Base Elmendorf-Richardson and ensure continued operations in adverse weather conditions.

FY19 current year funding totals include \$23.484M appropriated for Overseas Contingency Operations.

The FY2020 funding request was reduced by \$16.000 million to account for the availability of prior year execution balances.

Funding for this exhibit is contained in Program Element (PE) 0305114F.

As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
AF	Quantity	194	126	483	0	483	774	966	263	1,049
	Total Obligation Authority	34.289	70.752	15.147	0.000	15.147	64.666	90.588	51.319	51.595
AFNG	Quantity	5	51	100	0	100	199	151	0	0
	Total Obligation Authority	21.504	12.258	1.860	0.000	1.860	1.988	9.026	0.000	0.000
AFR	Quantity	0	40	50	0	50	0	0	0	0
	Total Obligation Authority	0.000	0.720	0.932	0.000	0.932	0.000	0.000	0.000	0.000
Total: Secondary Distribution	Quantity	199	217	633	0	633	973	1,117	263	1,049
	Total Obligation Authority	55.793	83.730	17.939	0.000	17.939	66.654	99.614	51.319	51.595

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications **P-1 Line Item Number / Title:** 833010 / Air Traffic Control & Landing Sys
Equip / BSA 3: Electronics Programs

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-40a	Digital Air Traffic Control Radio Replacement				- / -	- / 3.599	- / 4.234	- / 12.576	- / -	- / 12.576
P-5	D-ILS		A		- / -	7 / 37.000	2 / 23.484	- / -	- / -	- / -
P-5	Deployable Radar Approach Control (D-RAPCON)		A		- / -	- / 5.277	1 / 51.012	- / 5.363	- / -	- / 5.363
P-5	FB NAVAIDS FOS TACAN/VORTAC		A		- / -	9 / 9.917	- / -	- / -	- / -	- / -
P-40a	Fixed Base Precision Approach Radar (PAR)				- / -	- / -	- / 5.000	- / -	- / -	- / -
P-40	Total Gross/Weapon System Cost				- / -	- / 55.793	- / 83.730	- / 17.939	- / 0.000	- / 17.939

*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. Title represents the P-40a Title when only the P-40a Summary/Total is shown.
 Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.

Justification:

- DIGITAL AIR TRAFFIC CONTROL (ATC) RADIO REPLACEMENT: FY20 funds procure 633 systems (483 AD/100 ANG/50 AFR).
- ATCALs Fixed Base (FB) Navigational Aids (NAVAIDS) Family of Systems (FOS): FY20 - No funds requested.
- DEPLOYABLE INSTRUMENT LANDING SYSTEM (D-ILS): FY20 - No funds requested.
- DEPLOYABLE RADAR APPROACH CONTROL (D-RAPCON): FY20 base funds continue management and program office technical support of refurbishment effort from the prior year.
- FIXED BASE PRECISION APPROACH RADAR (PAR): FY20 - No funds requested.

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force															Date: February 2019				
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 3							P-1 Line Item Number / Title: 833010 / Air Traffic Control & Landing Sys								Aggregated Items Title: Digital Air Traffic Control Radio Replacement				

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Digital Air Traffic Control (ATC) Radios - Support																				
Digital Air Traffic Control (ATC) Radios - Program Management Support	A		-	-	-	-	-	0.400	-	-	0.400	-	-	0.800	-	-	-	-	-	0.800
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	0.400	-	-	0.400	-	-	0.800	-	-	-	-	-	0.800
Subtotal: Digital Air Traffic Control (ATC) Radios - Support			-	-	-	-	-	0.400	-	-	0.400	-	-	0.800	-	-	-	-	-	0.800
Digital Air Traffic Control (ATC) Radios																				
Single Channel ATC Radio	A		-	-	-	0.017	183	3.199	0.018	213	3.834	0.019	633	11.776	-	-	-	0.019	633	11.776
<i>Secondary Distribution</i>																				
AF			-	-	-	-	183	3.199	-	123	2.214	-	483	8.984	-	-	-	-	483	8.984
AFNG			-	-	-	-	-	-	-	50	0.900	-	100	1.860	-	-	-	-	100	1.860
AFR			-	-	-	-	-	-	-	40	0.720	-	50	0.932	-	-	-	-	50	0.932
Subtotal: Digital Air Traffic Control (ATC) Radios			-	-	-	-	-	3.199	-	-	3.834	-	-	11.776	-	-	-	-	-	11.776
Total			-	-	-	-	-	3.599	-	-	4.234	-	-	12.576	-	-	-	-	-	12.576

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

Remarks:

Radios are identified in supply system as centrally managed are being procured by the Air Force Life cycle Management Center at Tinker AFB through an FAA contract awarded to General Dynamics with fixed price options extending through 2022.

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Exhibit P-5, Cost Analysis: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 3	P-1 Line Item Number / Title: 833010 / Air Traffic Control & Landing Sys	Item Number / Title [DODIC]: D-ILS

ID Code (A=Service Ready, B=Not Service Ready) : A	MDAP/MAIS Code:
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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)	-	7	2	-	-	-
Gross/Weapon System Cost (\$ in Millions)	-	37.000	23.484	-	-	-
Less PY Advance Procurement (\$ in Millions)	-	0.000	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	-	37.000	23.484	-	-	-
Plus CY Advance Procurement (\$ in Millions)	-	0.000	-	-	-	-
Total Obligation Authority (\$ in Millions)	-	37.000	23.484	-	-	-

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

Initial Spares (\$ in Millions)	-	0.000	0.000	-	-	-
Gross/Weapon System Unit Cost (\$ in Millions)	-	5.286	11.742	-	-	-

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 (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Hardware - D-ILS Cost																		
Recurring Cost																		
D-ILS Systems Active Duty ⁽¹⁾	-	-	-	3.331	2	6.662	4.912	1	4.912	-	-	-	-	-	-	-	-	-
D-ILS ANG	-	-	-	3.331	5	16.655	4.912	1	4.912	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	23.317	-	-	9.824	-	-	-	-	-	-	-	-	-
<i>Subtotal: Hardware - D-ILS Cost</i>	-	-	-	-	-	23.317	-	-	9.824	-	-	-	-	-	-	-	-	-
Support - D-ILS Cost																		
Direct Mission Support	-	-	-	-	-	3.625	-	-	4.176	-	-	-	-	-	-	-	-	-
PMA Contractor Services AFLCMC (Hanscom AFB)	-	-	-	-	-	1.327	-	-	1.591	-	-	-	-	-	-	-	-	-
Interim Contractor Support	-	-	-	-	-	2.136	-	-	2.670	-	-	-	-	-	-	-	-	-
ECP/Production Line Start Up	-	-	-	-	-	3.051	-	-	1.324	-	-	-	-	-	-	-	-	-
Contractor Program Management	-	-	-	-	-	3.544	-	-	3.899	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - D-ILS Cost</i>	-	-	-	-	-	13.683	-	-	13.660	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost	-	-	-	5.286	7	37.000	11.742	2	23.484	-	-	-	-	-	-	-	-	-

Remarks:

D-ILS FY18 to FY19 unit cost delta reflects economic order quantity savings for procurement of four or more systems per year.

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Exhibit P-5, Cost Analysis: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 3	P-1 Line Item Number / Title: 833010 / Air Traffic Control & Landing Sys	Item Number / Title [DODIC]: D-ILS
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
AF	Quantity	2	1	-	-	-
	Total Obligation Authority	15.496	12.126	0.000	-	0.000
AFNG	Quantity	5	1	-	-	-
	Total Obligation Authority	21.504	11.358	0.000	-	0.000
AFR	Quantity	-	-	-	-	-
	Total Obligation Authority	0.000	0.000	0.000	-	0.000
Total:	Quantity	7	2	-	-	-
Secondary Distribution	Total Obligation Authority	37.000	23.484	-	-	-

Footnotes:

(1) Firm Fixed Price (FFP) contract with production option.

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Exhibit P-5, Cost Analysis: PB 2020 Air Force													Date: February 2019					
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 3						P-1 Line Item Number / Title: 833010 / Air Traffic Control & Landing Sys						Item Number / Title [DODIC]: Deployable Radar Approach Control (D-RAPCON)						
ID Code (A=Service Ready, B=Not Service Ready) : A									MDAP/MAIS Code:									
Resource Summary				Prior Years		FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total				
Procurement Quantity (Units in Each)				-		-		1		-		-		-				
Gross/Weapon System Cost (\$ in Millions)				-		5.277		51.012		5.363		-		5.363				
Less PY Advance Procurement (\$ in Millions)				-		-		-		-		-		-				
Net Procurement (P-1) (\$ in Millions)				-		5.277		51.012		5.363		-		5.363				
Plus CY Advance Procurement (\$ in Millions)				-		-		-		-		-		-				
Total Obligation Authority (\$ in Millions)				-		5.277		51.012		5.363		-		5.363				
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>																		
Initial Spares (\$ in Millions)				-		0.000		0.932		0.950		-		0.950				
Gross/Weapon System Unit Cost (\$ in Millions)				-		-		51.012		-		-		-				
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 (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Hardware - D-RAPCON Cost																		
Recurring Cost																		
PME Refurbished Unit Active Duty	-	-	-	-	-	-	12.500	1	12.500	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	12.500	-	-	-	-	-	-	-	-	-
<i>Subtotal: Hardware - D-RAPCON Cost</i>	-	-	-	-	-	-	-	-	12.500	-	-	-	-	-	-	-	-	-
Support - D-RAPCON Cost																		
Facility Set-up and NRE	-	-	-	-	-	-	-	-	25.531	-	-	0.879	-	-	-	-	-	0.879
Direct Mission Support/ GFE	-	-	-	-	-	0.842	-	-	1.481	-	-	0.807	-	-	-	-	-	0.807
PMA Contractor Services AFLCMC (Hanscom AFB)	-	-	-	-	-	3.933	-	-	3.500	-	-	3.031	-	-	-	-	-	3.031
PMA Other Government Costs	-	-	-	-	-	0.502	-	-	2.000	-	-	0.646	-	-	-	-	-	0.646
Depot Activation/Stand-up	-	-	-	-	-	0.000	-	-	6.000	-	-	0.000	-	-	-	-	-	0.000
<i>Subtotal: Support - D-RAPCON Cost</i>	-	-	-	-	-	5.277	-	-	38.512	-	-	5.363	-	-	-	-	-	5.363
Gross/Weapon System Cost	-	-	-	-	-	5.277	51.012	1	51.012	-	-	5.363	-	-	-	-	-	5.363
Remarks:																		

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Exhibit P-5, Cost Analysis: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 3	P-1 Line Item Number / Title: 833010 / Air Traffic Control & Landing Sys	Item Number / Title [DODIC]: Deployable Radar Approach Control (D-RAPCON)

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

The D-RAPCON FY19 and FY20 funding requests reflect a new program office estimate. The previous estimate was based on the initial development/production contract which included negotiated production options adjusted each year for inflation or changes in requirements. However, due to schedule delays during system integration and contractor and government testing, the period of performance for the negotiated production options expired. Changes as a result of the new estimate are significant. The new estimate is based on earned value of the current contract and production of similar systems. Based on contractor response to a new production phase request for proposal, the current plan is to exercise an option in FY19 to refurbish the pre-production system. The remaining production options will be negotiated and modified in FY21. As a result, no units will be purchased in FY20. FY20 funding includes management and program office technical support.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
AF	Quantity	-	1	-	-	-
	Total Obligation Authority	5.277	51.012	5.363	-	5.363
AFNG	Quantity	-	-	-	-	-
	Total Obligation Authority	0.000	-	0.000	-	0.000
AFR	Quantity	-	-	-	-	-
	Total Obligation Authority	0.000	0.000	0.000	-	0.000
Total:	Quantity	-	1	-	-	-
Secondary Distribution	Total Obligation Authority	5.277	51.012	5.363	-	5.363

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Exhibit P-5, Cost Analysis: PB 2020 Air Force						Date: February 2019		
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 3			P-1 Line Item Number / Title: 833010 / Air Traffic Control & Landing Sys			Item Number / Title [DODIC]: FB NAVAIDS FOS TACAN/VORTAC		
ID Code (A=Service Ready, B=Not Service Ready) : A				MDAP/MAIS Code:				
Resource Summary			Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity (Units in Each)			-	9	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)			-	9.917	-	-	-	-
Less PY Advance Procurement (\$ in Millions)			-	0.000	-	-	-	-
Net Procurement (P-1) (\$ in Millions)			-	9.917	-	-	-	-
Plus CY Advance Procurement (\$ in Millions)			-	0.000	-	-	-	-
Total Obligation Authority (\$ in Millions)			-	9.917	-	-	-	-
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>								
Initial Spares (\$ in Millions)			-	1.783	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Millions)			-	1.102	-	-	-	-

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 (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Hardware - FB NAVAIDS FOS TACAN/VORTAC Cost																		
Recurring Cost																		
FB NAVAIDS FOS TACAN Replacement Active Duty	-	-	-	0.394	8	3.152	-	-	-	-	-	-	-	-	-	-	-	-
FB NAVAIDS FOS VORTAC Replacement Active Duty	-	-	-	0.478	1	0.478	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	3.630	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Hardware - FB NAVAIDS FOS TACAN/VORTAC Cost</i>	-	-	-	-	-	3.630	-	-	-	-	-	-	-	-	-	-	-	-
Support - FB NAVAIDS FOS TACAN/VORTAC Cost																		
Tech Order Digitization	-	-	-	-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-
Interim Contractor Support	-	-	-	-	-	0.550	-	-	-	-	-	-	-	-	-	-	-	-
Depot Activation	-	-	-	-	-	4.607	-	-	-	-	-	-	-	-	-	-	-	-
Direct Mission Support	-	-	-	-	-	0.510	-	-	-	-	-	-	-	-	-	-	-	-
ATCALs PMA AFLCMC (Tinker AFB) Contractor Services	-	-	-	-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-
ATCALs PMA AFLCMC (Tinker AFB) Other Government Costs	-	-	-	-	-	0.201	-	-	-	-	-	-	-	-	-	-	-	-
Installation Travel	-	-	-	-	-	0.419	-	-	-	-	-	-	-	-	-	-	-	-

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Exhibit P-5, Cost Analysis: PB 2020 Air Force												Date: February 2019					
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 3						P-1 Line Item Number / Title: 833010 / Air Traffic Control & Landing Sys						Item Number / Title [DODIC]: FB NAVAIDs FOS TACAN/VORTAC					
ID Code (A=Service Ready, B=Not Service Ready) : A												MDAP/MAIS Code:					

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
<i>Subtotal: Support - FB NAVAIDs FOS TACAN/VORTAC Cost</i>	-	-	-	-	-	6.287	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost	-	-	-	1.102	9	9.917	-	-	-	-	-	-	-	-	-	-	-	-

Remarks:
No FY20 funds requested.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
AF	Quantity	9	-	-	-	-
	Total Obligation Authority	9.917	0.000	-	-	-
AFNG	Quantity	-	-	-	-	-
	Total Obligation Authority	0.000	0.000	-	-	-
AFR	Quantity	-	-	-	-	-
	Total Obligation Authority	0.000	0.000	-	-	-
Total: Secondary Distribution	Quantity	9	-	-	-	-
	Total Obligation Authority	9.917	-	-	-	-

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force														Date: February 2019					
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 3						P-1 Line Item Number / Title: 833010 / Air Traffic Control & Landing Sys						Aggregated Items Title: Fixed Base Precision Approach Radar (PAR)							

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Fixed Base Precision Approach Radar (PAR)																				
Precision Approach Radar	A		-	-	-	-	-	-	5.000	1	5.000	-	-	-	-	-	-	-	-	-
<i>Secondary Distribution</i>																				
AF				-	-		-	-		1	5.000		-	-		-	-		-	-
Subtotal: Fixed Base Precision Approach Radar (PAR)			-	-	-	-	-	-	-	-	5.000	-	-	-	-	-	-	-	-	-
Total			-	-	-	-	-	-	-	-	5.000	-	-	-	-	-	-	-	-	-

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

Remarks:
FY19 funds Congressional add. System being procured through existing Fixed Price Navy Contract.

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 3: Electronics Programs **P-1 Line Item Number / Title:** 833020 / National Airspace System

ID Code (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0305114F

Line Item MDAP/MAIS Code: 537

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>)	139	-	-	-	-	-	-	-	-	-	-	139
Gross/Weapon System Cost (<i>\$ in Millions</i>)	758.452	15.156	-	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	773.608
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	758.452	15.156	-	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	773.608
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	758.452	15.156	-	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	773.608

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

Initial Spares (<i>\$ in Millions</i>)	-	0.247	-	-	-	-	-	-	-	-	-	0.247
Flyaway Unit Cost (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Millions</i>)	5.456	-	-	-	-	-	-	-	-	-	-	5.566

Description:

PE 0305137F NATIONAL AIRSPACE SYSTEM (NAS)

NAS is an Acquisition Category (ACAT) IC (Component) program which entered full rate production on 15 Jun 05. It modernizes the Department of Defense (DoD) Air Traffic Control (ATC) system in concert with the Federal Aviation Administration (FAA) modernization effort. The FAA is the overall NAS program lead and the Air Force (AF) is the DoD lead. NAS increases safety of flight, provides systems and facilities inter-operable with FAA modernization, replaces aging DoD ATC systems, provides identical service to military and civilian aircraft, and reduces DoD flight cancellations/delays and maintenance. Equipment procured includes ATC automation systems, surveillance radars, voice switches, military site-unique equipment (at test range facilities), associated Pre-Planned Product Improvements, site preparation, installation support, ancillary equipment and supplies, direct production support, and flight, periodic security interoperability, and information technology certifications. For the AF, this includes procurement funding for 91 DoD Advanced Automation Systems (DAASs) [45 Radar Approach Control Facilities and 46 Air Traffic Control Towers], 49 Digital Airport Surveillance Radars (DASRs), and other equipment required to interface with the FAA.

DAAS replaces the 1978 era Programmable Indicator Data Processor and is comprised of equipment tailored to support two types of ATC operations facilities: Radar Approach Control (RAPCON) and military control tower facilities. DAAS includes digital radar displays, consoles, and automation hardware and software to replace systems approaching the end of their life cycle.

DASR replaces the current generation of DoD analog ATC surveillance radars and consists of two subsystems: a primary and a secondary surveillance radar. These subsystems provide aircraft position and other data to controller displays in the RAPCON and at select control tower locations.

To date, the NAS program has procured and installed 48 DASR and 91 DAAS systems. The last DASR is funded in FY18 and will be installed in FY20. NAS is also transitioning to the operations and support phase which will focus on mitigation of DAAS/DASR diminishing manufacturing source (DMS) and sustainment issues.

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. Reserve component allocations are subject to Total Force priorities and demand.

Funding for this exhibit is contained in PE 0305137F.

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 3: Electronics Programs		P-1 Line Item Number / Title: 833020 / National Airspace System
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0305114F
Line Item MDAP/MAIS Code: 537		
As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.		

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity:
 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 3: Electronics Programs

P-1 Line Item Number / Title:
 833020 / National Airspace System

ID Code (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0305114F

Line Item MDAP/MAIS Code: 537

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	National Airspace System (NAS) Plan		A		139 / 758.452	- / 15.156	- / -	- / 0.000	- / -	- / 0.000
P-40	Total Gross/Weapon System Cost				139 / 758.452	- / 15.156	- / -	- / 0.000	- / -	- / 0.000

*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:
 PE 0305137F NATIONAL AIRSPACE SYSTEM (NAS): FY20 - No funds requested.

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Exhibit P-5, Cost Analysis: PB 2020 Air Force						Date: February 2019			
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 3				P-1 Line Item Number / Title: 833020 / National Airspace System			Item Number / Title [DODIC]: National Airspace System (NAS) Plan		
ID Code (A=Service Ready, B=Not Service Ready) : A						MDAP/MAIS Code:			
Resource Summary			Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	
Procurement Quantity (Units in Each)			139	-	-	-	-	-	
Gross/Weapon System Cost (\$ in Millions)			758.452	15.156	-	0.000	-	0.000	
Less PY Advance Procurement (\$ in Millions)			-	-	-	-	-	-	
Net Procurement (P-1) (\$ in Millions)			758.452	15.156	-	0.000	-	0.000	
Plus CY Advance Procurement (\$ in Millions)			-	-	-	-	-	-	
Total Obligation Authority (\$ in Millions)			758.452	15.156	-	0.000	-	0.000	
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>									
Initial Spares (\$ in Millions)			-	0.247	0.000	0.000	0.000	0.000	
Gross/Weapon System Unit Cost (\$ in Millions)			5.456	-	-	-	-	-	

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 (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Hardware - NAS Cost																		
Recurring Cost																		
DASR/DAAS	5.456	139	758.452	14.636	1	14.636	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	758.452	-	-	14.636	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Hardware - NAS Cost</i>	-	-	758.452	-	-	14.636	-	-	-	-	-	-	-	-	-	-	-	-
Logistics - Logistics End Item Cost																		
Recurring Cost																		
DASR Site Activation	-	-	-	-	-	0.220	-	-	-	-	-	0.000	-	-	-	-	-	0.000
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	0.220	-	-	-	-	-	0.000	-	-	-	-	-	0.000
<i>Subtotal: Logistics - Logistics End Item Cost</i>	-	-	-	-	-	0.220	-	-	-	-	-	0.000	-	-	-	-	-	0.000
Support - Support End Item Cost																		
Program Management Administration Contractor Services	-	-	-	-	-	0.150	-	-	-	-	-	-	-	-	-	-	-	-
Program Management Administration Other Government Costs	-	-	-	-	-	0.150	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - Support End Item Cost</i>	-	-	-	-	-	0.300	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost	5.456	139	758.452	-	-	15.156	-	-	-	-	-	0.000	-	-	-	-	-	0.000

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications
P-1 Line Item Number / Title: 833030 / Battle Control System - Fixed Equip / BSA 3: Electronics Programs

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>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	-	6.415	2.849	3.063	-	3.063	3.119	3.175	3.232	3.291	-	25.144
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	6.415	2.849	3.063	-	3.063	3.119	3.175	3.232	3.291	-	25.144
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	6.415	2.849	3.063	-	3.063	3.119	3.175	3.232	3.291	-	25.144

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

Initial Spares (<i>\$ in Millions</i>)	-	1.000	1.000	1.000	-	1.000	-	-	-	-	-	3.000
Flyaway Unit Cost (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

BCS-F supports the North American Aerospace Defense Command/ Northern Command (NORAD/NORTHCOM) homeland defense and air sovereignty mission for fixed Air Defense Sectors.

BATTLE CONTROL SYSTEM-FIXED (BCS-F): BCS-F is a Bi-national program with Canada. The BCS-F Program is an AF Homeland Defense battle management command and control system with the capability to integrate data from existing and future civil and military defense surveillance systems into a comprehensive air picture. BCS-F provides tactical communications and data link capabilities with other military and civil systems responsible for planning, directing, coordinating and controlling forces for air surveillance, air defense, and control of sovereign US air space. This integrated air picture enhances the capability to conduct peacetime air sovereignty operations and transition to active air defense operations in the event of aggression. Life cycle replacement will be required to prevent system obsolescence, account for new cyber-security requirements and posture the program to seamlessly integrate future capabilities.

NATIONAL CAPITOL REGION - INTEGRATED AIR DEFENSE SYSTEM (NCR-IADS): NCR-IADS is a post-September 11, 2001 rapidly fielded capability that improves low altitude detection capability in order to prosecute airborne threats to the NCR. NCR-IADS provides ground-based air defense of the National Capitol Region airspace, and provides an integrated air picture, ground air defense weapons, enhanced regional situational awareness and forensic data collection capabilities for the warfighter mission to protect the NCR. FY2020 life cycle replacement will be required, to prevent system obsolescence, account for new cyber-security requirements and posture the program to seamlessly integrate future capabilities.

BATTLE CONTROL SYSTEM MODIFICATION: Provides for capital equipment replacement activities at the fixed Air Defense Sectors under the modification efforts for Release 3.2.5 and beyond, which include, but are not limited to: infrastructure upgrades, future Diminishing Manufacturing Sources (DMS), and replacement of other equipment that does not qualify for Centralized Asset Management (CAM) funding.

As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.

Justification:

- NATIONAL CAPITAL REGION - INTEGRATED AIR DEFENSE SYSTEM (NCR-IADS): FY2020 funds will support hardware upgrades to seamlessly integrate new and emerging sensors, data, and technologies. Funds will be utilized for hardware upgrades and spares that do not qualify for Centralized Asset Management (CAM) funding, to include, but not limited to: updated configurations of existing sites to match the modified baseline, and hardware to maintain the mandated cyber security posture and Authority to Operate (ATO) requirements.

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 3: Electronics Programs		P-1 Line Item Number / Title: 833030 / Battle Control System - Fixed
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		
<p>- BATTLE CONTROL SYSTEM MODIFICATION: FY2020 funds will support hardware upgrades to seamlessly integrate new and emerging sensors, data, and technologies. Funds will be utilized for hardware upgrades and spares that do not qualify for Centralized Asset Management (CAM) funding, to include, but not limited to: updated configurations of existing sites to match the modified baseline, and hardware to maintain the mandated cyber security posture and Authority to Operate (ATO) requirements.</p> <p>- PROGRAM MANAGEMENT ADMINISTRATION (PMA): FY2020 funds for PMA costs provide the management, engineering and technical support for the program office.</p> <p>- This funding request supports potential Diminishing Manufacturing Sources (DMS) and obsolescence solutions, to include if optimal, life of type buys or bridge buys limited to the program of record quantity.</p>		

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 3: Electronics Programs **P-1 Line Item Number / Title:** 833040 / Theater Air Control Sys Improvemen

ID Code (A=Service Ready, B=Not Service Ready): B **Program Elements for Code B Items:** 0207412F **Other Related Program Elements:** 0207412F

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>)	23.873	23.233	19.424	0.000	0.000	0.000	13.393	18.879	20.431	8.734	0.000	127.967
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	23.873	23.233	19.424	0.000	0.000	0.000	13.393	18.879	20.431	8.734	0.000	127.967
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	23.873	23.233	19.424	0.000	0.000	0.000	13.393	18.879	20.431	8.734	0.000	127.967

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

Description:

CONTROL AND REPORTING CENTER (CRC)

The CRC is a mobile, ground-based theater air control system (TACS) surveillance and battle management command and control (BMC2) element. It is a customizable, modular, transportable, and persistent weapon system employed at the tactical level to support air and surface operations to provide direct command and control to all air assets in an assigned Area of Responsibility (AOR) and to report back to the Joint Force Air Combat Commander (JFACC). The CRC is a family of systems which include: AN/TYQ-23A(V)1 Tactical Air Operations Module (TAOM), AN/TSC-147, AN/TRC-213/214 Remote Radio Secure Voice System (RRSVS), and the AN/TPS-75 Radar, CRC's organic radar. Air Combat Command (ACC) CRC Capability Roadmap provides for the modernization of this family of systems and will be programmed into phased updates through 2037. Funding may be used to address Diminishing Manufacturing Sources and Material Shortages (DMSMS) issues.

In order to meet warfighter requirements, incremental updates are required. In the FY19 PB, these efforts were categorized as Phase 2 capabilities to include, but not limited to: Procurement of radio kits for the AN/TRC-213/214 RRSVS radios, and procurement of a Ground Moving Target Indicator (GMTI) tracker to be incorporated into the CRC. In FY20 and out, these efforts will be broken out into separate thrusts and IML names and will no longer be referred to as Phase 2. The FY 2020 funding request was reduced by \$11.852 million to account for the availability of prior year execution balances. Due to program execution, program funding in FY20 has been deferred and previously planned efforts will now begin in FY21.

Funding for this exhibit contained in PE 0207412F.

As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
AF	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	13.685	9.568	-	-	-	-	-	-	-
AFNG	Quantity	-	-	-	-	-	-	-	-	-

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 3: Electronics Programs	P-1 Line Item Number / Title: 833040 / Theater Air Control Sys Improvemen
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ID Code (A=Service Ready, B=Not Service Ready): B	Program Elements for Code B Items: 0207412F	Other Related Program Elements: 0207412F
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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	9.548	9.856	-	-	-	-	-	-	-
Total:	Quantity	-	-	-	-	-	-	-	-	-
Secondary Distribution	Total Obligation Authority	23.233	19.424	-	-	-	-	-	-	-

Justification:
There will be no FY20 funding.

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity:
3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications
Equip / BSA 3: Electronics Programs

P-1 Line Item Number / Title:
833070 / Weather Observation Forecast

ID Code (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0305111F

Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	0.000	40.116	52.113	31.447	-	31.447	36.554	32.762	35.315	33.946	-	262.253
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	0.000	40.116	52.113	31.447	-	31.447	36.554	32.762	35.315	33.946	-	262.253
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	0.000	40.116	52.113	31.447	-	31.447	36.554	32.762	35.315	33.946	-	262.253

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

Initial Spares (<i>\$ in Millions</i>)	-	0.109	-	-	-	-	-	-	-	-	-	0.109
Flyaway Unit Cost (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

PE 0305111F WEATHER SERVICE

The Weather Observation Forecast (WOF) procurement line acquires meteorological equipment, ground-based space environment sensing systems, and information systems supporting the 2018 National Defense Strategy (NDS) lines of effort. This funding rebuilds readiness for a more lethal and resilient force by procuring and upgrading fixed and tactical equipment for observing and forecasting terrestrial and space environmental impacts in support of global AF, Army and Special Operations forces. Funding to procure and upgrade information systems to process, store, analyze and disseminate decision-grade weather information enables accurate prediction of environmental impacts to optimize mission planning and execution, targeting, weaponeering, and battle damage assessment and enhances the effectiveness and survivability of AF and Army weapon systems, precision munitions, and AF and government agency space systems. Alliances are strengthened through weather system technological upgrades to ensure critical interoperability with DoD, allies, and interagency partners in support of multi-domain combat operations. Funding for WOF also ensures greater performance and affordability through improvements to architecture and system efficiency, migration to cloud computing for systems and services, as well as retirement of legacy equipment.

AF Weather Services (AFWS) activities align under four capability areas: 1) Weather Data Collection, 2) Weather Data Analysis and Dissemination, 3) Weather Forecasting, and 4) Product Tailoring/Warfighter Applications. This alignment ensures an integrated and systems-oriented approach to program management decisions. Development funding for Weather Observation/Forecast is in Program Element (PE) 0305111F, Weather Service.

1. Weather Data Collection Systems: Provides automated atmospheric and ground-based space environmental sensing capabilities at fixed and deployed locations worldwide. The data gathered by multiple sensor systems is exploited for environmental battlespace awareness, characterization, safety of flight, resource protection, and space weather anomaly assessments and impacts.

A. Observing System 21/AN/FMQ-23--Observing System 21/AN/FMQ-23 provides automated weather observing systems both home station and deployed to collect weather elements and formulate aviation surface weather reports. Program actions include but are not limited to the acquisition of new weather systems/sensors and the normalization to a standard weather sensing baseline comprised of fixed and tactical weather collection components.

B. Ionospheric Ground Sensors (IGS)--IGS capital equipment replacement consists of the replacement of unsupported, functionally obsolete, and inoperable Next Generation Ionosonde (NEXION), Ionospheric Scintillation Technological Observatory (ISTO), and other similar equipment. IGS data is transmitted via unclassified DoD networks to the Air Force Weather Enterprise and is utilized to show real-time impacts to DoD and government agency Satellite Communication (SATCOM) users; provide geo-location, Global Positioning System (GPS) error and corrections; and communication forecasts. NEXION is a Commercial

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 3: Electronics Programs		P-1 Line Item Number / Title: 833070 / Weather Observation Forecast
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0305111F
Line Item MDAP/MAIS Code: N/A		
<p>off-the-shelf (COTS) vertical incidence low-power radar sensor that obtains measurements of the ionosphere from directly overhead in the medium and high frequency radio bands (2-30 MHz). ISTO is a world-wide network of ground-based, passive, multi-frequency COTS receivers that measure ionospheric scintillation and total electron content in real-time by analyzing various satellite signals.</p> <p>C. AN/TMS-2 Portable Doppler Radar (PDR)—PDR is a Commercial-off-the-shelf (COTS) weather radar that detects weather hazards, to include precipitation and wind threats. The PDR collects and delivers weather data to feed the production of weather warnings, watches, advisories, and other mission-essential weather products to support air and ground operations. PDR also serves as a data feed in austere and data sparse areas for the Global Synthetic Radar capability.</p> <p>D. Next-Generation Radar (NEXRAD)--Tri-agency (National Weather Service, US Air Force and Federal Aviation Administration) program that manages 159 Doppler weather radars that provides networked radar data and products for flight operations and resource protection. The US Air Force owns 25 world-wide systems. Program actions include capital equipment replacement of components reaching end of life and Service Life Extension Program which includes the transmitter, pedestal and shelters.</p> <p>E. AN/UMQ-13 Meteorological Data Station (MARK IV-B)--MARK IV-B provides warfighters tactical access to timely, accurate data from the latest generation of weather satellites for consideration in making mission critical decisions affecting the safety of personnel and equipment. MARK IV-B systems receive, process, display, store, and distribute interrogatable meteorological satellite (METSAT) information to operational users worldwide to support warfighter planning and execution via unclassified and classified networks. This system also provides cloud modeling and forecast validation data for the Air Force Weather Weapon System.</p> <p>F. Solar Electro-Optical Network (SEON)—Consists of AN/FMQ-7 Solar Observing Optical Network (SOON) and Radio Solar Telescope Network (RSTN) which includes AN/FRR-95 Radio Interference Measuring Set (RIMS) and A/F24U-10 Solar Radio Spectrograph (SRS). SEON provides real time data on solar activity that interferes with radio frequency bands of satellites, radars, radio communications, and power grids. SEON has five sites located at Learmonth, Australia, San Vito, Italy, Kaena Point, HI, (RIMS and SRS) Sagamore Hill, MA, (RIMS and SRS) and Holloman AFB, NM (SOON).</p> <p>2. Weather Data Analysis and Dissemination: Provides centralized, cybersecure Weather Web Service capability for integration into command and control systems, on-demand availability of weather impacts and products for the warfighter on all enclaves, specific mission-tailored weather data for global operations, and weapon system interoperability which shortens the Combatant Commander kill chain through machine to machine interfaces. The Weather Data Analysis and Dissemination capability area includes activities for Weather Data Analysis Increment 4, Increment 5 (WDA and WDA-Inc 5), and capital equipment replacement.</p> <p>A. Weather Data Analysis (WDA)-- The WDA program provides a large-scale data processing, product generation, and presentation system supporting Open Geospatial Consortium (OGC) services architecture and providing capability to ingest, process, store, access, and disseminate meteorological oceanographic (METOC) data. WDA provides data storage and network infrastructure supporting production, development and testing activities and transport of data among multiple nodes and classification levels. Specifically, Enterprise Storage provides the storage and capability to move data between various storage devices. Ingest Services ensure data providers can present their data to designated storage and Dissemination Services and ensure data consumers have access to storage and/or the ability to move data to locations specified by the consumer. Ingest, Dissemination, and Storage Services are provided on all security enclaves for Production, Test and Development activities. All aspects of Enterprise Storage are in the approved architecture and bound by best security practice principles in an effort to meet cybersecurity requirements, standardize, and eliminate one-off solutions wherever possible. With Build D, WDA Inc 4 will migrate the Strategic Data Center towards COTS capabilities, expand Open Geospatial Consortium (OGC) services in order to increase machine to machine integration with AF, Army, and government agency programs and weapon systems, provide additional enterprise infrastructure extension/ augmentation, and integrate with the Air Force Weather-Web Services (AFW WEBS) capability. The majority of services will migrate into a cloud computing environment in alignment with the DoD "Cloud Smart strategy to decrease Operations and Maintenance Costs.</p> <p>B. Weather Data Analysis-Increment 5 (WDA-Inc 5)--WDA-Inc 5 is a continuation of WDA-Increment 4. WDA-Inc 5 will use a Continuous Delivery/Continuous Integration approach for software and will achieve an open architecture following Modular Open System Architecture (MOSA) guidelines, providing an interoperable, flexible, responsive, expandable, and cost effective system. MOSA facilitates easy "plug-and-play" of Government off-the-shelf (GOTS) and commercial off-the-shelf (COTS) hardware and software products, enabling server consolidation and the transition to cloud computing. The WDA-Inc 5 program will operate on all security environments to ensure interoperability with AF, Army, and government agency programs, mission partners, and weapon systems. It will also overhaul the forecaster interface and integrate the multitude of weather information distribution systems. All of this will be achieved using latest state-of-the-art technology.</p>		

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 3: Electronics Programs		P-1 Line Item Number / Title: 833070 / Weather Observation Forecast
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0305111F
Line Item MDAP/MAIS Code: N/A		
<p>C. Weather Data Analysis-Capital Equipment Replacement (WDA-CER): WDA Ingest, Dissemination, and Enterprise Storage (IDES) provides for storage and capability to move data between various storage devices in the Air Force Weather enterprise. Ingest Services ensure data providers can present their data to designated storage and Dissemination Services ensure data consumers have access to storage and/or the ability to move data to location specified by the consumer. IDES services are on all security enclaves for Production, Test and Development activities. All aspects of IDES are in the DoD approved architecture, bound by best cybersecurity practice principles, in an effort to meet security requirements, standardize, and eliminate one-off solutions, wherever possible. The IDES contract vehicle will address hardware and software enhancements from FY18-20 and will be used to retire End of Life/End of Service legacy equipment.</p> <p>3. Weather Forecasting System: Provides advanced scientific numerical weather prediction capabilities for automated, high resolution forecast products for mission planning, rehearsal, and execution. Weather Forecasting includes activities for Numerical Weather Modeling (NWM).</p> <p>A. Numerical Weather Modeling (NWM)--Provides warfighter with increased global environmental battlespace awareness for use in strategic, operational, and tactical mission planning, rehearsal, and execution through advanced scientific numerical weather prediction capabilities. Supports technology insertion/scientific improvements to AF weather analysis and forecasting capability with emphasis on clouds, theater-scale weather, and aerosol/chemical constituents. Provides improvements to specific weather capability gaps to Joint/AF mission areas, NDS focus areas, and provides forecast products to create advisories and warnings for DoD resource protection and support additional national defense missions and capabilities.</p> <p>4. Product Tailoring/Warfighter Applications: Provides timely, local and regional target-scale weather information to operational commanders within a given Area of Responsibility and at tactical levels provides front-line weather information to warfighters in support of combat operations. Supports the 'train as you fight' concept by assuring fixed and deployable systems have similar performance parameters and user interfaces.</p> <p>A. Joint Environmental Toolkit (JET)--Provides a standard AF Weather forecaster toolkit to ingest weather data and deliver timely, tailorable, and precise weather impacts to the warfighter. JET is installed at 8 regional centers, 1 training center, and 154 tactical weather units.</p> <p>Funding for this exhibit is contained in PE 0305111F.</p> <p>Management services costs include Federally Funded Research and Development Centers and Advisory and Assistance Services.</p> <p>Funding may be used to address Diminishing Manufacturing Sources (DMS) issues.</p> <p>As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.</p>		

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications **P-1 Line Item Number / Title:** 833070 / Weather Observation Forecast
Equip / BSA 3: Electronics Programs

ID Code (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0305111F

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	FMQ-23		A		- / -	1 / 1.358	2 / 1.422	3 / 1.153	- / -	3 / 1.153
P-5	JET		B		- / -	- / 3.614	- / 0.556	- / 1.917	- / -	- / 1.917
P-40a	Weather Data Collection Systems				- / -	- / 11.618	- / 16.074	- / 10.270	- / -	- / 10.270
P-5	WDA		B		- / -	- / 5.184	- / 7.812	- / -	- / -	- / -
P-40a	WDA-CER				- / -	- / -	- / 17.227	- / 9.391	- / -	- / 9.391
P-5	WDA-Inc 5		B		- / -	- / -	- / -	- / 5.588	- / -	- / 5.588
P-40a	WOF				- / 0.000	- / 18.342	- / 9.022	- / 3.128	- / 0.000	- / 3.128
P-40	Total Gross/Weapon System Cost				- / 0.000	- / 40.116	- / 52.113	- / 31.447	- / -	- / 31.447

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-5	FMQ-23		A		- / -	- / -	- / -	- / -	- / -	- / -
P-5	JET		B		- / -	- / -	- / -	- / -	- / -	- / -
P-40a	Weather Data Collection Systems				- / -	- / -	- / -	- / -	- / -	- / -
P-5	WDA		B		- / -	- / -	- / -	- / -	- / -	- / -
P-40a	WDA-CER				- / -	- / -	- / -	- / -	- / -	- / -
P-5	WDA-Inc 5		B		- / -	- / -	- / -	- / -	- / -	- / -
P-40a	WOF				- / 3.921	- / 1.146	- / 2.264	- / 0.537	- / 0.000	- / 38.360
P-40	Total Gross/Weapon System Cost				- / 36.554	- / 32.762	- / 35.315	- / 33.946	- / -	- / 262.253

*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. Title represents the P-40a Title when only the P-40a Summary/Total is shown.

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

Justification:

PE 0305111F WEATHER SERVICE

1. Weather Data Collection Systems:

A. Observing System 21/AN/FMQ-23: FY20 funding will procure up to 3 FMQ-23 systems and additional sensor, communication and dissemination equipment for weather observations at AF and Army homestation and expeditionary airfields. These systems and sensors will ensure the continued delivery of observed weather conditions to the warfighter, compliance with cyber security requirements, and interoperability with the Joint Environmental Toolkit.

B. Ionospheric Ground Sensors (IGS): FY20 funding will procure site feasibility surveys and 2 equipment installations at Wake Island and Thule Greenland as well as the replacement of unsupportable, obsolete, and inoperable capital equipment. The Wake Island and Thule Greenland NEXION systems will decrease ionospheric characterization gaps in direct support of Early Warning Radar missions at both sites and

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 3: Electronics Programs		P-1 Line Item Number / Title: 833070 / Weather Observation Forecast
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0305111F
Line Item MDAP/MAIS Code: N/A		
<p>Theater Missile Defense at Wake Island. Funding enables rapid response to implement system resiliency and situational awareness necessary to operate in the contested space domain. Activities may include, but are not limited to program office support, studies, technical analysis, prototyping, etc.</p> <p>C. Portable Doppler Radar (PDR): No FY20 funding requested.</p> <p>D. MARK IV-B: FY20 funding will maintain antenna, data feed, software, and hardware architecture as well as capital equipment replacement of damaged antenna radomes and provide new ingest server modifications. Funding enables rapid response to implement system resiliency and situational awareness necessary to operate in the contested space domain. Activities may include, but are not limited to program office support, studies, technical analysis, prototyping, etc.</p> <p>E. NEXRAD: FY20 funding will continue Service Life Extension Program for pedestals and shelters. Other capital equipment replacement includes Radar Products Generator (RPG) Central Processing Unit Refresh, RPG Communications and Radar Data Acquisition Router Refresh which incorporates the latest cybersecurity standards.</p> <p>F. Solar Electro-Optical Network (SEON): FY20 funding will continue the Obsolete Parts Replacement Project for the Radio Interference Measuring Set (RIMS), Solar Radio Spectrograph (SRS), and Radio Solar Telescope Network (RSTN) and the replacement of failing antenna pedestals. This funding will reduce the amount of obsolete parts that currently have no replacements or vendors, and limited or no spare parts available. Due to aging RSTN pedestals, SEON sites are increasingly less reliable to provide critical solar data to warfighters and DoD agencies that require the data for military operations and communications. Funding enables rapid response to implement system resiliency and situational awareness necessary to operate in the contested space domain. Activities may include, but are not limited to program office support, studies, technical analysis, prototyping, etc.</p> <p>2. Weather Data Analysis (WDA) and Dissemination:</p> <p>A. WDA: FY20 funding will finalize WDA Inc-4 activities and transition to Inc-5. Efforts will expand the WDA database, continue a single services delivery baseline, provide net-centric delivery of weather data to weather, command and control, and other forces, continue the Cross Domain Solution data filter life cycle replacement and provide a robust infrastructure to enable exploitation of environmental data records from DoD and leveraged satellite sources.</p> <p>B. WDA-Inc 5: FY20 funding efforts include but are not limited to a transition to Continuous Delivery/Continuous Integration approach for software and creation of a modular open system architecture, which will enable server consolidation, the transfer to a cloud computing environment, machine to machine integration, and an increase in capability bandwidth on all security enclaves. Additional efforts include expansion of the WDA database, continuing a single services delivery baseline, providing net-centric delivery of weather data to the warfighter, command and control, and other DoD agencies, continuing the Cross Domain Solution data filter life cycle replacement and providing a robust infrastructure to enable exploitation of environmental data records from DoD and leveraged satellite sources. Funding will procure computer hardware and associated integration software in order to begin WDA Inc-5 as well as Air Force Weather Web Services (AFW-WEBS) Build 3.0.</p> <p>C. WDA-CER: FY20 funding will procure computer hardware and associated integration software in order to increase the storage capacity for new weather satellites and numerical weather modeling data by procuring additional information technology infrastructure to support new data sources during this fiscal year. Additional efforts include refreshing communication infrastructure in all security enclaves, continuing procurement of communication network infrastructure to include firewall boundary devices, switches, routers, and time servers to enhance the connectivity to the 14WS located in Asheville, NC and the Oak Ridge National Lab for High Performance Computing (HPC) to improve Global Weather Models. It will also increase and improve cybersecurity to prevent foreign intrusions and denial of service attacks. Funding will also refresh End of Life/Service (EOL/EOS) hardware and software in preparation for a Command Cyber Readiness Inspection.</p> <p>3. Weather Forecasting:</p> <p>A. Numerical Weather Modeling (NWM): FY20 funding includes but is not limited to completion of the procurement and fielding of the new HPC system Oak Ridge National Lab, procurement of computer and storage hardware to begin fielding the Global Synthetic Weather Radar (GSWR) capability, and continued hardware procurement to support exploitation of new METSAT data sources, and procurement of hardware for space weather modeling emergent requirements.</p>		

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 3: Electronics Programs		P-1 Line Item Number / Title: 833070 / Weather Observation Forecast
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0305111F
Line Item MDAP/MAIS Code: N/A		
4. Product Tailoring/Warfighter Applications: A. Joint Environmental Toolkit (JET): FY20 funding will purchase 2 additional Sensor Collection Appliances (SCAs), conduct technical refresh of 160 fielded SCAs, conduct technical refresh of Aviation Tactics Evaluation Group (AvTEG) JET system, and continue tactical weather data integration efforts. Efforts with funding starting in FY 2021 through FY 2024 are summarized on the P-40. Not all details of this funding are included in this P-40 exhibit set. A summary of the excepted details is as follows: <ul style="list-style-type: none">(a) FY 2021 Cost Delta: 32.633 million(b) FY 2022 Cost Delta: 31.616 million(c) FY 2023 Cost Delta: 33.051 million(d) FY 2024 Cost Delta: 33.409 million(e) FY Total Cost Delta: 223.893 million		

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Exhibit P-5, Cost Analysis: PB 2020 Air Force						Date: February 2019			
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 3				P-1 Line Item Number / Title: 833070 / Weather Observation Forecast			Item Number / Title [DODIC]: FMQ-23		
ID Code (A=Service Ready, B=Not Service Ready) : A				MDAP/MAIS Code:					
Resource Summary				Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity (Units in Each)				-	1	2	3	-	3
Gross/Weapon System Cost (\$ in Millions)				-	1.358	1.422	1.153	-	1.153
Less PY Advance Procurement (\$ in Millions)				-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)				-	1.358	1.422	1.153	-	1.153
Plus CY Advance Procurement (\$ in Millions)				-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)				-	1.358	1.422	1.153	-	1.153
<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 Millions)				-	1.358	0.711	0.384	-	0.384

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 (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Hardware - Hardware End Item Cost																		
Recurring Cost																		
FMQ-23	-	-	-	0.250	1	0.250	0.250	2	0.500	0.250	3	0.750	-	-	-	0.250	3	0.750
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	0.250	-	-	0.500	-	-	0.750	-	-	-	-	-	0.750
<i>Subtotal: Hardware - Hardware End Item Cost</i>	-	-	-	-	-	0.250	-	-	0.500	-	-	0.750	-	-	-	-	-	0.750
Support - Support End Item Cost																		
TESTING FMQ-23	-	-	-	-	-	0.025	-	-	0.045	-	-	0.023	-	-	-	-	-	0.023
INTERIM CONTRACTOR SUPPORT LABOR FMQ-23	-	-	-	-	-	0.577	-	-	0.079	-	-	0.000	-	-	-	-	-	0.000
DIRECT MISSION SUPPORT CONTRACTOR SERVICES FMQ-23	-	-	-	-	-	0.210	-	-	0.309	-	-	0.250	-	-	-	-	-	0.250
PROGRAM MANAGEMENT ADMINISTRATION CONTRACTOR SERVICES FMQ 23	-	-	-	-	-	0.271	-	-	0.382	-	-	0.063	-	-	-	-	-	0.063
PROGRAM MANAGEMENT ADMINISTRATION OTHER GOVERNMENT SERVICES FMQ 23	-	-	-	-	-	0.025	-	-	0.107	-	-	0.067	-	-	-	-	-	0.067
<i>Subtotal: Support - Support End Item Cost</i>	-	-	-	-	-	1.108	-	-	0.922	-	-	0.403	-	-	-	-	-	0.403

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Exhibit P-5, Cost Analysis: PB 2020 Air Force												Date: February 2019					
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 3						P-1 Line Item Number / Title: 833070 / Weather Observation Forecast						Item Number / Title [DODIC]: FMQ-23					
ID Code (A=Service Ready, B=Not Service Ready) : A												MDAP/MAIS Code:					

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Gross/Weapon System Cost	-	-	-	1.358	1	1.358	0.711	2	1.422	0.384	3	1.153	-	-	-	0.384	3	1.153

Remarks:

Note: Actual number of systems procured will be dependent on location and site requirements.

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Exhibit P-5, Cost Analysis: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 3	P-1 Line Item Number / Title: 833070 / Weather Observation Forecast	Item Number / Title [DODIC]: JET

ID Code (A=Service Ready, B=Not Service Ready) : B	MDAP/MAIS Code:
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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)	-	3.614	0.556	1.917	-	1.917
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	-	3.614	0.556	1.917	-	1.917
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	-	3.614	0.556	1.917	-	1.917

(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 Millions)	-	-	-	-	-	-

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 (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Hardware - JET Cost																		
Recurring Cost																		
JET EQUIPMENT LIFE CYCLE REPLACEMENT	-	-	-	-	-	3.415	-	-	0.386	-	-	1.749	-	-	-	-	-	1.749
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	3.415	-	-	0.386	-	-	1.749	-	-	-	-	-	1.749
<i>Subtotal: Hardware - JET Cost</i>	-	-	-	-	-	3.415	-	-	0.386	-	-	1.749	-	-	-	-	-	1.749
Support - JET Cost																		
PROGRAM MANAGEMENT ADMINISTRATION CONTRACTOR SERVICES JET	-	-	-	-	-	0.081	-	-	0.070	-	-	0.074	-	-	-	-	-	0.074
PROGRAM MANAGEMENT ADMINISTRATION OTHER GOVERNMENT SERVICES JET	-	-	-	-	-	0.118	-	-	0.100	-	-	0.094	-	-	-	-	-	0.094
<i>Subtotal: Support - JET Cost</i>	-	-	-	-	-	0.199	-	-	0.170	-	-	0.168	-	-	-	-	-	0.168
Gross/Weapon System Cost	-	-	-	-	-	3.614	-	-	0.556	-	-	1.917	-	-	-	-	-	1.917

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 3 **P-1 Line Item Number / Title:** 833070 / Weather Observation Forecast **Aggregated Items Title:** Weather Data Collection Systems

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Hardware - Hardware End Item Cost																				
IGS	A		-	-	-	0.185	2	0.370	0.185	2	0.370	0.185	2	0.370	-	-	-	0.185	2	0.370
Portable Doppler Radar	A		-	-	-	0.715	11	7.869	0.682	11	7.500	-	-	-	-	-	-	-	-	-
MARK IV-B	A		-	-	-	-	-	-	1.179	1	1.179	1.430	1	1.430	-	-	-	1.430	1	1.430
NEXRAD	A		-	-	-	-	-	-	-	-	2.151	-	-	2.210	-	-	-	-	-	2.210
SEON	A		-	-	-	-	-	0.000	1.200	1	1.200	3.000	1	3.000	-	-	-	3.000	1	3.000
Subtotal: Hardware - Hardware End Item Cost			-	-	-	-	-	8.239	-	-	12.400	-	-	7.010	-	-	-	-	-	7.010
Support - Support End Item Cost																				
INSTALLATION IGS	A		-	-	-	1.690	2	3.379	1.837	2	3.674	1.630	2	3.260	-	-	-	1.630	2	3.260
ASSISTANCE AND ADVISORY SERVICE A&AS	A		-	-	-	-	-	0.000	-	-	0.000	-	-	-	-	-	-	-	-	-
Subtotal: Support - Support End Item Cost			-	-	-	-	-	3.379	-	-	3.674	-	-	3.260	-	-	-	-	-	3.260
Total			-	-	-	-	-	11.618	-	-	16.074	-	-	10.270	-	-	-	-	-	10.270

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

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Exhibit P-5, Cost Analysis: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 3	P-1 Line Item Number / Title: 833070 / Weather Observation Forecast	Item Number / Title [DODIC]: WDA

ID Code (A=Service Ready, B=Not Service Ready) : B	MDAP/MAIS Code:
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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)	-	5.184	7.812	-	-	-
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	-	5.184	7.812	-	-	-
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	-	5.184	7.812	-	-	-

(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 Millions)	-	-	-	-	-	-

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 (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Hardware - WDA Cost																		
Non Recurring Cost																		
Hardware-Weather Service Cost	-	-	-	-	-	4.664	-	-	7.608	-	-	-	-	-	-	-	-	-
<i>Subtotal: Non Recurring Cost</i>	-	-	-	-	-	4.664	-	-	7.608	-	-	-	-	-	-	-	-	-
<i>Subtotal: Hardware - WDA Cost</i>	-	-	-	-	-	4.664	-	-	7.608	-	-	-	-	-	-	-	-	-
Support - WDA Cost																		
PROGRAM MANAGEMENT ADMINISTRATION CONTRACTOR SERVICES	-	-	-	-	-	0.102	-	-	0.062	-	-	-	-	-	-	-	-	-
PROGRAM MANAGEMENT ADMINISTRATION OTHER GOVERNMENT SERVICES	-	-	-	-	-	0.418	-	-	0.142	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - WDA Cost</i>	-	-	-	-	-	0.520	-	-	0.204	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost	-	-	-	-	-	5.184	-	-	7.812	-	-	-	-	-	-	-	-	-

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 3 **P-1 Line Item Number / Title:** 833070 / Weather Observation Forecast **Aggregated Items Title:** WDA-CER

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Hardware																				
Capital Equipment Replacement	A		-	-	-	-	-	-	-	17.227	-	-	9.391	-	-	-	-	-	9.391	
Subtotal: Hardware			-	-	-	-	-	-	-	17.227	-	-	9.391	-	-	-	-	-	9.391	
Total			-	-	-	-	-	-	-	17.227	-	-	9.391	-	-	-	-	-	9.391	

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

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Exhibit P-5, Cost Analysis: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 3	P-1 Line Item Number / Title: 833070 / Weather Observation Forecast	Item Number / Title [DODIC]: WDA-Inc 5

ID Code (A=Service Ready, B=Not Service Ready) : B	MDAP/MAIS Code:
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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>	-	-	-	-	-	-
Gross/Weapon System Cost <i>(\$ in Millions)</i>	-	-	-	5.588	-	5.588
Less PY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-
Net Procurement (P-1) <i>(\$ in Millions)</i>	-	-	-	5.588	-	5.588
Plus CY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-
Total Obligation Authority <i>(\$ in Millions)</i>	-	-	-	5.588	-	5.588

(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 Millions)</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 (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Hardware - WDA Cost																		
Non Recurring Cost																		
Hardware-Weather Service Cost	-	-	-	-	-	-	-	-	-	-	-	5.424	-	-	-	-	-	5.424
<i>Subtotal: Non Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	5.424	-	-	-	-	-	5.424
<i>Subtotal: Hardware - WDA Cost</i>	-	-	-	-	-	-	-	-	-	-	-	5.424	-	-	-	-	-	5.424
Support - WDA Cost																		
Program Management Administration Contractor services	-	-	-	-	-	-	-	-	-	-	-	0.019	-	-	-	-	-	0.019
Program Management Administration Other Government Services	-	-	-	-	-	-	-	-	-	-	-	0.145	-	-	-	-	-	0.145
<i>Subtotal: Support - WDA Cost</i>	-	-	-	-	-	-	-	-	-	-	-	0.164	-	-	-	-	-	0.164
Gross/Weapon System Cost	-	-	-	-	-	-	-	-	-	-	-	5.588	-	-	-	-	-	5.588

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Exhibit P-40a, Budget Item Justification For Aggregated Modification Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 3 **P-1 Line Item Number / Title:** 833070 / Weather Observation Forecast **Aggregated Modification Items Title:** WOF

Item Number / Title	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
WOF2 / Numerical Weather Modeling (NWM)			-	-	0.000	-	-	18.342	-	-	9.022	-	-	3.128	-	-	-	-	-	3.128
Total			-	-	0.000	-	-	18.342	-	-	9.022	-	-	3.128	-	-	0.000	-	-	3.128

Item Number / Title	ID CD	MDAP/MAIS Code	FY 2021			FY 2022			FY 2023			FY 2024			To Complete			Total Cost		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
WOF2 / Numerical Weather Modeling (NWM)			-	-	3.921	-	-	1.146	-	-	2.264	-	-	0.537	-	-	-	-	-	38.360
Total			-	-	3.921	-	-	1.146	-	-	2.264	-	-	0.537	-	-	0.000	-	-	38.360

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

Modification Information:

Item Number / Title	Models of Systems Affected	Modification Type
WOF2 / Numerical Weather Modeling (NWM)	NWM	Capability Improvement

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity:
3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications
Equip / BSA 3: Electronics Programs

P-1 Line Item Number / Title:
833140 / Strategic Command And Control

ID Code (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0301112F, 0304115F

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>)	-	72.251	32.836	5.090	-	5.090	6.241	4.469	3.255	3.314	-	127.456
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	72.251	32.836	5.090	-	5.090	6.241	4.469	3.255	3.314	-	127.456
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	72.251	32.836	5.090	-	5.090	6.241	4.469	3.255	3.314	-	127.456

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

Description:

PE 0101127F B-2 Squadrons - P-40A
PE 0101127F B-2 SQUADRONS

B-2 SUPPORT: The B-2 weapon system relies heavily on C2 equipment to meet its operational capability. Funding is used to replace obsolete computer equipment, backbone infrastructure hardware and software, and long haul communications equipment at the Weapon System Support Center (WSSC) Ground Test Facility (GTF), and contractor laboratories. This includes COTS items such as computers, displays, printers, disk and tape drives, software (e.g. computer-aided design (CAD) and analysis software) as well as engineering and logistical support. Funds also procure specialized computers that provide on-line access to B-2 aircraft data and low observable analysis capabilities. Unique B-2 security and communication infrastructure needs are also addressed.

The B-2 Weapon System Support Center (WSSC) Ground Test Facility (GTF), located at Oklahoma Air Logistics Center, Tinker AFB, OK, supports two critical functions: aircraft software development and maintenance/support, plus systems engineering support for the fielded weapon system. Software maintenance fixes to aircraft systems include flight controls, flight management, navigation systems, weapons/armament and the defensive management system. These software fixes are accomplished and tested with the use of the WSSC software development system and integration/test laboratory complex by analyzing and designing fixes to the existing aircraft software. The WSSC GTF also provides engineering support with specialized computer systems that provide online access to B-2 aircraft data. This data consists of items such as engineering and organic low observable analysis, manufacturing, aircraft design data used to help solve technical issues on the B-2. Locations where this data is used include Tinker AFB, Whiteman AFB, Wright-Patterson AFB, Northrop-Grumman in Palmdale, CA and forward operating locations (FOL).

PE 0101316F Worldwide Joint Strategic Communications - P-40A
PE 0101316F WORLDWIDE JOINT STRATEGIC COMMUNICATIONS

Emergency Action Messages (EAMs) are highly structured, authenticated messages primarily used in the command and control of nuclear forces. They are disseminated over numerous survivable and non-survivable communication systems including terrestrial and space systems. Programmed funds procure system components, spares, software, and necessary support services for systems such as the Strategic Automated Command and Control System (SACCS), the Defense Injection Reception Emergency Action Message (EAM) C2 Terminals (DIRECT), Aircrew Alerting Communications Electromagnetic Pulse (AAEC), the Strategic Emergency Action Transmission System (SEATS), and the Defense Red Switch Network (DRSN). SACCS is a secure Nuclear Command, Control, and Communications (NC3) system that directly supports National Command Authority (NCA) communications in the command and control of strategic and non-strategic forces. SACCS enables the NCA to disseminate Higher Authority Command Messages, Force Direction Messages, EAMs, and automated ICBM re-targeting data to the USAF's two legs (ICBM and bomber fleets) of the nuclear triad; the reconnaissance, tanker, USAF munitions, and

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 3: Electronics Programs		P-1 Line Item Number / Title: 833140 / Strategic Command And Control
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0301112F, 0304115F
Line Item MDAP/MAIS Code: N/A		
<p>Special Operations communities; and to other Active Duty, Guard, and Reserve DoD users worldwide. DIRECT includes the hardware and software to enable the NCA to transmit nuclear and non-nuclear EAMs and other time-critical messages to strategic and non-strategic forces. The equipment requested is representative of those items capable of providing the required operational capability. The specific items procured may vary depending upon available technology at the time of procurement. Funding may be used to address Diminishing Manufacturing Sources (DMS) issues. Development funding for this exhibit contained in PE 0101316F.</p> <p>PE 0208059F Service Support to Other Core Missions - CYBERCOM Activities - P-40A US Cyber Command (USCYBERCOM) Cyberspace Situational Awareness (SA) capabilities provides Combatant Commands the ability to detect anomalies within friendly networks, and to link cyber key terrain to cyber and kinetic mission needs and timelines. FY18 is the last year of funding for Cyber SA.</p> <p>PE 0301112F Nuclear Planning and Execution System (NPES) - P-40A NUCLEAR PLANNING AND EXECUTION SYSTEM (NPES): NPES is a National C2 automated information system (AIS) that supports all phases of nuclear conflict. The requirement includes NPES development, test, communication systems and operational server integration with fixed command centers, distributed sites, and mobile platforms. NPES is a joint program, with the Air Force assigned lead service responsibilities. All NPES funding covers the development, test, and operational server suites for fixed command centers, distributive sites and mobile platforms. Funding for this effort is in program element 0301112F.</p> <p>Funding supports the NPES environment suites as well as the 4th Generation Servers for the mobile platform environment. Currently, all sites are operating under an x86 architecture with the airborne platforms still under Solaris/SPARC. NPES procurement covers communications equipment refresh for additional ancillary equipment for the operational sites, and PMA contractor support for equipment purchases, sustainment activities, and security certifications. Also, a refresh of the Development/Test displays was necessary due to end-of-life/support. Also, funding will be necessary to refresh the NPES development environment in the new C2F. This refresh will be accomplished by SPAWAR supplemented by in-house contractor support (PMA). Funding for this effort is in program element 0301112F.</p> <p>PE 0303255F Command, Control, Communication, and Computers (C4) - STRATCOM - P-40A SERVICE SUPPORT TO USSTRATCOM - C4:</p> <p>a. USSTRATCOM C2 SYSTEMS LIFECYCLE HARDWARE MANAGEMENT: This effort provides the C2 infrastructure and hardware to acquire, process, and deliver information, as needed, to enhance decision making for USSTRATCOM. This effort employs a set of underlying information services, technologies, and tools that enable the Commander of USSTRATCOM to achieve broad operational warfighting capabilities. The effort adds capability as it builds to a final architecture. The architecture is a collection of distributed databases and applications, integrated through a grid of supporting services. This effort was previously referred to as "C2 Modernization and is NOT a new start.</p> <p>Beginning in FY20 this program will be captured under the USSTRATCOM IT Enterprise construct, BPAC 835160, PE 0101301F</p> <p>b. ANALYSIS AND TARGETING - JOINT WARFARE ANALYSIS CENTER (JWAC): effort provides the hardware that enables the JWAC to develop and recommend strategic technical solutions. JWAC coordinates directly with the staffs of all Department of Defense (DoD) elements, Combatant Commands, military services, and other government departments and agencies to respond to crises.</p> <p>Beginning in FY20 this program will be captured under the USSTRATCOM IT Enterprise construct, BPAC 835160F, PE 0101301F</p> <p>c. FORCE SURVIVABILITY, ANALYSIS, AND MANAGEMENT: Provides a decision support system and is designed to provide the commander with Force Management (pre attack) and Force Survival (post attack) information needed to ensure survival of strategic forces. Provides the commander vital decision making data by correlating strategic force status reported by Force Status Reporting (FSR) with missile attack warning information. Processing and Display Subsystem - Migration (PDS-M) will continue to provide the commander with missile attack warning information</p> <p>Beginning in FY20 this program will be captured under the USSTRATCOM IT Enterprise construct, BPAC 835160F, PE 0101301F</p>		

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 3: Electronics Programs		P-1 Line Item Number / Title: 833140 / Strategic Command And Control
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0301112F, 0304115F
Line Item MDAP/MAIS Code: N/A		
<p>d. GLOBAL DISTRIBUTED COMMAND AND CONTROL (GDC2): Detailed information is classified and will be provided on a need to know basis. For further information please contact the Strategic C2 Systems Branch (SAF/AQID) at (202) 404-3405.</p> <p>e. USSTRATCOM REPLACEMENT FACILITY FIT-OUT: No funding in FY20 and out</p> <p>PE 0101301F - USSTRATCOM Information Technology Enterprise</p> <p>The USSTRATCOM COMMAND AND CONTROL FACILITY (C2F) IT Enterprise will incorporate all facets of the requirements previously reported within PE 0303255F, USSTRATCOM C2 SYSTEMS LIFECYCLE HARDWARE MANAGEMENT (old C2 Modernization), ANALYSIS AND TARGETING, and FORCE SURVIVABILITY, ANALYSIS, AND MANAGEMENT(FSAM). The USSTRATCOM REPLACEMENT FACILITY FIT-OUT program does not have funding in FY20. All programs and systems will now ride on the enterprise infrastructure. The GDC2 program will continue to be reported under PE 0303255F and treated seperately.</p> <p>This is not a new start.</p> <p>USSTRATCOM IT Enterprise - This effort provides the Command and Control infrastructure and hardware to acquire, process, and deliver information, as needed, to enhance decision making for USSTRATCOM. USSTRATCOM is tasked with vital roles for our nation. These roles require a secure and survivable infrastructure. This effort employs a set of underlying information services, technologies, and tools to ensure the standard configuration of information technology architecture. The enterprise architecture is a collection of distributed databases and applications, integrated through a cloud-based infrastructure. The facility includes features and capabilities such as secure High-Altitude Electromagnetic Pulse (HEMP) Shielded Command and Control Center, Installation Processing Node, multiple 24/7 mission operations centers, storage and maintenance areas, labs/workrooms, backup generators, Uninterruptible Power Source, and Technical Control Facility.</p> <p>PE 0304115F Multi Domain Command and Control (MDC2) - P-40A Shadow Operations Center (ShadowOC) is a Chief of Staff, Air Force initiative to "Bring the Future Faster" to rapidly deliver Multi-Domain Command and Control (MDC2) capabilities. Efforts will support global C2 of Air, Space, and Cyberspace missions.</p> <p>As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.</p>		

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications **P-1 Line Item Number / Title:** 833140 / Strategic Command And Control
Equip / BSA 3: Electronics Programs

ID Code (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0301112F, 0304115F

Line Item MDAP/MAIS Code: N/A

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	B-2 Squadrons				- / -	- / 0.511	- / 0.516	- / 0.524	- / -	- / 0.524
P-40a	Worldwide Joint Strategic Communications				- / -	- / 5.938	- / 2.979	- / 0.300	- / -	- / 0.300
P-40a	Service Support to Other Core Missions - CYBERCOM Activities				- / -	- / 5.961	- / 0.000	- / 0.000	- / -	- / 0.000
P-40a	Nuclear Planning and Execution System (NPES)				- / -	- / 2.330	- / 2.278	- / 2.266	- / -	- / 2.266
P-40a	Command, Control, Communication, and Computers (C4) - STRATCOM				- / -	- / 57.511	- / 27.063	- / 0.000	- / -	- / 0.000
P-40a	Multi Domain Command and Control (MDC2)				- / -	- / 0.000	- / 0.000	- / 2.000	- / -	- / 2.000
P-40	Total Gross/Weapon System Cost				- / -	- / 72.251	- / 32.836	- / 5.090	- / -	- / 5.090

*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. Title represents the P-40a Title when only the P-40a Summary/Total is shown.

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

Justification:
 This program, Strategic Command And Control P-40A Category MDC2 Hardware PE 34115F Item ShadowNet Ops Center Equipment, is a new start.

PE 0101127F B-2 Squadrons - P-40A
 PE 0101127F B-2 SQUADRONS

B-2 SUPPORT: Funding continues the replacement of obsolete computer equipment, backbone infrastructure hardware and software, and long haul communications equipment at the Weapon System Support Center (WSSC) Ground Test Facility (GTF) and contractor software laboratories. Hardware and software purchased include COTS items such as uninterruptible power supplies, computers, displays, printers, disk and tape drives, software and installation and support services.

PE 0101316F Worldwide Joint Strategic Communications - P-40A
 PE 0101316F WORLDWIDE JOINT STRATEGIC COMMUNICATIONS

FY18 funds (\$6.0M) will procure one DIRECT Terminal in support of EUCOM.
 FY19 funds (\$3.0M) will be used for the installation of (1) DIRECT terminal in support of EUCOM.

PE 0208059F Service Support to Other Core Missions - CYBERCOM Activities - P-40A
 PE 0208059F US Cyber Command (USCYBERCOM)ACTIVITIES:

FY18 supports fielding Cyberspace Situational Awareness EOA Phase I to three combatant commands (USSOUTHCOM, USSOCOM, PACOM).

PE 0303255F Command, Control, Communication, and Computers (C4) - STRATCOM - P-40A
 PE 0303255F SERVICE SUPPORT TO STRATCOM, COMMAND, CONTROL, COMMUNICATION AND COMPUTER (C4)

a. USSTRATCOM C2 SYSTEMS LIFECYCLE HARDWARE MANAGEMENT: FY 20 begins transition to the USSTRATCOM IT Enterprise construct

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 3: Electronics Programs		P-1 Line Item Number / Title: 833140 / Strategic Command And Control
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0301112F, 0304115F
Line Item MDAP/MAIS Code: N/A		

- b. ANALYSIS AND TARGETING - JOINT WARFARE ANALYSIS CENTER (JWAC): FY 20 begins transition to the USSTRATCOM IT Enterprise construct
 - c. FORCE SURVIVABILITY, ANALYSIS, AND MANAGEMENT (FSAM). FY 20 begins transition to the USSTRATCOM IT Enterprise construct
 - d. GLOBAL DISTRIBUTED COMMAND AND CONTROL (GDC2): Detailed information is classified and will be provided on a need to know basis. For further information please contact the Strategic C2 Systems Branch (SAF/AQID) at (202) 404-3405.
 - e. USSTRATCOM REPLACEMENT FACILITY FIT-OUT: USSTRATCOM Replacement Facility: NO funding in FY20 and out.
 - f. PE 0101301F - USSTRATCOM Information Technology Enterprise...consists of 6 major efforts:
 - 1. Installation Process Node Hardware Lifecycle Management - Equipment delivers cloud-based Infrastructure as a Service (IaaS) server core capabilities. Virtual Desktop Infrastructure (VDI) server resource management includes access control and lifecycle management.
 - 2. Computer Network Defense - Security operations will begin lifecycle technical refresh of hardware to enable the monitoring, protection, analysis, and detection of malicious activities affecting USSTRATCOM Enterprise IT architecture and component subscriber enterprises
 - 3. Network/Communications Hardware Updates - FY20 starts equipment updates for network administration and control devices for the USSTRATCOM enterprise networks and Internet control
 - 4. Client Infrastructure Hardware Updates - Lifecycle technical refresh will begin on end user computing input/output devices and peripherals.
 - 5. Audio Visual/Video Tele-Conferencing (VTC) Hardware Updates -Technical refresh of audio visual equipment includes audio visual control room equipment, classified and unclassified telephony, digital signage, VTC and audio conferencing capabilities
 - 6. COOP Capabilities - In FY20 USSTRATCOM will build a continuity of operations capability to host mission critical systems and applications at an off-site location.
- Specific items procured during execution may change based on commercial availability and critical equipment needed to support current mission requirements.
- PE 0304115F Multi Domain Command and Control (MDC2) - P-40A
 FY20 funds will be used to provide hardware assets that support MDC2 operations.

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 3 **P-1 Line Item Number / Title:** 833140 / Strategic Command And Control **Aggregated Items Title:** B-2 Squadrons

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Uncategorized																				
B-2 Weapon System Support Center (WSSC) Hardware	A		-	-	-	-	-	0.511	-	-	0.516	0.524	1	0.524	-	-	-	0.524	1	0.524
Subtotal: Uncategorized			-	-	-	-	-	0.511	-	-	0.516	-	-	0.524	-	-	-	-	-	0.524
Total			-	-	-	-	-	0.511	-	-	0.516	-	-	0.524	-	-	-	-	-	0.524

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

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force														Date: February 2019					
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 3						P-1 Line Item Number / Title: 833140 / Strategic Command And Control						Aggregated Items Title: Worldwide Joint Strategic Communications							

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Uncategorized																				
Defense Injection/ Reception Emergency Action Message Command and Control Terminal (DIRECT) System	A		-	-	-	5.441	1	5.441	-	-	2.979	-	-	0.300	-	-	-	-	-	0.300
Strategic Automated Command Control Systems (SACCS)	A		-	-	-	0.007	75	0.497	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Uncategorized			-	-	-	-	-	5.938	-	-	2.979	-	-	0.300	-	-	-	-	-	0.300
Total			-	-	-	-	-	5.938	-	-	2.979	-	-	0.300	-	-	-	-	-	0.300

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

Remarks:
 FY18 PB funds (\$6.0M) will procure one DIRECT Terminal in support of EUCOM.
 FY18 PB funds (\$0.497M) will procure SACCS desktop terminal systems (Qty 75).
 FY19 PB funds (\$2.979M) will be used for the installation of (1) DIRECT terminal in support of EUCOM.
 FY20 PB funds (\$0.300M) will be used for Direct terminal support/sustainment

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force														Date: February 2019					
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 3						P-1 Line Item Number / Title: 833140 / Strategic Command And Control						Aggregated Items Title: Service Support to Other Core Missions - CYBERCOM Activities							

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Uncategorized																				
Service Support to Other Core Missions - USSTRATCOM (CYBERCOM Activities)	A		-	-	-	-	-	5.961	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
Subtotal: Uncategorized			-	-	-	-	-	5.961	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
Total			-	-	-	-	-	5.961	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000

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

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 3	P-1 Line Item Number / Title: 833140 / Strategic Command And Control	Aggregated Items Title: Nuclear Planning and Execution System (NPES)
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Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Nuclear Planning and Execution System (PE 31112)																				
Ruggedized Equipment, E-4B, E-6B, (includes GFE, NRE, Installs, etc.)	A		-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Operational Sites Life Cycle Replacement -- Turn-Key Systems (SUN/Windows Servers, Storage, Clie...	A		-	-	-	-	-	-	-	-	1.896	1	1.896	-	-	-	1.896	1	1.896	-
Test-System Life Cycle Replacement (SUN/Windows Servers, Storage, Clients, etc)	A		-	-	-	-	-	1.944	1	1.944	-	-	-	-	-	-	-	-	-	-
DEV-System Life Cycle Replacement (X86 Blade Servers, Storage, Switches, Clients, etc)	A		-	-	-	1.980	1	1.980	-	-	0.000	0.185	2	0.370	-	-	-	0.185	2	0.370
Subtotal: Nuclear Planning and Execution System (PE 31112)			-	-	-	-	-	1.980	-	-	1.944	-	-	2.266	-	-	-	-	-	2.266
Program Management Administration																				
Systems Operations	A		-	-	-	0.175	2	0.350	0.334	1	0.334	-	-	-	-	-	-	-	-	-
Subtotal: Program Management Administration			-	-	-	-	-	0.350	-	-	0.334	-	-	-	-	-	-	-	-	-
Total			-	-	-	-	-	2.330	-	-	2.278	-	-	2.266	-	-	-	-	-	2.266

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

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 3	P-1 Line Item Number / Title: 833140 / Strategic Command And Control	Aggregated Items Title: Command, Control, Communication, and Computers (C4) - STRATCOM
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Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
0032																				
NPES - Ruggedized Equipment, E-4B, E-6B	A		-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
NPES - Operational Site Life Cycle Replacement	A		-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
C2 LAN Infrastructure (C2 Modernization)	A		-	-	-	-	-	3.219	1	3.219	-	-	-	-	-	-	-	-	-	
NPES - Comm System (SMART NEXT Turn-Key System)	A		-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Mass Storage Devices [Secret, TS], (C2 Modernization)	A		-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
SUN/Windows servers, storage, clients etc (C2 Modernization)	A		-	-	-	1.053	1	1.053	-	-	-	-	-	-	-	-	-	-	-	
Global Operations Center (GOC) Hardware, (C2 Modernization)	A		-	-	-	2.793	1	2.793	3.300	1	3.300	-	-	-	-	-	-	-	-	
Miscellaneous Infrastructure and LAN Hardware, [Classified], (C2 Modernization)	A		-	-	-	2.880	1	2.880	-	-	-	-	-	-	-	-	-	-	-	
Analysis and Targeting Systems, (C2 Modernization)	A		-	-	-	0.081	1	0.081	0.081	1	0.081	-	-	-	-	-	-	-	-	
FSAM - Modernization Procurement	A		-	-	-	2.061	1	2.061	2.047	1	2.047	-	-	-	-	-	-	-	-	
Global Distributed Command and Control (GDC2)	A		-	-	-	1.772	1	1.772	1.799	1	1.799	-	-	-	-	-	-	-	-	
Global Distributed Command and Control (GDC2 - Classified)	A		-	-	-	-	-	-	0.508	1	0.508	-	-	-	-	-	-	-	-	
New Bldg Fit Out - Fiber Ring	A		-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
New Bldg Fit Out - Transition Infrastructure	A		-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force														Date: February 2019					
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 3						P-1 Line Item Number / Title: 833140 / Strategic Command And Control						Aggregated Items Title: Command, Control, Communication, and Computers (C4) - STRATCOM							

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
New Bldg Fit Out - Premise Wiring	A		-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
New Bldg Fit Out - Electronic Security Systems	A		-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
New Bldg Fit Out - Network / Communications systems	A		-	-	-	4.322	1	4.322	-	-	-	-	-	-	-	-	-	-	-	-
New Bldg Fit Out - Server / Client / Data systems hardware	A		-	-	-	-	-	-	4.850	1	4.850	-	-	-	-	-	-	-	-	-
New Bldg Fit Out - Audio Visual / VTC systems hardware	A		-	-	-	39.199	1	39.199	9.103	1	9.103	-	-	-	-	-	-	-	-	-
New Bldg Fit Out - Mission Systems hardware	A		-	-	-	0.350	1	0.350	2.156	1	2.156	-	-	-	-	-	-	-	-	-
New Bldg Fit Out - Technical Control Facility hardware / Relocation	A		-	-	-	3.000	1	3.000	-	-	-	-	-	-	-	-	-	-	-	-
USSTRATCOM IT Enterprise	A		-	-	-	-	-	-	-	-	-	-	-	0.000	-	-	-	-	-	0.000
Subtotal: 0032			-	-	-	-	-	57.511	-	-	27.063	-	-	0.000	-	-	-	-	-	0.000
Total			-	-	-	-	-	57.511	-	-	27.063	-	-	0.000	-	-	-	-	-	0.000

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

Remarks:

In FY20 the C2 Facility Fit-Out project has no funding. Last year of Procurement funding was FY19.

Beginning in FY20 the USSTRATCOM IT Enterprise Construct is adapted - PE 11301F, BPAC 835160

The C2 Mod, FSAM, and JWAC programs will now be reported under the C2 IT Enterprise program

PE 0101301F - USSTRATCOM Information Technology Enterprise...consists of 6 major efforts:

- a. Installation Process Node Hardware Lifecycle Management - Equipment delivers cloud-based Infrastructure as a Service (IaaS) server core capabilities. Virtual Desktop Infrastructure (VDI) server resource management includes access control and lifecycle management.
- b. Computer Network Defense - Security operations will begin lifecycle technical refresh of hardware to enable the monitoring, protection, analysis, and detection of malicious activities affecting USSTRATCOM and component subscriber enterprises
- c. Network/Communications Hardware Updates - FY20 starts equipment updates for network administration and control devices for the USSTRATCOM enterprise networks and Internet control sharing systems

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 3	P-1 Line Item Number / Title: 833140 / Strategic Command And Control	Aggregated Items Title: Command, Control, Communication, and Computers (C4) - STRATCOM

- d. Client Infrastructure Hardware Updates - Lifecycle technical refresh will begin on end user computing input/output devices and peripherals.
- e. Audio Visual/Video Tele-Conferencing (VTC) Hardware Updates -Technical refresh of audio visual equipment includes audio visual control room equipment, classified and unclassified telephony, digital signage, VTC and audio conferencing capabilities
- f. COOP Capabilities - In FY20 USSTRATCOM will build a continuity of operations capability to host mission critical systems and applications at an off-site location

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force															Date: February 2019				
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 3						P-1 Line Item Number / Title: 833140 / Strategic Command And Control						Aggregated Items Title: Multi Domain Command and Control (MDC2)							

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
MDC2 Hardware PE 34115F																				
ShadowNet Ops Center Equipment	A		-	-	-	-	-	0.000	-	-	0.000	-	-	2.000	-	-	-	-	-	2.000
Subtotal: MDC2 Hardware PE 34115F			-	-	-	-	-	0.000	-	-	0.000	-	-	2.000	-	-	-	-	-	2.000
Total			-	-	-	-	-	0.000	-	-	0.000	-	-	2.000	-	-	-	-	-	2.000

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

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications **P-1 Line Item Number / Title:** 833160 / Cheyenne Mountain Complex Equip / BSA 3: Electronics Programs

ID Code (A=Service Ready, B=Not Service Ready): B **Program Elements for Code B Items:** 0305903F, 1203906F **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>)	0.000	9.864	12.003	10.145	-	10.145	10.329	10.510	10.699	10.892	-	74.442
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	0.000	9.864	12.003	10.145	-	10.145	10.329	10.510	10.699	10.892	-	74.442
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	0.000	9.864	12.003	10.145	-	10.145	10.329	10.510	10.699	10.892	-	74.442
<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 Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

Cheyenne Mountain Complex (CMC) systems provide real-time ballistic missile warning, air defense, force management, battle management and command, control and communications for the North American Air Defense (NORAD) missions.

PE 0305903F - COCOM MOBILE CONSOLIDATED COMMAND CENTERS (MCCC)

Modification for the COMBATANT COMMANDER (CCDR), MOBILE CONSOLIDATED COMMAND CENTER (MCCC): The CCDR's MCCC provides continuity of command capabilities to accomplish directed missions in the event primary command and control facilities are incapacitated. It provides a survivable and endurable command, control, communications, computers, and intelligence (C4I) capability accomplishing directed COCOM missions. The MCCC provides C4I for Homeland Support/Homeland Defense (HLS/HLD) and U.S. Northern Command (USNORTHCOM).

PE 1203906F - NCMC - ITW/AA SYSTEM

Modification for NORAD CHEYENNE MOUNTAIN COMPLEX-INTEGRATED TACTICAL WARNING/ATTACK ASSESSMENT(NCMC-ITW/AA) SYSTEMS: These systems integrate and correlate missile launch, space object orbit, and air surveillance information to assess the nature of an enemy attack and issue warnings to the President of the United States, the Prime Minister of Canada, United States Secretary of Defense and warfighting Combatant Commanders (CCDR). Funding procures replacement for reliability and maintainability of the information systems hardware and associated systems software for Cheyenne Mountain operating locations to include legacy space defense systems at Vandenberg AFB, CA and remote interfacing sites essential for executing US Strategic Command, NORAD, Joint Force Component Commander (JFCC) space missions exercised in the Cheyenne Mountain Complex (CMC), Joint Space Program Operations Center (JSpOC), and forward operating locations.

As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications **P-1 Line Item Number / Title:** 833160 / Cheyenne Mountain Complex Equip / BSA 3: Electronics Programs

ID Code (A=Service Ready, B=Not Service Ready): B **Program Elements for Code B Items:** 0305903F, 1203906F **Other Related Program Elements:** N/A

Line Item MDAP/MAIS Code: N/A

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	COCOM Mobile Command and Control Centers (MCCCs)				- / 0.000	- / 7.845	- / 10.064	- / 0.200	- / 0.000	- / 0.200
P-3a	005 / Mobile Consolidated Command Center Upgrade Block 03 (Reliability & Maintainability)		B		- / 0.000	- / 0.000	- / 0.000	- / 7.866	- / 0.000	- / 7.866
P-40a	NCMC - TW/AA System				- / 0.000	- / 2.019	- / 1.939	- / 2.079	- / 0.000	- / 2.079
P-40	Total Gross/Weapon System Cost				- / 0.000	- / 9.864	- / 12.003	- / 10.145	- / -	- / 10.145

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-40a	COCOM Mobile Command and Control Centers (MCCCs)				- / 8.013	- / 8.358	- / 8.508	- / 8.661	- / 0.000	- / 51.649
P-3a	005 / Mobile Consolidated Command Center Upgrade Block 03 (Reliability & Maintainability)		B		- / 0.200	- / 0.000	- / 0.000	- / 0.000	- / -	- / 8.066
P-40a	NCMC - TW/AA System				- / 2.116	- / 2.152	- / 2.191	- / 2.231	- / 0.000	- / 14.727
P-40	Total Gross/Weapon System Cost				- / 10.329	- / 10.510	- / 10.699	- / 10.892	- / -	- / 74.442

*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. Title represents the P-40a Title when only the P-40a Summary/Total is shown.
 Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.

Justification:
 PE 0305903F - COCOM MOBILE CONSOLIDATED COMMAND CENTERS (MCCC)

The CCDR's MCCC provides a survivable and enduring command, control, communications, computers, intelligence (C4I), reliability and maintainability capability while accomplishing directed COCOM missions. The MCCC provides C4I for Homeland Security Support/Homeland Defense (HLS/HLD) and USNORTHCOM missions. MCCC modification efforts funded in this line include upgrading MCCC shelters and incorporating additional C4I system capabilities via mobile Information Technology and Communication Upgrade projects; ensuring the platform's ability to rapidly deploy, re-constitute and operate. In FY20, this line will fund the MCCC Block 03 modifications which include but are not limited to: 1) Communication system upgrades; 2) Mission and support asset upgrades; 3) Cyber security modernization, 4) Network upgrades; and 5) Environmental and Filtration system upgrades along with and including initial spares and test facility updates required by the fielding of these modification. Due to the limited spares demand rates, and indefinite system lifespan, Life of Type buys may be required to support weapons system modifications across the active MCCC Block Programs. Additionally, FY20 funding will support Program Management Administration (PMA) support for the MCCC Block 02 Program initiated in FY19, the MCCC Block 03 program initiated with FY20 funding, and finally the planning efforts for the MCCC Block 04 program. PMA includes acquisition support/strategy, engineering and technical expertise associated with procurement, support services, test, travel and other program related costs associated with install of procurement equipment. Funding for this effort is in program element 0305903F and is funded IAW full funding policy.

PE 1203906F - NCMC - ITW/AA SYSTEM

Funding procures replacement for reliability and maintainability of the information systems hardware and associated systems software for NCMC/ITW/AA system. This system is a C2 enterprise of various critical information technology systems comprised of communications processors, network devices, C2 services, workstations, databases, and intelligence sources that are integrated to provide the means to assess an enemy attack. In FY20, this line will fund NCMC-ITW/AA Block 03 modifications, which include but are not limited to the two major components: 1) Mission systems (air, missile, and space) upgrades include all subsystems within the sensor-to-operator messaging string message-processing, database, communications processing systems, C2 services, mission operations management systems, and workstations. 2).

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 3: Electronics Programs		P-1 Line Item Number / Title: 833160 / Cheyenne Mountain Complex
ID Code (A=Service Ready, B=Not Service Ready): B	Program Elements for Code B Items: 0305903F, 1203906F	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A		
<p>Network/infrastructure systems for ITW/AA and Space include but are not limited to those sub-systems that provide the fabric for the mission systems to operate within operational and security parameters such as system operations servers, security servers, backup systems, networks and network infrastructure components, support systems software and independent test systems. Due to the limited spares demand rates, and indefinite system lifespan, Life of Type buys may be required to support weapons system modifications across the active NCMC-ITW/AA Block Programs. Additionally, FY20 funding will support continuation of Program Management Administration (PMA) support for the NCMC-ITW/AA Block 02 program in FY19, the NCMC-ITW/AA Block 03 program initiated with FY20 funding and finally the planning efforts for the NCMC-ITW/AA Block 04 program. PMA includes acquisition support/strategy, engineering and technical expertise associated with procurement, support services, test, travel and other program related costs associated with install of procurement equipment. Funding for this effort is in program element 1203906F and is funded IAW full funding policy.</p>		

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Exhibit P-40a, Budget Item Justification For Aggregated Modification Items: PB 2020 Air Force														Date: February 2019					
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 3					P-1 Line Item Number / Title: 833160 / Cheyenne Mountain Complex									Aggregated Modification Items Title: COCOM Mobile Command and Control Centers (MCCCs)					

Item Number / Title	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
003 / Mobile Consolidated Command Center Upgrade Block 01			-	-	-	-	-	7.845	-	-	0.440	-	-	-	-	-	-	-	-	-
004 / Mobile Consolidated Command Center Upgrade Block 02			-	-	-	-	-	-	-	-	9.624	-	-	0.200	-	-	-	-	-	0.200
002 / Mobile Consolidated Command Center Modification			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total			-	-	0.000	-	-	7.845	-	-	10.064	-	-	0.200	-	-	0.000	-	-	0.200

Item Number / Title	ID CD	MDAP/MAIS Code	FY 2021			FY 2022			FY 2023			FY 2024			To Complete			Total Cost		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
003 / Mobile Consolidated Command Center Upgrade Block 01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.285
004 / Mobile Consolidated Command Center Upgrade Block 02			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.824
002 / Mobile Consolidated Command Center Modification			-	-	8.013	-	-	8.358	-	-	8.508	-	-	8.661	-	-	-	-	-	33.540
Total			-	-	8.013	-	-	8.358	-	-	8.508	-	-	8.661	-	-	0.000	-	-	51.649

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

Modification Information:

Item Number / Title	Models of Systems Affected	Modification Type
003 / Mobile Consolidated Command Center Upgrade Block 01	CheyenneMountainComplex	Reliability & Maintainability
004 / Mobile Consolidated Command Center Upgrade Block 02	CheyenneMounatinComplex	Reliability & Maintainability
002 / Mobile Consolidated Command Center Modification	CheyenneMountainComplex	Reliability & Maintainability

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Exhibit P-3a, Individual Modification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 3	P-1 Line Item Number / Title: 833160 / Cheyenne Mountain Complex	Modification Number / Title: 005 / Mobile Consolidated Command Center Upgrade Block 03

ID Code (A=Service Ready, B=Not Service Ready) : B	MDAP/MAIS Code:
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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>)	0.000	0.000	0.000	7.866	0.000	7.866	0.200	0.000	0.000	0.000	-	8.066
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	0.000	0.000	0.000	7.866	0.000	7.866	0.200	0.000	0.000	0.000	-	8.066
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	0.000	0.000	0.000	7.866	0.000	7.866	0.200	0.000	0.000	0.000	-	8.066

(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 Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

COMBATANT COMMANDER (COCOM), MOBILE CONSOLIDATED COMMAND CENTER (MCCC):

The COCOM's MCCC provides a survivable and enduring command, control, communications, computers, intelligence (C4I), reliability and maintainability while accomplishing directed COCOM missions. The MCCC provides C4I for Homeland Security Support/Homeland Defense (HLS/HLD) and USNORTHCOM missions. MCCC modification efforts funded in this line include upgrading MCCC shelters and incorporating additional C4I system capabilities via mobile Information Technology and Communication Upgrade projects; ensuring the platform's ability to rapidly deploy, re-constitute and operate. In FY20, this line will fund the MCCC Block 03 modifications which include but are not limited to: 1) Communication system upgrades; 2) Mission and support asset upgrades; 3) Cyber security modernization, 4) Network upgrades; and 5) Environmental and Filtration system upgrades along with and including initial spares and test facility updates required by the fielding of these modification. Due to the limited spares demand rates, and indefinite system lifespan, Life of Type buys may be required to support weapons system modifications across the active MCCC Block Programs. Additionally FY20 will fund Program Management Administration (PMA) support for the MCCC Block 02 Program initiated in FY19, the MCCC Block 03 program initiated with FY20, and finally the planning efforts for the MCCC Block 04 program. PMA costs fund acquisition support/strategy, engineering and technical expertise associated with procurement activities. In addition, PMA costs will also support equipment test, travel and other program related costs associated with install of procurement equipment. Funding for this effort is in program element 0305903F and is funded IAW full funding policy.

Milestone/Development Status

Sustainment

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Exhibit P-3a, Individual Modification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 3	P-1 Line Item Number / Title: 833160 / Cheyenne Mountain Complex	Modification Number / Title: 005 / Mobile Consolidated Command Center Upgrade Block 03

ID Code (A=Service Ready, B=Not Service Ready) : B	MDAP/MAIS Code:
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Models of Systems Affected: CheyenneMountainComplex	Modification Type: Reliability & Maintainability	Related RDT&E PEs:
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Financial Plan	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Procurement												
<i>Modification Item 1 of 1:</i> MCCC (4)												
B Kits												
Recurring												
MCCC:EQUIPMENT Group B (Active)	- / -	- / -	- / -	1 / 5.239	- / -	1 / 5.239	- / -	- / -	- / -	- / -	- / -	1 / 5.239
<i>Subtotal: Recurring</i>	- / -	- / -	- / -	- / 5.239	- / -	- / 5.239	- / -	- / -	- / -	- / -	- / -	- / 5.239
<i>Subtotal: MCCC (4)</i>	- / -	- / -	- / -	- / 5.239	- / -	- / 5.239	- / -	- / -	- / -	- / -	- / -	- / 5.239
<i>Subtotal: Procurement, All Modification Items</i>	- / -	- / -	- / -	- / 5.239	- / -	- / 5.239	- / -	- / -	- / -	- / -	- / -	- / 5.239
Support (All Modification Items)												
PMA - Contractor Services	- / -	- / -	- / -	- / 0.900	- / -	- / 0.900	- / 0.200	- / -	- / -	- / -	- / -	- / 1.100
<i>Subtotal: Support</i>	- / -	- / -	- / -	- / 0.900	- / -	- / 0.900	- / 0.200	- / -	- / -	- / -	- / -	- / 1.100
Installation												
<i>Modification Item 1 of 1:</i> MCCC (4)	- / -	- / -	- / -	1 / 1.727	- / -	1 / 1.727	- / -	- / -	- / -	- / -	- / -	1 / 1.727
<i>Subtotal: Installation</i>	- / -	- / -	- / -	1 / 1.727	- / -	1 / 1.727	- / -	- / -	- / -	- / -	- / -	1 / 1.727
Total												
Total Cost (Procurement + Support + Installation)	0.000	0.000	0.000	7.866	0.000	7.866	0.200	0.000	0.000	0.000	-	8.066

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Exhibit P-3a, Individual Modification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 3	P-1 Line Item Number / Title: 833160 / Cheyenne Mountain Complex	Modification Number / Title: 005 / Mobile Consolidated Command Center Upgrade Block 03

ID Code (A=Service Ready, B=Not Service Ready) : B	MDAP/MAIS Code:
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Modification Item 1 of 1: MCCC (4)

Manufacturer Information

Manufacturer Name: L-3 National Security Solutions Inc	Manufacturer Location: Albuquerque, NM
Administrative Leadtime (in Months): 2	Production Leadtime (in Months): 6

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

Installation Information

Method of Implementation: Contract Field Team

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	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	1 / 1.727	- / -	1 / 1.727	- / -	- / -	- / -	- / -	- / -	1 / 1.727
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	- / -	- / -	- / -	1 / 1.727	- / -	1 / 1.727	- / -	- / -	- / -	- / -	- / -	1 / 1.727

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	0	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	1
Out	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	0	1

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Exhibit P-40a, Budget Item Justification For Aggregated Modification Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 3 **P-1 Line Item Number / Title:** 833160 / Cheyenne Mountain Complex **Aggregated Modification Items Title:** NCMC - TW/AA System

Item Number / Title	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
001 / Core C2 Enterprise Network Infrastructure and Mission Equipment			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
NCMCB1 / NORAD Cheyenne Mountain Complex Block 01			-	-	-	-	-	2.019	-	-	0.000	-	-	-	-	-	-	-	-	
NCMCB2 / NORAD Cheyenne Mountain Complex Block 02			-	-	-	-	-	-	-	1.939	-	-	0.000	-	-	-	-	-	0.000	
NCMCB3 / NORAD Cheyenne Mountain Complex Block 03			-	-	-	-	-	-	-	0.000	-	-	2.079	-	-	-	-	-	2.079	
Total			-	-	0.000	-	-	2.019	-	-	1.939	-	-	2.079	-	-	0.000	-	2.079	

Item Number / Title	ID CD	MDAP/MAIS Code	FY 2021			FY 2022			FY 2023			FY 2024			To Complete			Total Cost		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
001 / Core C2 Enterprise Network Infrastructure and Mission Equipment			-	-	1.911	-	-	2.152	-	-	2.191	-	-	2.231	-	-	-	-	-	8.485
NCMCB1 / NORAD Cheyenne Mountain Complex Block 01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.019
NCMCB2 / NORAD Cheyenne Mountain Complex Block 02			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.939
NCMCB3 / NORAD Cheyenne Mountain Complex Block 03			-	-	0.205	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.284
Total			-	-	2.116	-	-	2.152	-	-	2.191	-	-	2.231	-	-	0.000	-	-	14.727

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

Modification Information:

Item Number / Title	Models of Systems Affected	Modification Type
001 / Core C2 Enterprise Network Infrastructure and Mission Equipment	CheyenneMountainComplex	Reliability & Maintainability
NCMCB1 / NORAD Cheyenne Mountain Complex Block 01	NORADCheyenneMountainComplex	Reliability & Maintainability
NCMCB2 / NORAD Cheyenne Mountain Complex Block 02	NORADCheyenneMountainComplex	Reliability & Maintainability
NCMCB3 / NORAD Cheyenne Mountain Complex Block 03	NORADCheyenneMountainComplex	Reliability & Maintainability

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Exhibit P-40a, Budget Item Justification For Aggregated Modification Items: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 3	P-1 Line Item Number / Title: 833160 / Cheyenne Mountain Complex	Aggregated Modification Items Title: NCMC - TW/AA System

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications
Equip / BSA 3: Electronics Programs **P-1 Line Item Number / Title:** 833170 / Mission Planning Systems

ID Code (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0208006F

Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	-	15.486	12.092	14.508	-	14.508	15.154	14.892	15.715	17.984	-	105.831
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	15.486	12.092	14.508	-	14.508	15.154	14.892	15.715	17.984	-	105.831
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	15.486	12.092	14.508	-	14.508	15.154	14.892	15.715	17.984	-	105.831

(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 Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

The Mission Planning Systems (MPS) Hardware program procures commercial-off-the-shelf (COTS) computing systems hardware and hardware-related requirements for Air Force active duty, Guard, and Reserve units worldwide. These computing systems provide a flexible, configurable and cost-effective range of increasing capability to meet the continuum of peacetime, contingency and wartime planning requirements. These electronic systems provide a mission data management system that efficiently interfaces with other planning systems as well as aircraft avionics. These computing systems are procured on a four-year life cycle replacement to effectively address and/or alleviate Diminishing Manufacturing Sources (DMS) issues. Once procured the systems are centrally managed for all applicable AF platforms and their operational users, including Guard and Reserve Forces.

The program continues the procurement of COTS computing hardware and other devices associated with the Mission Planning Systems program. It also continues the procurement of all capital replacement hardware used in conjunction with MPS and other pre-, post-, and in-flight mission planning software. Together this hardware and associated software enables aircrews and other planners to plan the safest, most effective operational missions in a timely manner.

The program procures COTS based Personal Computing (PC) Systems to include (but are not limited to) desktop computers, laptops, personal digital assistants (PDA), tablet PCs, color printers, storage devices, servers, displays, other peripherals, software and software licenses, and other support services, that together, allow the user to produce the necessary charts and other mission-specific products required to effectively perform a variety of military missions.

A variety of information technology, navigation and communications hardware and software packages will also be procured each year to meet the varied needs of mission planning platforms and training units. This PC-based capability, when integrated with corresponding mission planning software releases, provides a portable, tailorable, net-centric system for aircrews to complete the mission planning function. The procured items also enable aircrews to effectively utilize software that has been modified to stay in sync with new capabilities incorporated into select platforms via their Operational Flight Program (OFP) update process. They also provide a mission planning capability for precision/autonomous guided munitions and can also be networked with other Theater Battle Management (TBM) systems to further tailor a platform's mission planning environment.

The MPS procurement strategy leverages the rapid increase in PC-based technology to enable high-end computing on increasingly smaller and more mission-oriented devices. The programs procure PC-based systems that provide flexible, configurable, and cost effective solutions that increase tactical and strategic capabilities to meet the continuum of operations ranging from peacetime contingencies to conventional and nuclear wartime mission planning requirements. Each segment of the program has shifted its hardware emphasis from a limited number of large, complex planning systems to more compact and personal planning devices that can be tailored to satisfy user needs. This adjustment is a practical and efficient way to meet technology-driven challenges such as the evolutionary nature of mission planning

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 3: Electronics Programs		P-1 Line Item Number / Title: 833170 / Mission Planning Systems
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0208006F
Line Item MDAP/MAIS Code: N/A		
<p>(that necessitates recurrent hardware changes to meet overall system requirements) and advances in COTS technology that makes available new capabilities (which may lower component costs or address component/interface obsolescence). It is also a more effective way to address changes in the number, type, and deployment of aircraft/weapons that force changes in the number of PC-based mission planning computers and their concept of operations.</p> <p>1. MISSION PLANNING SYSTEMS (MPS) HARDWARE: This acquisition is a continuation of procurement efforts to provide MPS-related hardware for Air Force platforms. The program will provide a suite of COTS-based mission planning hardware and software systems that can be integrated with USAF Command, Control, Communications, Computers, and Intelligence (C4I) systems for the operation of USAF aircraft (e.g. F-22, B-1, F-16, F-15, RC/OC-135, E-3, E-4, E-8, C-130, HC-130, EC-130, HH-60, KC-135, KC-46, C-5, KC-10, C-17, A-10, F-35, Global Hawk, U-2, B-52, B-2, UH-1, T-38) and the support of USAF training requirements. MPS allows aircrews to electronically receive tasking orders, intelligence information, target coordinates, imagery and other information. This information is then used to organize and prepare flight (including equipment and personnel airdrop) and weapons delivery planning data (e.g., maps, charts, imagery, flight logs, radar predications, and navigation databases) that is electronically transferred to aircraft and/or precision-guided weapons. MPS increases the combat effectiveness of Air Force aerial assets (including unmanned air vehicles, conventional and low-observable aircraft, and weapons) and Army guided delivery systems by supporting the use of sophisticated avionics and precision/autonomous guided munitions. It helps to increase wartime sortie rates while improving aircrew and aircraft survivability and aircrew readiness.</p> <p>2. PRECISION AERIAL DELIVERY SYSTEM (PADS): PADS provides the capability for direct delivery of cargo and equipment through high altitude, precision airdrops (principally with C-17 and C-130 aircraft). Currently it consists of the Joint Precision Airdrop System (JPADS) acquisition effort. JPADS is a collaborative effort with the Army, USMC, and other agencies to provide aviators the ability to accurately airdrop payloads (including supplies/equipment and personnel) to units in the field from altitudes beyond the reach of some surface-to-air weaponry. This portion of the program procures COTS-based computing hardware, support services and aerial delivery systems to enable completion of pre and in-flight mission planning functions as well as aerial delivery proficiency training in and with operational units.</p> <p>Market surveys and analysis of COTS products will be used to support procurement decisions. This funding request will support potential DMS and obsolescence solutions, to include if optimal, life of type buys or bridge buys limited to the program of record quantity.</p> <p>Funding for this exhibit contained in PE 0208006F.</p> <p>As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.</p>		

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity:
3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications **P-1 Line Item Number / Title:**
833170 / Mission Planning Systems
Equip / BSA 3: Electronics Programs

ID Code (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0208006F

Line Item MDAP/MAIS Code: N/A

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	Mission Planning Systems				- / -	- / 15.486	- / 12.092	- / 14.508	- / -	- / 14.508
P-40	Total Gross/Weapon System Cost				- / -	- / 15.486	- / 12.092	- / 14.508	- / -	- / 14.508

*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. Title represents the P-40a Title when only the P-40a Summary/Total is shown.

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

Justification:
 FY20 funding will continue procurement of a variety of computers, software, and electronic equipment to support pre-, post-, and in-flight mission planning tasks for a number of Air Force platforms. Procured hardware and other items will support and enable completion of mission planning efforts using legacy planning tools (e.g. Portable Flight Planning Software (PFPS)) as well as the Joint Mission Planning Systems (JMPS). The hardware will also accommodate planning system updates based upon new capability incorporation via individual platform Operational Flight Programs (OFPs). All items where appropriate are centrally managed and distributed by the MPS System Support Facility. The following kinds of equipment and mission areas will be supported:

1. MPS HARDWARE: FY20 funding will continue procurement of COTS-based hardware, software, and support services to include (but is not limited to) desktop computers, laptops, tablet PCs, data storage devices, servers, PDAs, monitors, software applications, warranties, and other electronic computing components. These assets provide a portable, tailorable, network-capable system that can be integrated with MPS software to provide basic mission planning capability and full interoperability with TBM systems. Components can also be networked with further tailor a platform's mission planning environment. The program will procure hardware and software items, warranties, other services, and up to a 15% contingency inventory (based on the overall number of items being procured) for the following mission planning operational users:

Air Combat Command (ACC): F-15, F-15 C, F-16 Block 15/25/30/40/50, F-22,F-35, E-3, E-4, E-8,RC-135, HH-60, HC-130, EC-130, U-2, Global Hawk

Air Mobility Command (AMC): C-5, C-17, C-130, KC-10, KC-135, KC-46

Air Force Global Strike Command (AFGSC): B-2, B-52, B-1, UH-1

Air Education and Training Command (AETC): T-38

Funding for this effort is in program element 0208006F.

2. PRECISION AERIAL DELIVERY SYSTEMS (PADS): FY20 funding will continue the procurement of Joint Precision Airdrop Systems (JPADS) hardware, software, LRU support equipment for functional checkout (i.e. Automatic Test Equipment or ATE) and other related items. Components include, but are not limited to: guided delivery vehicles (e.g. ultralight, 2K, 10K); Pressure Tolerant Disk Drives (PTDD) [including solid state and pressure sealed disk drives]; precision-guided airdrop training systems; portable data storage units, engineering/technical support, equipment storage and associated hardware warranties. Funding for this effort is in program element 0208006F.

3. PROGRAM MANAGEMENT ADMINISTRATION: FY20 funding provides program office, engineering, and other contractor support for the Mission Planning Systems (MPS) and Joint Precision Airdrop Systems (JPADS) procurement program. Items 1b and 2i,2j in aggregated items table.

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 3 **P-1 Line Item Number / Title:** 833170 / Mission Planning Systems **Aggregated Items Title:** Mission Planning Systems

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
Uncategorized																				
1. Mission Planning Systems (MPS)	A		-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
a. MPS Hardware	A		-	-	-	-	-	8.720	-	-	7.759	-	-	8.560	-	-	-	-	-	8.560
b. MPS Program Management Administration (Contractor Services)	A		-	-	-	-	-	0.683	-	-	0.703	-	-	0.724	-	-	-	-	-	0.724
2. Precision Aerial Delivery Systems (PADS)	A		-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
a. PADS Dropsondes	A		-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
b. PADS Shipping	A		-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
c. PADS Support Services & Spares	A		-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
d. PADS System Engineering & Logistical Support	A		-	-	-	-	-	0.427	-	-	0.499	-	-	0.501	-	-	-	-	-	0.501
e. PADS Testing	A		-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
f. PADS Delivery Systems	A		-	-	-	-	-	-	21,785.71	112	2.440	33,200.00	120	3.984	-	-	-	33,200.00	120	3.984
g. PADS PARANAVSYS Delivery Systems	A		-	-	-	39,821.95	129	5.137	-	-	-	-	-	-	-	-	-	-	-	-
h. PADS Delivery System Riggings & Services	A		-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
i. Program Management Administration (Government Cost)	A		-	-	-	-	-	0.103	-	-	0.104	-	-	0.114	-	-	-	-	-	0.114
j. Program Management Administration (Contractor Services)	A		-	-	-	-	-	0.416	-	-	0.587	-	-	0.625	-	-	-	-	-	0.625
k. PADS Ultralight	A		-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
l. PADS Drives & Storage Devices	A		-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
m. Depot Equipment	A		-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Uncategorized			-	-	-	-	-	15.486	-	-	12.092	-	-	14.508	-	-	-	-	-	14.508
Total			-	-	-	-	-	15.486	-	-	12.092	-	-	14.508	-	-	-	-	-	14.508

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

Remarks:
Unit costs vary because different types/configurations of equipment are being procured.

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 3	P-1 Line Item Number / Title: 833170 / Mission Planning Systems	Aggregated Items Title: Mission Planning Systems

Mission Planning Systems (MPS) and Precision Aerial Delivery Systems (PADS) components are procured as commercial-of-the-shelf (COTS) equipment using various contracting methods, vehicles and agencies. Items are procured annually via Delivery Orders (DOs) on a variety of contract vehicles (e.g. Blanket Purchase Agreements (BPAs), Indefinite Delivery Indefinite Quantity (IDIQ) contracts, and GSA and NASA SEWP IV Contract schedules) and through agencies such as AFWAY/NETCENTS II (Gunter AFB).

Mission Planning Systems (MPS) hardware assets are centrally managed by the MPS System Support Facility (SSF) at Hill AFB.

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity:
3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications
Equip / BSA 3: Electronics Programs

P-1 Line Item Number / Title:
833560 / Integrated Strat Plan & Analy Network (ISPAN)

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>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	-	9.187	7.337	9.901	-	9.901	9.820	9.491	9.660	9.833	-	65.229
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	9.187	7.337	9.901	-	9.901	9.820	9.491	9.660	9.833	-	65.229
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	9.187	7.337	9.901	-	9.901	9.820	9.491	9.660	9.833	-	65.229

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

Description:

INTEGRATED STRATEGIC PLANNING AND ANALYSIS NETWORK (ISPAN): The mission of USSTRATCOM is to conduct global operations in coordination with other Combatant Commands, Services, and appropriate U.S. Government agencies to deter and detect strategic attacks against the U.S. and its allies. It provides full-spectrum global strike, and coordinated space, missile defense, and information operations capabilities to meet both deterrent and decisive national security objectives. USSTRATCOM will also provide operational space support, integrated missile defense, global command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR), and specialized planning expertise to the joint warfighter. ISPAN enables USSTRATCOM to carry out these missions. It is one of DoD's most complex classified computer systems and the only national force level planning system.

ISPAN enables an effects-based approach to planning and operations; cross domain information sharing; and serves multiple planning environments. It develops, verifies, and produces Operational Plan (OPLAN) 8010. It also supports the USSTRATCOM family of plans construct and current Concept of Operations. The system performs tasks ranging from creating and running Courses of Action (COAs) on threat scenarios to providing data for developing bomber aircraft crew strike mission data in digital and hard copy formats. It includes automated data processing equipment (ADPE), multiple networks, unique processes and procedures, software, training, associated deployable and distributed data processing nodes, a test/development environment, and subsidiary systems. The system will migrate to the new USSTRATCOM Command and Control Facility.

The ISPAN program is comprised of two independent but complementary planning systems; the Mission Planning and Analysis System (MPAS) and the Global Adaptive Planning Collaborative Information Environment (GAP-CIE). MPAS is an automated information system to support Global Strike nuclear and conventional target development and weaponing. MPAS includes Mission Planning, Analysis, and Decision Support tools and an Enterprise Database to sustain and support nuclear and conventional strategic war planning. GAP-CIE provides web-enabled adaptive planning, rapid distributed Course of Action (COA) development and global situational awareness supporting both contingency and crisis planners.

ISPAN uses a four-year life-cycle replacement plan for Cyber Investments to procure required Commercial Off-The-Shelf (COTS) hardware (e.g. servers, storage devices, workstations, peripherals and other network components). In some instances the hardware must be combined with commercially available software to form unique planning environments. The program's life cycle replacement plan for hardware Cyber Investments follows industry standards and is used to eliminate the peaks and valleys associated with maintaining compatibility with the fast moving COTS hardware technology improvement cycle. It also allows the program to better utilize existing manpower to install and configure the hardware systems to provide an incremental and efficient replacement of critical infrastructure components as they become obsolete. Hardware and software Cyber Investments procured within the program are used to support all ISPAN program increments. It has been determined the government is better served by procuring the Cyber Investments and standing-up the Special Access Program (SAP) facilities (software factory) to contracted developers rather than experiencing the additional expense and schedule delays for outside contracts to stand-up their own and delay contracts starts by 2 year awaiting SAP accreditation.

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 3: Electronics Programs		P-1 Line Item Number / Title: 833560 / Integrated Strat Plan & Analy Network (ISPAN)
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		

Funding for this exhibit is contained in Program Element 0101313F.

As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 3: Electronics Programs **P-1 Line Item Number / Title:** 833560 / Integrated Strat Plan & Analy Network (ISPAN)

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-40a	Integrated Strat Plan & Analy Network (ISPAN)				- / -	- / 9.187	- / 7.337	- / 9.901	- / -	- / 9.901
P-40	Total Gross/Weapon System Cost				- / -	- / 9.187	- / 7.337	- / 9.901	- / -	- / 9.901

*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. Title represents the P-40a Title when only the P-40a Summary/Total is shown.

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

Justification:

FY20 funding continues the life-cycle procurement of commercial-based hardware and software Cyber Investments for the ISPAN mission system which consists of the Mission Planning and Analysis System (MPAS) and the Global Adaptive Planning Collaborative Information Environment (GAP CIE) efforts. Funding procures mission system Cyber Investments in the form of infrastructure, architecture, and related support components. This includes COTS- based hardware and software for an operational capability lab environment to certify ISPAN applications for operational use. Funding also provides a secure cross-domain security solution capability to enable automated data transfers between multi-level networks supporting planners worldwide on multiple enclaves. It allows for the procurement of Cyber Investment items such as (but are not limited to) application servers, switches, storage area network (SAN), backup and recovery systems, guard solution software and other articles that will provide a secure Cross Domain Security Solution (CDSS) capability, and the life-cycle replacement of Government Furnished Equipment (GFE) at development contractor sites. Funding also provides for procurement of virtualization technology environments and distributed operations capabilities to support joint warfighters across geographically separated locations. Finally, funding provides Cyber Investments for the initial migration of the ISPAN mission system to the new USSTRATCOM Command and Control Facility.

NOTE: Hardware procured primarily as Commercial Off the Shelf (COTS) items in varying quantities, in multiple configurations, from multiple sources, using multiple contract vehicles.

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force															Date: February 2019				
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 3								P-1 Line Item Number / Title: 833560 / Integrated Strat Plan & Analy Network (ISPAN)							Aggregated Items Title: Integrated Strat Plan & Analy Network (ISPAN)				

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Uncategorized																				
ISPAN Mission Systems Hardware	A		-	-	-	-	-	0.000	0.370	3	1.111	0.433	1	0.433	-	-	-	0.433	1	0.433
End-point Computing Devices	A		-	-	-	2.309	1	2.309	0.257	1	0.257	0.250	1	0.250	-	-	-	0.250	1	0.250
UNIX/SPARC-based servers	A		-	-	-	-	-	-	0.257	1	0.257	0.500	3	1.500	-	-	-	0.500	3	1.500
MPAS Virtual Servers	A		-	-	-	1.860	1	1.860	-	-	-	-	-	-	-	-	-	-	-	-
GAP CIE Deployment HW/SW	A		-	-	-	-	-	-	0.257	1	0.257	1.000	1	1.000	-	-	-	1.000	1	1.000
PRP	A		-	-	-	0.400	1	0.400	0.364	1	0.364	-	-	-	-	-	-	-	-	-
ISPAN B-Network	A		-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ISPAN Security Enclaves (SIPR, TS/ C, & JWICS)	A		-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ISPAN Virtual Data Storage System	A		-	-	-	1.086	1	1.086	0.500	1	0.500	2.859	1	2.859	-	-	-	2.859	1	2.859
ISPAN Analysis Systems -- IWMDT and EADSIM	A		-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ISPAN Systems at Geographically Separated Location(s)	A		-	-	-	0.800	1	0.800	-	-	-	-	-	-	-	-	-	-	-	-
ISPAN Systems reconstitute at GSUs	A		-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Block 1 Major Hardware	A		-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H/W and S/W to Deploy Comman Access Card System	A		-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cross Domain Guard Solution	A		-	-	-	-	-	-	0.300	1	0.300	0.750	1	0.750	-	-	-	0.750	1	0.750
System to Ingest External Data into ISPAN	A		-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ISPAN Network Systems	A		-	-	-	-	-	-	-	-	-	0.464	1	0.464	-	-	-	0.464	1	0.464
Testing and Experimentation of ISPAN Mission Systems	A		-	-	-	1.087	1	1.087	0.490	1	0.490	0.500	2	1.000	-	-	-	0.500	2	1.000
ISPAN Systems for Off-Site Developers (GFE)	A		-	-	-	0.900	1	0.900	0.750	1	0.750	0.500	1	0.500	-	-	-	0.500	1	0.500

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force														Date: February 2019					
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 3						P-1 Line Item Number / Title: 833560 / Integrated Strat Plan & Analy Network (ISPAN)						Aggregated Items Title: Integrated Strat Plan & Analy Network (ISPAN)							

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Enterprise Licence Agreements ISPAN Mission Systems	A		-	-	-	-	-	-	1.601	1	1.601	-	-	-	-	-	-	-	-	-
Program Management Administration (Government Cost)	A		-	-	-	0.010	1	0.010	0.582	1	0.582	0.010	1	0.010	-	-	-	0.010	1	0.010
Program Management Administration (Contractor Services)	A		-	-	-	0.245	3	0.735	0.174	5	0.868	0.227	5	1.135	-	-	-	0.227	5	1.135
USSTRATCOM C2 Building Hardware & Networks	A		-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Uncategorized			-	-	-	-	-	9.187	-	-	7.337	-	-	9.901	-	-	-	-	-	9.901
Total			-	-	-	-	-	9.187	-	-	7.337	-	-	9.901	-	-	-	-	-	9.901

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

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 4: Spcl Comm-Electronics Projects **P-1 Line Item Number / Title:** 834010 / General Information Technology

ID Code (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0207697F, 0305173F, 0305174F, 0305601F, 0604281F, 0804721F, 0804752F, 0901279F, 0901299F, 0901410F, 0901538F, 1203173F

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Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	3.300	52.142	29.872	26.933	5.000	31.933	38.329	39.919	81.486	79.082	-	356.063
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	3.300	52.142	29.872	26.933	5.000	31.933	38.329	39.919	81.486	79.082	-	356.063
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	3.300	52.142	29.872	26.933	5.000	31.933	38.329	39.919	81.486	79.082	-	356.063

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

Description:

PE 0201130F US Northern Command Communications - P-40A

a. NORAD AND USNORTHCOM INTEROPERABLE COMMUNICATIONS: This includes mission specific communications enhancements to support extension of Public Switched Telephone Network (PSTN), Commercial Internet and Cellular-Wireless/First Responder Network 4G LTE to Civil Authorities from the DoD Satellite Teleports either directly to the Civil Authorities' communications systems or through DoD communications systems. This program combines the Interoperable Communications and Joint Tactical Radio System (JTRS) compliant radio handsets to enable the Defense Support of Civil Authorities mission.

b. DEPLOYABLE COMMUNICATIONS CAPABILITIES SYSTEM LIFE CYCLE MANAGEMENT: The USNORTHCOM Deployable Communications Fleet consists of Emergency Response Vehicles (ERV) Mobile Command Platforms (MCP), Rapid Response Kits (RRK) and fly-away communications systems, in expeditionary modular and scalable form factors that can be flown on commercial airlines or military aircraft to a nationally declared disaster. (NC J6 DCCS combined the previously approved and funded Cellular System Technical Refresh and Emergency Response Communications System into one consolidated effort).

PE 0207277F ISR Innovations - P-40A

Family of systems providing high impact, quick reaction capabilities to warfighters for mission planning, rehearsal, visualization, and intelligence gathering purposes. Program components include: Eagle Vision, DoD's worldwide deployable commercial imagery ground station capability, and ISR innovations, rapid prototyping, operational evaluation and fielding of short notice, high payoff capabilities addressing immediate caps and/or shortfalls identified by warfighting activities. Eagle Vision provides direct downlink commercial imagery to operational commanders for mission support purposes.

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.

PE 0207439F Electronic Warfare Integrated Reprogramming (EWIR) - P-40A

DISTRIBUTED MISSION OPERATIONS AND THREAT CHANGE ANALYSIS: Conducted by the 453rd Electronic Warfare Squadron (453 EWS), EWIR provides analytical capabilities and reachback support for DoD acquisition, planning and mission execution activities. These capabilities ensure electronic warfare (EW) systems and integrated combat platforms correctly recognize and respond to enemy, friendly and noncombatant systems operating within the electromagnetic environment. The effort includes funds used to procure specialized information technology systems used to identify electromagnetic spectrum emitter changes that impact combat defensive and electronic warfare systems and to conduct detailed analyses in support of operational mission planning, tactics, techniques and procedures (TTP)

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 4: Spcl Comm-Electronics Projects		P-1 Line Item Number / Title: 834010 / General Information Technology
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0207697F, 0305173F, 0305174F, 0305601F, 0604281F, 0804721F, 0804752F, 0901279F, 0901299F, 0901410F, 0901538F, 1203173F
Line Item MDAP/MAIS Code: CAMI		
<p>development, acquisition and test & evaluation. These analyses provide the means to understand the performance of their systems in hostile environments, directly impacting the survivability of combat-coded USAF aircraft and aircrews. Funding for this exhibit contained in PE0207439F.</p> <p>PE 0207448F C2ISR Tactical Data Link - P-40A Assistant Secretary of Defense, Command, Control, Communications, and Intelligence (ASD/C3I) directed implementation of the DoD Cryptographic Modernization Initiative (CMI) on 23 February 2001. Chairman, Joint Chiefs of Staff (CJCS) Notice 6510/NSA 3-9 directs the modernization of all cryptography in military systems in the US, NATO and Coalition nations. To prevent information compromise, the National Security Agency (NSA) mandate requires Link 16 cryptographic systems be upgraded. The CJCS directed a modernization effort at the recommendation of the NSA to modernize equipment and provide enhanced security for Link 16 tactical networks (Cryptographic Modernization Initiative (CM)). Likewise, a radio frequency spectrum memorandum of agreement between the DoD and the Department of Transportation mandated the internal frequency remapping of our Link 16 family of terminals to avoid conflict with next generation Federal Aviation Administration (FAA) radio aids to navigation. These two mandates, among other operational reliability and capability improvements, will be satisfied with procurement of the Link 16 Multifunctional Information Distribution System (MIDS) Joint Tactical Radio System (JTRS) radios.</p> <p>PE 0207573F National Technical Nuclear Forensics - P-40A Continues efforts previously funded by OSD for Prompt Diagnostics. Procures terrestrial-based sensors and communications for prompt diagnostics, collection, analysis, and evaluation of a nuclear detonation. Funding also includes procurement of technical data and any required initial system support. Funding was moved from BPAC 834320 starting in FY20.</p> <p>PE 0207605F Wargaming and Simulation Centers - P-40A The Warrior Preparation Center conducts and supports integrated and distributed Live, Virtual, and Constructive (LVC) warfighter training for Joint and Combined partners in the European and African theaters.</p> <p>PE 0207697F Distributed Training and Exercises - P-40A AIR FORCE DISTRICT WASHINGTON: Wargaming and analysis suites, hardware, and software in direct support of the wargaming informational environment, which is distributed across the National Capitol Region, United States Air Force, and Combatant Commands worldwide. Funding for this exhibit contained in PE 0207697F.</p> <p>PE 0208087F Distributed Cyber Warfare Operations - P-40A Distributed Cyber Warfare Operations, changed from AF Offensive Cyber Operations. Procure student mission training systems (hardware, software, infrastructure, and facility modifications) supporting Information & Cyber Operations training needs.</p> <p>PE 0208288F Intel Data Applications - P-40A Funds the application of Intelligence data as datasets/databases, model and simulations, and analysis for combat and combat support users. Provides for the communications infrastructures required to support Intelligence data applications.</p> <p>PE 0305128F Security and Investigative Activities - P-40A The Air Force Office of Special Investigation (AFOSI) Directorate of Warfighting Integration is responsible for the delivery of Information Technology (IT) services, both unclassified and classified, to over 250 locations, world-wide. The directorate also has the responsibility for continually identifying and implementing advanced applications, tools and IT technology that improve AFOSI's ability to manage investigative activity for Air Force leaders. It accomplishes this mission through the management and oversight of personnel, products and systems associated with unclassified, Secret, special access, law enforcement sensitive (LES) and Top Secret/SCI computers and information systems, long-haul, communications circuits, official records, Privacy Act, Freedom of Information Act, publication and forms, and official mail to achieve the command's operational objectives in support of the AF and Office of the Secretary of Defense as well as to achieve Executive mandates to improve information sharing within and between the law enforcement and intelligence communities.</p> <p>PE 0305173F Space and Missile Test and Evaluation Center - P-40A</p>		

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Line Item MDAP/MAIS Code: CAMI		
<p>The Research and Development Space and Missile Operations (RDSMO) program has transferred from PE 0305173F to PE 1203173F.</p> <p>PE 0305174F Space Innovation, Integration and Rapid Technology Development - P-40A Located at Peterson AFB, Colorado, the Space Innovation, Integration and Rapid Technology Development (SIIRTD) program develops and modifies modeling and simulation tools that Air Force Space Command's Space Analysis Center uses for operations research, military utility analyses, tradeoff studies, and other evaluations of space mission areas to guide planning, programming, requirements generation, analyses of alternatives, and other activities. Development activities incorporate changes in fielded and projected space operational capabilities, as well as technical improvements, into the group's software tools to ensure their data and technology remain current. Its innovation, education, and training activities foster solutions to operational deficiencies and enhance the integration of space systems into Air Force operations, thereby enabling service and joint warfighters to realized the full potential of existing and planned space capabilities.</p> <p>DISTRIBUTED COMMUNICATIONS ARCHITECTURE: This system provides a network based communications capability enabling dispersed space personnel to participate in space exercises and wargames and to assist in development, testing, and validation of SIIRTD innovation projects supporting the Combat Air Forces. It can also support limited command and control capabilities for space operations.</p> <p>SPACE ANALYSIS CENTER: Air Force Space Command's Space Analysis Center uses modeling and simulation tools to conduct operations research, military utility analyses, tradeoff studies, and other evaluations of space mission areas to guide planning, programming, requirements generation, analyses of alternatives, and other activities. Related modeling and simulation tool development is funded in RDT&E, AF, PE 0305174F, Space Innovation, Integration and Rapid Technology Development.</p> <p>PE 0305601F Mission Partner Environment - P-40A Mission Partner Environment (MPE) enables secure sharing of operational information for collaboration between and among the U.S. and mission partners to include federal, State, local, and tribal agencies, allies, coalition members, host nations, and other nations, United States and international Non-Governmental Organizations, multinational treaty organizations, and private sector organizations. The MPE program enables the United States (US) Department of Defense (DoD) to execute its assigned missions with mission partners across the complete ranges and phases of military operations to assist combined command and control (C2) of coalition forces while meeting the information sharing requirements within existing bi-lateral and multi-lateral agreements. Also, it promotes effective information exchange and provides applications to enable effective use of the United States and Partner nation military power. MPE provides the warfighter mission with technology to improve mission effectiveness and cyber security.</p> <p>PE 0604281F Tactical Data Networks Enterprise - P-40A Tactical Data Link (TDL) enterprise efforts include equipment, fielding support, and associated contract support for the fielded Family of Gateways, as well as capability enhancements to TDLs, gateways, and AF contributions to the Joint Aerial Layer Network (JALN). These airborne networking systems enable combat forces to exchange information quickly and accurately by bridging discrete airborne, terrestrial, maritime, and space-based C4ISR networks. Tactical Data Network (TDN) Planning, Analysis and Monitoring (PAM) will add capability to modernize CONUS ground-based TDL gateways.</p> <p>PE 0708012F Logistics Support Activities - P-40A GUNTER AIR FORCE BASE NETWORK SERVICES provide unique local area network (LAN) hardware to the population at Maxwell Air Force (MAFB)-Gunter Annex, AL including equipment for web access, file storage backup, information security, and application testing for AF programs worldwide hosted at MAFB-Gunter Annex, AL. LAN equipment enables MAFB-Gunter Annex to manage/support 122 programs and systems worldwide. MAFB-Gunter Annex exceeds the standard Base Information Transport Infrastructure (BITI) environment, therefore no funding is provided by BITI.</p> <p>PE 0708074F Joint Logistics Program - Total Asset Visibility - P-40A AUTOMATIC IDENTIFICATION TECHNOLOGY (AIT): A collection of enabling technologies including linear and two-dimensional bar codes, radio frequency identification, smart cards, memory cards, laser cards, touch memory, and voice and biometrics identification. These technologies provide timely and accurate automatic capture, aggregation, and transfer of data to management information systems with minimal human involvement. By capitalizing on advances in technology the Air Force is able to gain efficiencies in the logistical supply chain and asset visibility throughout an item's life cycle. Project funding enables compatibility of Air Force and industry standards in the core areas of supply, transportation, and maintenance, as well as weaving commercial AIT business practices and standards into the Air Force's logistics infrastructure.</p>		

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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: 0207697F, 0305173F, 0305174F, 0305601F, 0604281F, 0804721F, 0804752F, 0901279F, 0901299F, 0901410F, 0901538F, 1203173F
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<p>PE 0804711F Recruit Training Units - P-40A BASIC MILITARY TRAINING (BMT) SURVEILLANCE SECURITY SYSTEM: Basic Military Training sustains the combat capability of the Air Force (Active duty, Air National Guard and Air Force Reserve Command) with trained airmen. MTI Misconduct-Restore The Trust /Requirements associated with MTI misconduct issues at BMT. Due to the sexual misconduct by MTIs at BMT, AETC/CC directed a Commander Directed Investigation (CDI) to identify issues that place Airmen at risk in their training environment. SECAF/CSAF support findings and recommended actions to "Eliminate Detection Weakness". This effort continues the purchase, installation, and integration of a surveillance system covering common areas of the BMT facilities at JBSA-Lackland AFB for the deterrence and prosecution of misconduct. It includes hardware, system engineering/test and evaluation, site survey, infrastructure installation and support. Detailed requirements include: network switch, network storage device/upgrade package, computer monitor, site license, channel expansion license, hard drive, uninterruptable power supply, extended battery, digital monitor, cameras, and camera communication cable.</p> <p>PE 0804721F Service Academies - P-40A AIR FORCE ACADEMY COMPUTER SUPPORT: Air Force Academy uses two separate networks for day-to-day operations. Approximately 75% of the support is provided to USAFAEDU (academic network), providing the Academy's interface for mission elements, the cadet wing, direct reporting unit (DRU) and direct mission support organizations to DoD/AF military sites, commercial internet, other colleges and universities. The remaining support is provided to USAFAMIL, the interface with the AF's military only networks (NIPRNET and SIPRNET).</p> <p>PE 0804731F General Skill Training - P-40A GENERAL SKILL TRAINING: General Skills Training supports initial, advanced and supplemental training associated with all Air Force career fields taught or managed under Goodfellow, Keesler, Vandenberg, Sheppard, Lackland, and Fort Sam. This includes classroom and field training operations, management systems for students and faculty, and other requirements directly supporting Technical Training Groups, detachments, and various operating locations.</p> <p>TECHNICAL TRAINING MANAGEMENT SYSTEM (TTMS): TTMS provides AETC personnel and other users a suite of integrated and customized Commercial Off-The-Shelf (COTS)/Government Off-The-Shelf (GOTS) software products implemented in a centralized, enterprise-wide, web-based architecture for the development and administration of basic military and technical training. TTMS supports nine functions: student management, course design and development (for AETC and METC), student evaluation, statistical analysis and reporting, surveys, assessments and testing, Airman Interactive Management System (AIMS) for MTLs, Job Match/Seat Bank, and TTMS BMT for student processing.</p> <p>PE 0804751F Professional Military Education - P-40A Air University (AU) Education Technology (ET) Program funds the cradle-to-grave lifecycle management of IT systems, services, and resources that comprise AU Enterprise ET/IT portfolio. The primary systems under AU IT are CDSAR, STARS, AUSIS, AUSRIS, AUREPM, and AUSMS. This portfolio provides enrollment, content delivery, and student administration capabilities critical to all AU resident and non-resident courses. At the Air Force level, A6 provides the system of record capability for all AF PME/PCE; a system crucial to ensuring a fully prepared (trained and educated) expeditionary force. As AU aggressively pursues the enhancement of processes by which educational products are delivered to students, ET/IT demands will increase in frequency and complexity. Quickly revising software and inserting technology into those processes in a timeframe adequate to realize return on investment dollars or educational benefits requires an appropriately resourced A6 organization.</p> <p>PE 0804752F Other Professional Education - P-40A Accreditation of AFIT's engineering programs is directly related to both the existence of the well-equipped and maintained laboratories and an institutional commitment to fund equipment and maintenance. To serve the research needs of the USAF/DoD, students have up-to-date equipment to make tangible contributions to AF research needs. Existing equipment has reached the age where the cost to maintain it is impractical.</p> <p>PE 0901279F Facilities Operation - Administrative - P-40A CIVIL ENGINEER'S (CE) IT TRANSFORMATION: CE IT Transformation program's mission is to transform CE's business processes to better serve the CE customers and meet AF Transformational Goals. The plan is to leverage industry best practices, optimize core business processes, and replace existing outdated IT capabilities with a set of commercial off-the-shelf (COTS) software solutions and a service provider to deploy and maintain the system. This COTS solution will provide a robust, enterprise-wide CE capability and will consist of an integrated set of embedded / configurable best business practices and capabilities</p>		

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force		Date: February 2019
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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: 0207697F, 0305173F, 0305174F, 0305601F, 0604281F, 0804721F, 0804752F, 0901279F, 0901299F, 0901410F, 0901538F, 1203173F
Line Item MDAP/MAIS Code: CAMI		
to support the following CE missions: Real Property Management; Work & Supply Management, Project Management, Energy Management, Housing Management, Financial Management, Environmental Management, Planning, Emergency Services, Fire Operations and EOD.		
<p>PE 0901299F AF A1 Systems - P-40A Provides funding for the sustainment and operation of hardware and software supporting Total Force Human Capital IT systems (RegAF, Reserve, ANG, Civilians, Retirees, and Beneficiates), network applications and infrastructure. These systems include items such as client servers, computer hardware and software, LANs, web self service and relational database management technologies and associated equipment to support all phases of the personnel life cycle, including accession, training, assignment, promotion, and retirement/separation. There are two programs:</p> <p>a. MILITARY PERSONNEL DATA SYSTEM: MiIPDS funding supports all AF Military Personnel Operations to include technology refresh for hardware supporting a variety of AF personnel applications such as: Automated Records Management Systems and Virtual Military Personnel Flight among others. Funding also supports MiIPDS Federal Data Center Consolidation Initiative (FDCCI) compliance efforts.</p> <p>b. AIR FORCE PERSONNEL OPERATIONS ACTIVITY (AFPOA) OPERATIONS: Funding provides for the procurement of the AFPOA data center infrastructure, including hardware and some software maintenance. Funding is used to support telephony requirements of the AF Total Force Service Centers at San Antonio and Denver. It also supports the Federal Data Center Consolidation Initiative (FDCCI) compliance efforts directed by Public Law 104-106 and 105-261 and DoDI 1400.25, Vol 1100.</p> <p>PE 0901410F Contracting Information Technology System - P-40A CON-IT provides a single management writing system for the Air Force contracting community to support all contracting needs including base operations, logistics, contingency and weapons system contracting world-wide. CON-IT will enable strategic sourcing and other acquisition efficiencies by standardizing data, business rules, and milestone tracking. Furthermore, CON-IT will allow for a standardized and integrated method of anticipating, reacting, and responding to the current pace and changes in process, regulation, and technology across the contract domain. CON-IT is the replacement for Standard Procurement System (SPS). When fully implemented, CON-IT will enable process changes necessary to converge on a common contract writing/management capability within the Air Force. Funding for this exhibit contained in PE 0901410F.</p> <p>PE 0901538F Financial Management Information Systems Development - P-40A PBES is a single solution software development effort that will utilize a Service Oriented Architecture (SOA) to deliver budgeting and programming capability for the United States Air Force. PBES will replace legacy systems such as the Automated Budget Interactive Data Environment System (ABIDES) and Resource Allocation Programming Information Decision System (RAPIDS) and will support the budget formulation and force programming process. Upon full deployment of PBES, the system will be compliant with the Standard Financial Information Structure (SFIS) and Standard Line of Accounting (SLOA) conventions, which will enable standardization of data across the Department of Defense (DoD). Funding for this exhibit contained in PE 0901538F.</p> <p>As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.</p>		

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 4: Spcl Comm-Electronics Projects **P-1 Line Item Number / Title:** 834010 / General Information Technology

ID Code (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0207697F, 0305173F, 0305174F, 0305601F, 0604281F, 0804721F, 0804752F, 0901279F, 0901299F, 0901410F, 0901538F, 1203173F

Line Item MDAP/MAIS Code: CAMI

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	US Northern Command Communications				- / -	- / 3.908	- / 3.694	- / 3.757	- / -	- / 3.757
P-40a	ISR Innovations				- / -	- / 6.548	- / 5.674	- / 0.000	- / -	- / 0.000
P-40a	Electronic Warfare Integrated Reprogramming (EWIR)				- / -	- / 0.000	- / 0.000	- / 1.443	- / -	- / 1.443
P-40a	C2ISR Tactical Data Link				- / -	- / 2.875	- / 0.000	- / 2.290	- / -	- / 2.290
P-40a	National Technical Nuclear Forensics				- / -	- / 0.000	- / 0.000	- / 4.581	- / -	- / 4.581
P-40a	Wargaming and Simulation Centers				- / -	- / 0.799	- / 0.755	- / 0.769	- / -	- / 0.769
P-40a	Distributed Training and Exercises				- / -	- / 0.337	- / 0.000	- / 0.324	- / -	- / 0.324
P-40a	Distributed Cyber Warfare Operations				- / -	- / 8.781	- / 0.000	- / 0.000	- / -	- / 0.000
P-40a	Intel Data Applications				- / -	- / 0.000	- / 0.000	- / 0.338	- / 5.000	- / 5.338
P-40a	Security and Investigative Activities				- / -	- / 1.790	- / 1.692	- / 1.722	- / -	- / 1.722
P-40a	Space and Missile Test and Evaluation Center				- / -	- / 1.964	- / 0.000	- / 0.000	- / -	- / 0.000
P-40a	Space Innovation, Integration and Rapid Technology Development				- / -	- / 1.661	- / 0.000	- / 0.000	- / -	- / 0.000
P-40a	Mission Partner Environment				- / -	- / 0.000	- / 1.873	- / 1.585	- / -	- / 1.585
P-40a	Tactical Data Networks Enterprise				- / 0.000	- / 0.312	- / 0.000	- / 0.179	- / -	- / 0.179
P-40a	Logistics Support Activities				- / 0.000	- / 1.426	- / 0.000	- / 1.435	- / -	- / 1.435
P-40a	Joint Logistics Program - Total Asset Visibility				- / -	- / 3.539	- / 0.000	- / 0.000	- / -	- / 0.000
P-40a	Recruit Training Units				- / -	- / 0.847	- / 0.799	- / 0.816	- / -	- / 0.816
P-40a	Service Academies				- / -	- / 2.334	- / 0.000	- / 0.100	- / -	- / 0.100
P-3a	1 / Cadet Administration Management Information System (Capability Improvement)		A		- / 3.300	- / 8.581	- / 0.000	- / 0.400	- / 0.000	- / 0.400
P-40a	General Skill Training				- / -	- / 1.059	- / 0.000	- / 0.673	- / -	- / 0.673
P-40a	Professional Military Education				- / -	- / 1.017	- / 0.964	- / 0.981	- / -	- / 0.981
P-40a	Other Professional Education				- / -	- / 0.492	- / 0.467	- / 0.475	- / -	- / 0.475
P-40a	Facilities Operation - Administrative				- / -	- / 0.760	- / 0.000	- / 0.000	- / -	- / 0.000
P-40a	AF A1 Systems				- / -	- / 3.112	- / 1.706	- / 3.099	- / -	- / 3.099
P-40a	Contracting Information Technology System				- / 0.000	- / 0.000	- / 5.000	- / 0.000	- / -	- / 0.000
P-40a	Financial Management Information Systems Development				- / -	- / 0.000	- / 7.248	- / 1.966	- / -	- / 1.966
P-40	Total Gross/Weapon System Cost				- / 3.300	- / 52.142	- / 29.872	- / 26.933	- / 5.000	- / 31.933

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-40a	US Northern Command Communications				- / -	- / -	- / -	- / -	- / -	- / -

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity:
3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications
Equip / BSA 4: Spcl Comm-Electronics Projects

P-1 Line Item Number / Title:
834010 / General Information Technology

ID Code (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0207697F, 0305173F, 0305174F, 0305601F, 0604281F, 0804721F, 0804752F, 0901279F, 0901299F, 0901410F, 0901538F, 1203173F

Line Item MDAP/MAIS Code: CAMI

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-40a	ISR Innovations				- / -	- / -	- / -	- / -	- / -	- / -
P-40a	Electronic Warfare Integrated Reprogramming (EWIR)				- / -	- / -	- / -	- / -	- / -	- / -
P-40a	C2ISR Tactical Data Link				- / -	- / -	- / -	- / -	- / -	- / -
P-40a	National Technical Nuclear Forensics				- / -	- / -	- / -	- / -	- / -	- / -
P-40a	Wargaming and Simulation Centers				- / -	- / -	- / -	- / -	- / -	- / -
P-40a	Distributed Training and Exercises				- / -	- / -	- / -	- / -	- / -	- / -
P-40a	Distributed Cyber Warfare Operations				- / -	- / -	- / -	- / -	- / -	- / -
P-40a	Intel Data Applications				- / -	- / -	- / -	- / -	- / -	- / -
P-40a	Security and Investigative Activities				- / -	- / -	- / -	- / -	- / -	- / -
P-40a	Space and Missile Test and Evaluation Center				- / -	- / -	- / -	- / -	- / -	- / -
P-40a	Space Innovation, Integration and Rapid Technology Development				- / -	- / -	- / -	- / -	- / -	- / -
P-40a	Mission Partner Environment				- / -	- / -	- / -	- / -	- / -	- / -
P-40a	Tactical Data Networks Enterprise				- / -	- / -	- / -	- / -	- / -	- / -
P-40a	Logistics Support Activities				- / -	- / -	- / -	- / -	- / -	- / -
P-40a	Joint Logistics Program - Total Asset Visibility				- / -	- / -	- / -	- / -	- / -	- / -
P-40a	Recruit Training Units				- / -	- / -	- / -	- / -	- / -	- / -
P-40a	Service Academies				- / -	- / -	- / -	- / -	- / -	- / -
P-3a	1 / Cadet Administration Management Information System (Capability Improvement)		A		- / 0.000	- / 0.000	- / 0.000	- / -	- / -	- / 12.281
P-40a	General Skill Training				- / -	- / -	- / -	- / -	- / -	- / -
P-40a	Professional Military Education				- / -	- / -	- / -	- / -	- / -	- / -
P-40a	Other Professional Education				- / -	- / -	- / -	- / -	- / -	- / -
P-40a	Facilities Operation - Administrative				- / -	- / -	- / -	- / -	- / -	- / -
P-40a	AF A1 Systems				- / -	- / -	- / -	- / -	- / -	- / -
P-40a	Contracting Information Technology System				- / -	- / -	- / -	- / -	- / -	- / -
P-40a	Financial Management Information Systems Development				- / -	- / -	- / -	- / -	- / -	- / -
P-40	Total Gross/Weapon System Cost				- / 38.329	- / 39.919	- / 81.486	- / 79.082	- / -	- / 356.063

*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. Title represents the P-40a Title when only the P-40a Summary/Total is shown.
 Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.

Justification:
 This program, General Information Technology P-40A Category EWIR Hardware Item Tape Backup System, is a new start.

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 4: Spcl Comm-Electronics Projects		P-1 Line Item Number / Title: 834010 / General Information Technology
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0207697F, 0305173F, 0305174F, 0305601F, 0604281F, 0804721F, 0804752F, 0901279F, 0901299F, 0901410F, 0901538F, 1203173F
Line Item MDAP/MAIS Code: CAMI		
<p>This program, General Information Technology P-40A Category Intel Data Applications Item Intel Data Applications H/W and S/W, is a new start.</p> <p>PE 0201130F US Northern Command Communications - P-40A a. NORAD AND USNORTHCOM INTEROPERABLE COMMUNICATIONS: FY 2020 funding procures equipment and associated support that provide deployable, interoperable commercial communications capability to NORAD - USNORTHCOM Headquarters; USNORTHCOM Domestic Operations (DOMOPS), and Subordinate Commands). The system consists of deployable communications base stations, infrastructure, First Responder and DoD Joint Radio System handsets, and cellular-wireless/First Responder Network 4G LTE basebands/handsets to enable the Defense Support of Civil Authorities mission. b. DEPLOYABLE COMMUNICATION CAPABILITY SYSTEM LIFE CYCLE MANAGEMENT: FY 2020 funding ensures system life cycle support of the Deployable Communications Fleet, as well as, the lifecycle maintenance of these USNORTHCOM deployable communication systems. A centralized managed construct to enable the configuration management of deployable communication systems.</p> <p>PE 0207277F ISR Innovations - P-40A FY 2018/2019 funds provided 1) Procurement of a standardized imagery tasking and management system for handling customer requirements and collection requests; 2) Shelter improvements to include changes to system configuration to reduce physical footprint; and 3) Integration of enhanced synthetic aperture RADAR (SAR) capabilities. No FY 2020 funds requested.</p> <p>PE 0207439F Electronic Warfare Integrated Reprogramming (EWIR) - P-40A FY 2020 funding will be used to replace capital equipment for the electronic warfare (EW) Threat Change Analysis and Distributed Mission Operations infrastructure and databases. Specific equipment items and quantities may change due to mission needs.</p> <p>PE 0207448F C2ISR Tactical Data Link - P-40A FY 2020 procurement of Link 16 MIDS Joint Tactical Radio System (JTRS) radios will satisfy two mandates (FAA frequency and NSA crypto), among other operational reliability and capability improvements for Link 16 tactical networks. Funding for this exhibit contained in PE 0207448F.</p> <p>PE 0207573F National Technical Nuclear Forensics - P-40A FY 2020 funding procures terrestrial-based nodes/sensor for signal detection, collection, analysis, and evaluation of a nuclear detonation. Funding also includes procurement of technical data required for production and any required initial system support. Funding was moved from BPAC 834320 starting in FY 2020.</p> <p>PE 0207605F Wargaming and Simulation Centers - P-40A Procurement funding assures capital equipment replacement and network system upgrades for the command and control, warfighting, and support training systems at the tactical and operational levels of warfare. The equipment allows the WPC to lead USAFE-AFAFRICA toward full integration of Live, Virtual, and Constructive (LVC) capabilities and connectivity with our Coalition partners.</p> <p>PE 0207697F Distributed Training and Exercises - P-40A AIR FORCE DISTRICT WASHINGTON: FY 2020 funding will be used to procure hardware, software and licensing to complete and instantiate the latest version of the Wargame Information Environment in support of CSAF and AFMAJCOMs objective priorities for Air Force Wargaming Enterprise.</p> <p>PE 0208087F Distributed Cyber Warfare Operations - P-40A Distributed Cyber Warfare Operations, changed from AF Offensive Cyber Operations. No FY 2020 funding requested.</p> <p>PE 0208288F Intel Data Applications - P-40A FY 2020 funds the application of Intelligence data as datasets/databases, model and simulations, and analysis for combat and combat support users. Provides for the communications infrastructures required to support Intelligence data applications.</p>		

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 4: Spcl Comm-Electronics Projects		P-1 Line Item Number / Title: 834010 / General Information Technology
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0207697F, 0305173F, 0305174F, 0305601F, 0604281F, 0804721F, 0804752F, 0901279F, 0901299F, 0901410F, 0901538F, 1203173F
Line Item MDAP/MAIS Code: CAMI		
<p>PE 0305128F Security and Investigative Activities - P-40A Funds are required to provide AFOSI Server Virtualization, which will increase efficiency of limited system administrative staff and reduce future capital investment costs of new hardware. The virtual server environment also delivers new capability not available in a non-virtual server environment, such as rapid Information Assurance patching, automatic error detection, failover and disaster recovery of critical applications, reduce footprint from both a physical space and energy perspective. These funds will enable AFOSI standard IT equipment and specialized investigative equipment to provide the latest capabilities of specialized investigative support to DoD/USAF investigations/operations both in-garrison and in support of wartime operations, for over 3,000 AFOSI personnel in more than 250 worldwide locations.</p> <p>PE 0305173F Space and Missile Test and Evaluation Center - P-40A The Research and Development Space and Missile Operations (RDSMO) program has transferred from PE 0305173F to PE 1203173F.</p> <p>PE 0305174F Space Innovation, Integration and Rapid Technology Development - P-40A FY18 funding supported the AFSPC Space Analysis Center Virtual Analysis Capability (AVAC) system. A stand-alone system that provides a crosscutting capability to conduct, support, and report analysis on a myriad of tools, data, models and simulations. This system allows leadership to make decisions based on quantifiable operational impacts output from AVAC based on various vignettes and studies applied to space and cyber assets. Funding buys system-specific hardware, software, routers, licenses, etc., to maintain the efficiency and compatibility with all current models. No funding in FY 2019/2020.</p> <p>PE 0305601F Mission Partner Environment - P-40A In response to program decision memorandum, funding for Mission Partner Environment transferred the capabilities the Combined Enterprise Regional Information Exchange System (CENTRIXS), Pegasus, the Multinational Information Sharing (MNIS) program, the All Partners Access Network (APAN), and the Combined Federal Battle Labs Network (CFBLNet) to the Mission Partner Environment Program. MPE enables secure sharing of operational information and enhances collaboration between the US forces, and trusted allies and other multinational partners. This effort also increases overall combat effectiveness by leveraging capabilities and information from all partners. FY 20209 funding procures hardware and software to support operations with the Mission Partners environment.</p> <p>PE 0604281F Tactical Data Networks Enterprise - P-40A FY 2020 funding provides procurement for all Tactical Data Link (TDL) enterprise efforts. This includes equipment, fielding support, and associated contract support for the fielded Family of Gateways, as well as capability enhancements to TDLs, gateways, and AF contributions to the Joint Aerial Layer Network (JALN). These airborne networking systems enable combat forces to exchange information quickly and accurately by bridging discrete airborne, terrestrial, maritime, and space-based C4ISR networks. Tactical Data Network (TDN) Planning, Analysis and Monitoring (PAM) will add capability to modernize CONUS ground-based TDL gateways. Funding for this exhibit contained in PE 0604281F.</p> <p>PE 0708012F Logistics Support Activities - P-40A Funding provides technical refresh of all hardware resources for the Gunter LAN to deliver full network support. This infrastructure enables continued operational testing of the Standard Desktop Configuration (SDC) and other Microsoft products. Provides early look for AFLCMC/HI programs (Logistics systems including EDCL) to ensure seamless integration of new capabilities w/o harm to operational systems and negative impact to personnel across the AF. Daily operations of AFLCMC/HI PMOs to develop, field, sustain, and manage their assigned systems is unhindered.</p> <p>PE 0708074F Joint Logistics Program - Total Asset Visibility - P-40A AUTOMATIC IDENTIFICATION TECHNOLOGY (AIT): FY 2018 funding was used to implement the use of Item Unique Identification (IUID) for tracking and accounting for CLASS II, VII and IX assets, to meet DoD mandate. No funding in FY 2019/2020.</p> <p>PE 0804711F Recruit Training Units - P-40A Procures general information technology equipment for BASIC MILITARY TRAINING (BMT) SURVEILLANCE SECURITY SYSTEM: Basic Military Training sustains the combat capability of the Air Force (Active duty, Air National Guard and Air Force Reserve Command) with trained airmen. MTI Misconduct-Restore The Trust /Requirements associated with MTI misconduct issues at BMT. Due to the sexual misconduct by MTIs at BMT, AETC/CC directed a Commander Directed Investigation (CDI) to identify issues that place Airmen at risk in their training environment. SECAF/CSAF support findings and recommended actions to "Eliminate Detection Weakness". This effort continues the purchase, installation, and integration of a surveillance system covering common areas of the BMT facilities at JBSA-Lackland AFB for the deterrence</p>		

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 4: Spcl Comm-Electronics Projects		P-1 Line Item Number / Title: 834010 / General Information Technology
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0207697F, 0305173F, 0305174F, 0305601F, 0604281F, 0804721F, 0804752F, 0901279F, 0901299F, 0901410F, 0901538F, 1203173F
Line Item MDAP/MAIS Code: CAMI		
<p>and prosecution of misconduct. It includes hardware, system engineering/test and evaluation, site survey, infrastructure installation and support. Detailed requirements include: network switch, network storage device/upgrade package, computer monitor, site license, channel expansion license, hard drive, uninterruptable power supply, extended battery, digital monitor, cameras, and camera communication cable</p> <p>PE 0804721F Service Academies - P-40A US AIR FORCE ACADEMY (USAFA): (1) AIR FORCE ACADEMY COMPUTER SUPPORT: FY18 funds procure IT to upgrade performance, security, and availability of USAFA.MIL and USAFA.EDU to comply with AF Enterprise Architecture standards in order to support the AF Academy mission. FY18 funds procure IT integral to the operation of each network in support of the Air Force Academy mission.</p> <p>(2) CADET ADMINISTRATION MANAGEMENT INFORMATION SYSTEM (CAMIS): FY18 funds also continue the modernization of CAMIS, which resides on the USAFAEDU domain. CAMIS is a cradle-to-grave system supporting all facets of student management including recruitment and outreach, admissions, registrar, preparatory, academic, athletic, military training assessments from the candidate's initial application to graduation & commissioning and continuing through the military career of each cadet. FY18 funding increase is due to the modernization effort to transition CAMIS from a custom-coded system to a primarily Commercial Off the Shelf (COTS)-based system, including the integration of the COTS products and interfaces with GOTS systems.</p> <p>PE 0804731F General Skill Training - P-40A GENERAL SKILL TRAINING: Funding supports procurement of electronic and telecom equipment supporting the General Skills Training enterprise, and primarily includes video equipment and training management systems equipment (other than TTMS).</p> <p>TECHNICAL TRAINING MANAGEMENT SYSTEM (TTMS): FY 2020 funding supports the primary requirement objectives currently under development: 1)Integration of Basic Training Management System (BTMS) capabilities and student records into the TTMS.</p> <p>PE 0804751F Professional Military Education - P-40A Funds procure IT systems, services, and resources that comprise AU Enterprise ET/IT portfolio. The primary systems under AU IT are CDSAR, STARS, AUSIS, AUSRIS, AUREPM, and AUSMS. This portfolio provides enrollment, content delivery, and student administration capabilities critical to all AU resident to all AU resident and non-resident courses. At the Air Force level, A6 provides the system of record capability for all AF PME/PCE; a system crucial to ensuring a fully prepared (trained and educated) expeditionary force.</p> <p>PE 0804752F Other Professional Education - P-40A FY 2020 funding supports AFIT Lab Equipment: Laboratory Equipment procurement funding provides for: Satellite Communication Ground Stations, Cube Sat Flight Hardware, Space Thruster Measurement System, UHF High Frequency Stages, Time Resolved Particle Image Velocimetry System, Digiscan CL3 System for the AFIT clean room, Space Chromotomography Equipment, Space Electronics Laboratory, Laser Steering Mirror System, CTEx Phantom Camera, Low Temp Flow System for EPR, Microwave Cavity B-field Sensor, Sample Load Lock System, Point Probe with ITO Reference Sample, Micro Thermal Imaging System, Circuit Failure Analysis Digital Microscope System, Pioneer Power-Bot AGV Robot, GPS Receivers, IMU and accessories, Dual-Output Programmable Power Supplies, and Scanning Electron Microscope equipment to support graduate student thesis and dissertations research.</p> <p>PE 0901279F Facilities Operation - Administrative - P-40A No FY 2019/2020 funding requested.</p> <p>PE 0901299F AF A1 Systems - P-40A FY 2020 Funding supports the MilPDS and AFPOA Operations programs. Effective in FY 2017, the Regionalization of Civilian Personnel Support, Personnel Service Delivery and Air Force Personnel Center were consolidated for more effective management and oversight into Air Force Personnel Operations Agency (AFPOA) Network Infrastructure.</p>		

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 4: Spcl Comm-Electronics Projects		P-1 Line Item Number / Title: 834010 / General Information Technology
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0207697F, 0305173F, 0305174F, 0305601F, 0604281F, 0804721F, 0804752F, 0901279F, 0901299F, 0901410F, 0901538F, 1203173F
Line Item MDAP/MAIS Code: CAMI		
<p>1. MILITARY PERSONNEL DATA SYSTEM: MiIPDS funding supports all AF Military Personnel Operations to include technology refresh for hardware supporting a variety of AF personnel applications such as: Automated Records Management Systems and Virtual Military Personnel Flight among others. Funding also supports MiIPDS FDCCI compliance efforts.</p> <p>2. AIR FORCE PERSONNEL OPERATIONS ACTIVITY (AFPOA) Operations: AFPOA includes Regionalization of Civilian Personnel Support, Personnel Service Delivery and Air Force Personnel Center. Funding provides for the operation and sustainment of the AFPOA contact center telephony solution. Specifically, funding provides for modular software additions, upgrades, continuing stabilization, and sustainment of the current Genesys telephony solution supporting the Total Force Service Center, Services, A1 Service Desk, and other A1 contact center entities. The individual funding lines for REGIONALIZATION OF CIVILIAN PERSONNEL SUPPORT (RCPS), ERSONNEL SERVICE DELIVERY (PSD),and AIR FORCE PERSONNEL CENTER (AFPC), are now consolidated into the single AFPOA funding line.</p> <p>PE 0901410F Contracting Information Technology System - P-40A FY 2019 funding is for the purchase of software licenses required for the CON-IT System. Software license counts are estimates and may vary at actual execution based on system needs. CON-IT is not requesting FY20 funds for system deployments.</p> <p>PE 0901538F Financial Management Information Systems Development - P-40A FY 2020 Funding will be used to purchase end user licenses. Software license counts are estimates and may vary at actual execution based on system needs. Utilizing Business Process Re-engineering (BPR), the Air Force has designated PBES as the solution to deliver traceability of financial data in support of the programming and budgeting processes. Through the use of BPR, PBES will address excessive overhead, outdated business practices and other time-consuming support activities. PBES will make the budget formulation process more efficient by incorporating business best practices, organizing programming and budgeting personnel, as well as utilizing current technology. PBES will also eliminate checks and balances required of older technology, taking advantage of automated reconciliation services. In addition, the solution will allow the use of Authoritative Data Sources (ADS) for data exposure, resulting in more timely and accurate budget submissions to Office of the Secretary of Defense (OSD), Congress, and other internal and external customers.</p> <p>Efforts with funding starting in FY 2021 through FY 2024 are summarized on the P-40. Not all details of this funding are included in this P-40 exhibit set. A summary of the excepted details is as follows:</p> <ul style="list-style-type: none"> (a) FY 2021 Cost Delta: 38.329 million (b) FY 2022 Cost Delta: 39.919 million (c) FY 2023 Cost Delta: 81.486 million (d) FY 2024 Cost Delta: 79.082 million (e) FY Total Cost Delta: 343.782 million 		

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4 **P-1 Line Item Number / Title:** 834010 / General Information Technology **Aggregated Items Title:** US Northern Command Communications

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Uncategorized																				
INTEROPERABLE COMMUNICATION	A		-	-	-	-	-	0.579	-	-	0.526	-	-	0.526	-	-	-	-	-	0.526
DEPLOYABLE COMMUNICATIONS CAPABILITY SYSTEM LIFE CYCLE MANAGEMENT	A		-	-	-	-	-	3.329	-	-	3.168	-	-	3.231	-	-	-	-	-	3.231
EARLY WARNING RADAR (EWR) COMMUNICATIONS EQUIPMENT	A		-	-	-	-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Uncategorized			-	-	-	-	-	3.908	-	-	3.694	-	-	3.757	-	-	-	-	-	3.757
Total			-	-	-	-	-	3.908	-	-	3.694	-	-	3.757	-	-	-	-	-	3.757

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

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4 **P-1 Line Item Number / Title:** 834010 / General Information Technology **Aggregated Items Title:** ISR Innovations

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Uncategorized																				
(1). EAGLE VISION DATA ACQUISITION SYSTEM REFRESH/ CAPITAL EQUIPMENT REPLACEMENT PE 0207277F	A		-	-	-	-	-	5.298	-	-	4.277	-	-	0.000	-	-	-	-	-	0.000
(3). EAGLE VISION PROGRAM MANAGEMENT ADMINISTRATION (PMA)	A		-	-	-	-	-	1.250	-	-	1.397	-	-	0.000	-	-	-	-	-	0.000
Subtotal: Uncategorized			-	-	-	-	-	6.548	-	-	5.674	-	-	0.000	-	-	-	-	-	0.000
Total			-	-	-	-	-	6.548	-	-	5.674	-	-	0.000	-	-	-	-	-	0.000

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

Remarks:

Due to the life cycle of commercial satellites, Eagle Vision must update the system to retain the capability of downlinking imagery. As one of the satellite constellation is decommissioned, Eagle Vision must procure hardware and software of a new satellite to allow for downlinking from the new satellite system. Currently Eagle Vision contains the hardware and software to receive downlinking form SPOT 6/7, TerraSAR-X/TANDEM-X, Worldview satellites and Pleiades 1A/1B. Eagle Vision Block II will continue to update the system to retain the capability of downlinking imagery as the life cycle of commercial satellites evolve by procuring the hardware and software of a new satellite, upgrade the dissemination performance to the Data Integration Segment (DIS), minimizing the Data Acquisition Segment (DAS), and incremental Commercial-Off-The-Shelf (COTS) integration.

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force														Date: February 2019					
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4							P-1 Line Item Number / Title: 834010 / General Information Technology							Aggregated Items Title: Electronic Warfare Integrated Reprogramming (EWIR)					

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
EWIR Hardware																				
Client PCs	A		-	-	-	-	-	0.000	-	-	0.000	0.200	1	0.200	-	-	-	0.200	1	0.200
Computer Server	A		-	-	-	-	-	0.000	-	-	-	0.600	1	0.600	-	-	-	0.600	1	0.600
Data Storage System	A		-	-	-	-	-	0.000	-	-	-	0.438	1	0.438	-	-	-	0.438	1	0.438
Network Infrastructure	A		-	-	-	-	-	0.000	-	-	-	0.205	1	0.205	-	-	-	0.205	1	0.205
Tape Backup System	A		-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: EWIR Hardware			-	-	-	-	-	0.000	-	-	0.000	-	-	1.443	-	-	-	-	-	1.443
Total			-	-	-	-	-	0.000	-	-	0.000	-	-	1.443	-	-	-	-	-	1.443

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

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4	P-1 Line Item Number / Title: 834010 / General Information Technology	Aggregated Items Title: C2ISR Tactical Data Link
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Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
MIDS JTRS																				
Install Kits (Active) PE 0207488F	A		-	-	-	0.082	30	2.461	-	-	0.000	0.254	9	2.290	-	-	-	0.254	9	2.290
Subtotal: MIDS JTRS			-	-	-	-	-	2.461	-	-	0.000	-	-	2.290	-	-	-	-	-	2.290
Other Government Support																				
Other Government Support	A		-	-	-	0.414	1	0.414	-	-	0.000	-	-	-	-	-	-	-	-	-
Subtotal: Other Government Support			-	-	-	-	-	0.414	-	-	0.000	-	-	-	-	-	-	-	-	-
Total			-	-	-	-	-	2.875	-	-	0.000	-	-	2.290	-	-	-	-	-	2.290

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

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4 **P-1 Line Item Number / Title:** 834010 / General Information Technology **Aggregated Items Title:** National Technical Nuclear Forensics

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Nuclear Forensics - Prompt Diagnostics																				
Nuclear Forensics - Prompt Diagnostics	A		-	-	-	-	-	0.000	-	-	0.000	-	-	4.581	-	-	-	-	-	4.581
Subtotal: Nuclear Forensics - Prompt Diagnostics			-	-	-	-	-	0.000	-	-	0.000	-	-	4.581	-	-	-	-	-	4.581
Total			-	-	-	-	-	0.000	-	-	0.000	-	-	4.581	-	-	-	-	-	4.581

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

Remarks:
Continues efforts previously funded by OSD for Prompt Diagnostics. Procures terrestrial-based sensors and communications for prompt diagnostics, collection, analysis, and evaluation of a nuclear detonation. Funding also includes procurement of technical data and any required initial system support. Funding was moved from BPAC 834320 starting in FY20.

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4 **P-1 Line Item Number / Title:** 834010 / General Information Technology **Aggregated Items Title:** Wargaming and Simulation Centers

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Uncategorized																				
WARRIOR PREPARATION CENTER PE 0207605F	A		-	-	-	-	-	0.799	-	-	0.755	-	-	0.769	-	-	-	-	-	0.769
Subtotal: Uncategorized			-	-	-	-	-	0.799	-	-	0.755	-	-	0.769	-	-	-	-	-	0.769
Total			-	-	-	-	-	0.799	-	-	0.755	-	-	0.769	-	-	-	-	-	0.769

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

Remarks:

Procurement funds serve to refresh general Information Technology systems equipment and upgrade network systems for the command and control, warfighting, and support training systems at the tactical and operational levels of warfare. The equipment allows the WPC to continue leading USAFE toward full integration of live, virtual, and constructive capabilities and connectivity with our coalition partners. This effort is funded in PE 0207605F.

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4	P-1 Line Item Number / Title: 834010 / General Information Technology	Aggregated Items Title: Distributed Training and Exercises
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Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Uncategorized																				
DISTRIBUTED TRAINING AND EXERCISES PE 0207697F	A		-	-	-	-	-	0.337	-	-	0.000	-	-	0.324	-	-	-	-	-	0.324
Subtotal: Uncategorized			-	-	-	-	-	0.337	-	-	0.000	-	-	0.324	-	-	-	-	-	0.324
Total			-	-	-	-	-	0.337	-	-	0.000	-	-	0.324	-	-	-	-	-	0.324

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

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4 **P-1 Line Item Number / Title:** 834010 / General Information Technology **Aggregated Items Title:** Distributed Cyber Warfare Operations

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Uncategorized																				
CYBER WORKFORCE TRAINING	A		-	-	-	1.781	1	1.781	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
CYBERSPACE NETWORK ATTACK EQUIPMENT	A		-	-	-	1.750	4	7.000	-	-	-	-	-	0.000	-	-	-	-	-	0.000
Subtotal: Uncategorized			-	-	-	-	-	8.781	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
Total			-	-	-	-	-	8.781	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000

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

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4 **P-1 Line Item Number / Title:** 834010 / General Information Technology **Aggregated Items Title:** Intel Data Applications

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Intel Data Applications																				
Intel Data Applications H/W and S/W	A		-	-	-	-	-	0.000	-	-	0.000	-	-	0.338	-	-	5.000	-	-	5.338
Subtotal: Intel Data Applications			-	-	-	-	-	0.000	-	-	0.000	-	-	0.338	-	-	5.000	-	-	5.338
Total			-	-	-	-	-	0.000	-	-	0.000	-	-	0.338	-	-	5.000	-	-	5.338

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

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4 **P-1 Line Item Number / Title:** 834010 / General Information Technology **Aggregated Items Title:** Security and Investigative Activities

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Uncategorized																				
OSI OPERATIONS PE 0305128F	A		-	-	-	-	-	1.790	-	-	1.692	-	-	1.722	-	-	-	-	-	1.722
Subtotal: Uncategorized			-	-	-	-	-	1.790	-	-	1.692	-	-	1.722	-	-	-	-	-	1.722
Total			-	-	-	-	-	1.790	-	-	1.692	-	-	1.722	-	-	-	-	-	1.722

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force															Date: February 2019				
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4						P-1 Line Item Number / Title: 834010 / General Information Technology						Aggregated Items Title: Space and Missile Test and Evaluation Center							

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Space and Missile Test and Evaluation Center																				
RESEARCH AND DEVELOPMENT SPACE AND MISSILE OPERATIONS (RDSMO) (PE 0305173F)	A		-	-	-	-	-	1.964	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
Subtotal: Space and Missile Test and Evaluation Center			-	-	-	-	-	1.964	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
Total			-	-	-	-	-	1.964	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000

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

Remarks:
Due to the creation of a new Major Force Program for Space, funding in this exhibit for this effort from "Prior Years" to FY 2017 was originally budgeted in the PE 0305173F. Funding in this exhibit for this effort from FY 2018 to "Cost to Completion" is budgeted in PE 1203173F.

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force															Date: February 2019				
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4							P-1 Line Item Number / Title: 834010 / General Information Technology								Aggregated Items Title: Space Innovation, Integration and Rapid Technology Development				

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Distributed Communications Architecture																				
Distributed Communications Architecture	A		-	-	-	-	-	1.000	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
Subtotal: Distributed Communications Architecture			-	-	-	-	-	1.000	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
Space Analysis Center																				
Space Analysis Center PE 0305174F	A		-	-	-	-	-	0.661	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
Subtotal: Space Analysis Center			-	-	-	-	-	0.661	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
Total			-	-	-	-	-	1.661	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000

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

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4 **P-1 Line Item Number / Title:** 834010 / General Information Technology **Aggregated Items Title:** Mission Partner Environment

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Mission Partner Enterprise																				
Mission Partner Enterprise	A		-	-	-	-	-	0.000	-	-	1.873	-	-	1.585	-	-	-	-	-	1.585
Subtotal: Mission Partner Enterprise			-	-	-	-	-	0.000	-	-	1.873	-	-	1.585	-	-	-	-	-	1.585
Total			-	-	-	-	-	0.000	-	-	1.873	-	-	1.585	-	-	-	-	-	1.585

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

Remarks:

This program transferred from Defense Information Systems Agency (DISA) to USAF in FY19.

Mission Partner Environment (MPE) enables secure sharing of operational information for collaboration between and among the U.S. and mission partners to include federal, State, local, and tribal agencies, allies, coalition members, host nations, and other nations, United States and international Non-Governmental Organizations, multinational treaty organizations, and private sector organizations. The MPE program enables the United States (US) Department of Defense (DoD) to execute its assigned missions with mission partners across the complete ranges and phases of military operations to assist combined command and control (C2) of coalition forces while meeting the information sharing requirements within existing bi-lateral and multi-lateral agreements. Also, it promotes effective information exchange and provides applications to enable effective use of the United States and Partner nation military power. MPE provides the warfighter mission with technology to improve mission effectiveness and cyber security.

In response to program decision memorandum, funding for Mission Partner Environment transferred the capabilities the Combined Enterprise Regional Information Exchange System (CENTRIXS), Pegasus, the Multinational Information Sharing (MNIS) program, the All Partners Access Network (APAN), and the Combined Federal Battle Labs Network (CBFLNet) to the Mission Partner Environment Program. MPE enables secure sharing of operational information and enhances collaboration between the US forces, and trusted allies and other multinational partners. This effort also increases overall combat effectiveness by leveraging capabilities and information from all partners. FY19 funding procures hardware and software to support operations with the Mission Partners environment.

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4	P-1 Line Item Number / Title: 834010 / General Information Technology	Aggregated Items Title: Tactical Data Networks Enterprise
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Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
TDL PAM																				
c. TACTICAL DATA NETWORKS ENTERPRISE (PE 0604281F)	A		-	-	0.000	-	-	0.312	-	-	0.000	-	-	0.179	-	-	-	-	-	0.179
Subtotal: TDL PAM			-	-	0.000	-	-	0.312	-	-	0.000	-	-	0.179	-	-	-	-	-	0.179
Total			-	-	0.000	-	-	0.312	-	-	0.000	-	-	0.179	-	-	-	-	-	0.179

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

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4	P-1 Line Item Number / Title: 834010 / General Information Technology	Aggregated Items Title: Logistics Support Activities
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Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Uncategorized																				
GUNTER AIR FORCE BASE NETWORK SERVICES PE 0708012F	A		-	-	0.000	-	-	1.426	-	-	0.000	-	-	1.435	-	-	-	-	-	1.435
Subtotal: Uncategorized			-	-	0.000	-	-	1.426	-	-	0.000	-	-	1.435	-	-	-	-	-	1.435
Total			-	-	0.000	-	-	1.426	-	-	0.000	-	-	1.435	-	-	-	-	-	1.435

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

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force															Date: February 2019				
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4							P-1 Line Item Number / Title: 834010 / General Information Technology								Aggregated Items Title: Joint Logistics Program - Total Asset Visibility				

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Uncategorized																				
Active Radio Frequency Identification PE 0708074F	A		-	-	-	-	-	0.539	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
Passive Radio Frequency Identification	A		-	-	-	-	-	1.000	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
Item Unique Identification	A		-	-	-	-	-	1.000	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
Real Time Locating Systems	A		-	-	-	-	-	1.000	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
Subtotal: Uncategorized			-	-	-	-	-	3.539	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
Total			-	-	-	-	-	3.539	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000

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

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4	P-1 Line Item Number / Title: 834010 / General Information Technology	Aggregated Items Title: Recruit Training Units
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Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Uncategorized																				
BMT Surveillance System PE 0804711F	A		-	-	-	-	-	0.847	-	-	0.799	-	-	0.816	-	-	-	-	-	0.816
Subtotal: Uncategorized			-	-	-	-	-	0.847	-	-	0.799	-	-	0.816	-	-	-	-	-	0.816
Total			-	-	-	-	-	0.847	-	-	0.799	-	-	0.816	-	-	-	-	-	0.816

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

UNCLASSIFIED

Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4 **P-1 Line Item Number / Title:** 834010 / General Information Technology **Aggregated Items Title:** Service Academies

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Uncategorized																				
SERVICE ACADEMIES - USAFA PE 0804721F	A		-	-	-	-	-	2.334	-	-	0.000	-	-	0.100	-	-	-	-	-	0.100
Subtotal: Uncategorized			-	-	-	-	-	2.334	-	-	0.000	-	-	0.100	-	-	-	-	-	0.100
Total			-	-	-	-	-	2.334	-	-	0.000	-	-	0.100	-	-	-	-	-	0.100

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

Remarks:
The FY18 funding increase is due to the modernization effort to transition CAMIS from a custom-coded system to a primarily Commercial Off the Shelf (COTS)-based system, including the integration of the COTS products and interfaces with GOTS systems.

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4	P-1 Line Item Number / Title: 834010 / General Information Technology	Modification Number / Title: 1 / Cadet Administration Management Information System

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

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	3.300	8.581	0.000	0.400	0.000	0.400	0.000	0.000	0.000	-	-	12.281
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	3.300	8.581	0.000	0.400	0.000	0.400	0.000	0.000	0.000	-	-	12.281
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	3.300	8.581	0.000	0.400	0.000	0.400	0.000	0.000	0.000	-	-	12.281

(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 Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

CADET ADMINISTRATION MANAGEMENT INFORMATION SYSTEM (CAMIS): CAMIS is a cradle-to-grave system supporting all facets of student management including recruitment and outreach, admissions, registrar, preparatory, academic, athletic, military training assessments from the candidate's initial application to graduation & commissioning and continuing through the military career of each cadet. CAMIS from a custom-coded system to a primarily Commercial Off the Shelf (COTS)-based system, including the integration of the COTS products and interfaces with GOTS systems.

Milestone/Development Status

N/A

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Exhibit P-3a, Individual Modification: PB 2020 Air Force											Date: February 2019		
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4				P-1 Line Item Number / Title: 834010 / General Information Technology							Modification Number / Title: 1 / Cadet Administration Management Information System		
ID Code (A=Service Ready, B=Not Service Ready) : A							MDAP/MAIS Code:						
Models of Systems Affected: CAMIS				Modification Type: Capability Improvement				Related RDT&E PEs: 0804721F					
Financial Plan	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
Procurement													
Modification Item 1 of 2: Cadet Lifecycle Systems													
A Kits													
Recurring													
Cadet Lifecycle Systems:INSTALL KITS Group A (Active)	- / -	1 / 6.583	- / -	1 / 0.300	- / -	1 / 0.300	- / -	- / -	- / -	- / -	- / -	2 / 6.883	
Subtotal: Recurring	- / -	- / 6.583	- / -	- / 0.300	- / -	- / 0.300	- / -	- / -	- / -	- / -	- / -	- / 6.883	
Subtotal: Cadet Lifecycle Systems	- / -	- / 6.583	- / -	- / 0.300	- / -	- / 0.300	- / -	- / -	- / -	- / -	- / -	- / 6.883	
Modification Item 2 of 2: Student Information System													
A Kits													
Recurring													
Student Information System:INSTALL KITS Group A (Active)	1 / 2.500	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / 2.500	
Subtotal: Recurring	- / 2.500	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 2.500	
Subtotal: Student Information System	- / 2.500	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 2.500	
Subtotal: Procurement, All Modification Items	- / 2.500	- / 6.583	- / -	- / 0.300	- / -	- / 0.300	- / -	- / -	- / -	- / -	- / -	- / 9.383	
Installation													
Modification Item 1 of 2: Cadet Lifecycle Systems	- / -	1 / 1.998	- / -	1 / 0.100	- / -	1 / 0.100	- / -	- / -	- / -	- / -	- / -	2 / 2.098	
Modification Item 2 of 2: Student Information System	1 / 0.800	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / 0.800	
Subtotal: Installation	1 / 0.800	1 / 1.998	- / -	1 / 0.100	- / -	1 / 0.100	- / -	- / -	- / -	- / -	- / -	3 / 2.898	
Total													
Total Cost (Procurement + Support + Installation)	3.300	8.581	0.000	0.400	0.000	0.400	0.000	0.000	0.000	0.000	-	12.281	

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4	P-1 Line Item Number / Title: 834010 / General Information Technology	Modification Number / Title: 1 / Cadet Administration Management Information System

ID Code (A=Service Ready, B=Not Service Ready) : A	MDAP/MAIS Code:
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Modification Item 1 of 2: Cadet Lifecycle Systems

Manufacturer Information

Manufacturer Name: TBD	Manufacturer Location: TBD
Administrative Leadtime (in Months): 4	Production Leadtime (in Months): 6

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

Installation Information

Method of Implementation: Contract Field Team

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	- / -	1 / 1.998	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / 1.998
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	1 / 0.100	- / -	1 / 0.100	- / -	- / -	- / -	- / -	- / -	1 / 0.100
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	- / -	1 / 1.998	- / -	1 / 0.100	- / -	1 / 0.100	- / -	- / -	- / -	- / -	- / -	2 / 2.098

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	0	-	1	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	2
Out	0	-	-	-	1	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	2

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4	P-1 Line Item Number / Title: 834010 / General Information Technology	Modification Number / Title: 1 / Cadet Administration Management Information System

ID Code (A=Service Ready, B=Not Service Ready) : A	MDAP/MAIS Code:
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Modification Item 2 of 2: Student Information System

Manufacturer Information

Manufacturer Name: TBD	Manufacturer Location: TBD
Administrative Leadtime (in Months): 4	Production Leadtime (in Months): 3

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

Installation Information

Method of Implementation: Contract Field Team

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	1 / 0.800	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / 0.800
FY 2018	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	1 / 0.800	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / 0.800

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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	1
Out	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	1

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4 **P-1 Line Item Number / Title:** 834010 / General Information Technology **Aggregated Items Title:** General Skill Training

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Uncategorized																				
GEN SKILL TRAINING PE 0804731F	A		-	-	-	-	-	0.733	-	-	0.000	-	-	0.335	-	-	-	-	-	0.335
TECH TNG MANAGEMENT SYSTEM	A		-	-	-	-	-	0.326	-	-	0.000	-	-	0.338	-	-	-	-	-	0.338
Subtotal: Uncategorized			-	-	-	-	-	1.059	-	-	0.000	-	-	0.673	-	-	-	-	-	0.673
Total			-	-	-	-	-	1.059	-	-	0.000	-	-	0.673	-	-	-	-	-	0.673

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

Remarks:
FYDP baseline data for OAC 64 ONLY.

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4 **P-1 Line Item Number / Title:** 834010 / General Information Technology **Aggregated Items Title:** Professional Military Education

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Professional Military Education																				
Professional Military Education PE 0804751F	A		-	-	-	-	-	1.017	-	-	0.964	-	-	0.981	-	-	-	-	-	0.981
Subtotal: Professional Military Education			-	-	-	-	-	1.017	-	-	0.964	-	-	0.981	-	-	-	-	-	0.981
Total			-	-	-	-	-	1.017	-	-	0.964	-	-	0.981	-	-	-	-	-	0.981

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

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4 **P-1 Line Item Number / Title:** 834010 / General Information Technology **Aggregated Items Title:** Other Professional Education

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Other Professional Education																				
OTHER PROFESSIONAL EDUCATION PE 0804752F	A		-	-	-	-	-	0.492	-	-	0.467	-	-	0.475	-	-	-	-	-	0.475
Subtotal: Other Professional Education			-	-	-	-	-	0.492	-	-	0.467	-	-	0.475	-	-	-	-	-	0.475
Total			-	-	-	-	-	0.492	-	-	0.467	-	-	0.475	-	-	-	-	-	0.475

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

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4	P-1 Line Item Number / Title: 834010 / General Information Technology	Aggregated Items Title: Facilities Operation - Administrative
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Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Uncategorized																				
NexGen IT PE 0901279F	A		-	-	-	-	-	0.760	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
Subtotal: Uncategorized			-	-	-	-	-	0.760	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
Total			-	-	-	-	-	0.760	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000

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

UNCLASSIFIED

Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4 **P-1 Line Item Number / Title:** 834010 / General Information Technology **Aggregated Items Title:** AF A1 Systems

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Uncategorized																				
PERSONNEL SERVICE DELIVERY PE 0901299F	A		-	-	-	-	-	0.000	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
MILITARY PERSONNEL DATA SYSTEM (MLPDS)	A		-	-	-	-	-	0.504	-	-	0.254	-	-	1.112	-	-	-	-	-	1.112
REGIONALIZATION OF CIV PERS SUPPORT	A		-	-	-	-	-	0.000	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
AIR FORCE PERSONNEL CENTER	A		-	-	-	-	-	0.000	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
Air Force Personnel Operations Agency (AFPOA) Network Infrastructure	A		-	-	-	-	-	2.608	-	-	1.452	-	-	1.987	-	-	-	-	-	1.987
Subtotal: Uncategorized			-	-	-	-	-	3.112	-	-	1.706	-	-	3.099	-	-	-	-	-	3.099
Total			-	-	-	-	-	3.112	-	-	1.706	-	-	3.099	-	-	-	-	-	3.099

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

Remarks:

FY19 funding was reduced due to under execution

UNCLASSIFIED

Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force														Date: February 2019					
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4						P-1 Line Item Number / Title: 834010 / General Information Technology						Aggregated Items Title: Contracting Information Technology System							

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
CON-IT																				
Software Licenses	A		-	-	0.000	-	-	0.000	5.000	1	5.000	-	-	0.000	-	-	-	-	-	0.000
Subtotal: CON-IT			-	-	0.000	-	-	0.000	-	-	5.000	-	-	0.000	-	-	-	-	-	0.000
Total			-	-	0.000	-	-	0.000	-	-	5.000	-	-	0.000	-	-	-	-	-	0.000

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

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force														Date: February 2019					
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4						P-1 Line Item Number / Title: 834010 / General Information Technology						Aggregated Items Title: Financial Management Information Systems Development							

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Program Budget Enterprise System																				
Software Licenses	A		-	-	-	-	-	0.000	7.248	1	7.248	1.966	1	1.966	-	-	-	1.966	1	1.966
Subtotal: Program Budget Enterprise System			-	-	-	-	-	0.000	-	-	7.248	-	-	1.966	-	-	-	-	-	1.966
Total			-	-	-	-	-	0.000	-	-	7.248	-	-	1.966	-	-	-	-	-	1.966

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

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity:
3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 4: Spcl Comm-Electronics Projects

P-1 Line Item Number / Title:
834040 / Af Global Command & Control Sys

ID Code (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0303150F

Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	-	3.634	6.152	2.756	-	2.756	4.813	4.884	6.827	5.061	-	34.127
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	3.634	6.152	2.756	-	2.756	4.813	4.884	6.827	5.061	-	34.127
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	3.634	6.152	2.756	-	2.756	4.813	4.884	6.827	5.061	-	34.127

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

Description:

GLOBAL COMMAND AND CONTROL SYSTEM AIR FORCE (GCCS-AF): The GCCS-AF program provides the common AF infrastructure hardware and software necessary to pass AF command and control (C2) data among commands, their components, and the joint GCCS. This program procures GCCS components which include, but are not limited to, items such as servers, commercial-off-the-shelf (COTS) software, and associated peripherals to provide users with the full suite of joint baseline capability (including the common operating picture and Integrated Imagery & Intelligence). GCCS-AF is integrated at the following locations to establish initial and full joint connectivity and operational capability across the spectrum of intelligence, operations, war planning, manpower, and logistics: AF-supported war-fighting commands, AF critical sites, Headquarters United States Air Force, Major Command headquarters (MAJCOM), numbered air forces, wings, Air National Guard (ANG) bases, Air Force Reserve (AFR) bases, and remote sites. Each site will comply with current Air Force and Department of Defense (DoD) network initiatives by employing a standardized interface among AF base-level classified C2 networks, AF base-level network control centers, and the joint Defense Information Systems Agency (DISA) Secret Internet Protocol Router Network (SIPRNET). This program provides a flexible open system and distributed C2 architecture necessary to support the joint GCCS. GCCS supports AF operations by installing and upgrading a site's classified C2 system through extensive use of COTS technology that adheres to AF command and control, communications, and computer architectures and standards.

Funding for the exhibit contained in PE 0303150F: GLOBAL COMMAND AND CONTROL SYSTEM

The FY2020 funding request was reduced by \$1.855 million to account for availability of prior year execution balances.

As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.

Justification:

GLOBAL COMMAND AND CONTROL SYSTEM AIR FORCE (GCCS-AF): FY20 procurement funding procures various types and quantities of hardware and software in support of installation and unit mission requirements for Air Force personnel. GCCS-AF will procure and install GCCS-Joint (GCCS-J) version 6.0 hardware and software (government-off-the-shelf and commercial-off-the-shelf) at warfighter Combatant Command (CCMD) and MAJCOM locations, providing a full spectrum of command, control, war planning, logistics, and intelligence capability from strategic to unit level operations with total joint service connectivity. The GCCS architecture supports functional users on each base and specifically incorporates war planning functions into GCCS. These fielding activities are consistent with the AF's Air Expeditionary Force (AEF) C2 structure and integration with DoD's emerging next generation joint C2 enabler.

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 4: Spcl Comm-Electronics Projects	P-1 Line Item Number / Title: 834050 / Battlefield Airborne Control Node (BACN)
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ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	0.000	0.000	0.000	48.478	-	48.478	0.000	0.000	50.346	0.000	-	98.824
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	0.000	0.000	0.000	48.478	-	48.478	0.000	0.000	50.346	0.000	-	98.824
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	0.000	0.000	0.000	48.478	-	48.478	0.000	0.000	50.346	0.000	-	98.824

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

Description:

Battlefield Airborne Communication Node (BACN) provides a flexible, long-endurance, responsive airborne communications capability. BACN provides a dedicated airborne capability to conduct voice bridge translation, Tactical Data Link (TDL) gateway and TDL relay functions for beyond-line-of-sight (BLOS) data communications.

This BACN payload is controlled by ground stations that are comprised of two support elements: a Payload Control Element - Launch (PCE-L) and Payload Control Element - Mission (PCE-M). The Rapidly Deployable Payload Control Element (RD-PCE) will provide the same PCE-L and PCE-M functionality in rapidly deployable configuration.

As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 4: Spcl Comm-Electronics Projects **P-1 Line Item Number / Title:** 834050 / Battlefield Airborne Control Node (BACN)

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	E-11A		A		- / 0.000	- / 0.000	- / 0.000	4 / 8.918	- / -	4 / 8.918
P-5	Battlefield Abn Comm Node (BACN)		A		- / 0.000	- / 0.000	- / 0.000	8 / 39.560	- / -	8 / 39.560
P-40	Total Gross/Weapon System Cost				- / 0.000	- / 0.000	- / 0.000	- / 48.478	- / -	- / 48.478

*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:
 This program, PE 0207238F P-5, is a new start.
 This program, PE 0207610F P-5, is a new start.

Battlefield Airborne Communication Node (BACN) provides a flexible, long-endurance, responsive airborne communications capability. BACN provides a dedicated airborne capability to conduct voice bridge translation, Tactical Data Link (TDL) gateway and TDL relay functions for beyond-line-of-sight (BLOS) data communications.
 This BACN payload is controlled by ground stations that are comprised of two support elements: a Payload Control Element - Launch (PCE-L) and Payload Control Element - Mission (PCE-M). The Rapidly Deployable Payload Control Element (RD-PCE) will provide the same PCE-L and PCE-M functionality in rapidly deployable configuration.

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Exhibit P-5, Cost Analysis: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4	P-1 Line Item Number / Title: 834050 / Battlefield Airborne Control Node (BACN)	Item Number / Title [DODIC]: E-11A
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ID Code (A=Service Ready, B=Not Service Ready) : A **MDAP/MAIS Code:**

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	4	-	4
Gross/Weapon System Cost (<i>\$ in Millions</i>)	0.000	0.000	0.000	8.918	-	8.918
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	0.000	0.000	0.000	8.918	-	8.918
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	0.000	0.000	0.000	8.918	-	8.918

(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 Millions</i>)	-	-	-	2.230	-	2.230

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 (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Hardware - 0207238F Cost																		
Non Recurring Cost																		
Rapidly Deployable Fly-Away Kit	-	-	0.000	-	-	0.000	-	-	0.000	2.230	4	8.918	-	-	-	2.230	4	8.918
<i>Subtotal: Non Recurring Cost</i>	-	-	0.000	-	-	0.000	-	-	0.000	-	-	8.918	-	-	-	-	-	8.918
<i>Subtotal: Hardware - 0207238F Cost</i>	-	-	0.000	-	-	0.000	-	-	0.000	-	-	8.918	-	-	-	-	-	8.918
Gross/Weapon System Cost	-	-	0.000	-	-	0.000	-	-	0.000	2.230	4	8.918	-	-	-	2.230	4	8.918

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Exhibit P-5, Cost Analysis: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4	P-1 Line Item Number / Title: 834050 / Battlefield Airborne Control Node (BACN)	Item Number / Title [DODIC]: Battlefield Abn Comm Node (BACN)

ID Code (A=Service Ready, B=Not Service Ready) : A	MDAP/MAIS Code:
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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>)	-	-	-	8	-	8
Gross/Weapon System Cost (<i>\$ in Millions</i>)	0.000	0.000	0.000	39.560	-	39.560
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	0.000	0.000	0.000	39.560	-	39.560
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	0.000	0.000	0.000	39.560	-	39.560

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

Initial Spares (<i>\$ in Millions</i>)	-	0.000	0.000	0.000	-	0.000
Gross/Weapon System Unit Cost (<i>\$ in Millions</i>)	-	-	-	4.945	-	4.945

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 <i>(\$ M)</i>	Qty <i>(Each)</i>	Total Cost <i>(\$ M)</i>	Unit Cost <i>(\$ M)</i>	Qty <i>(Each)</i>	Total Cost <i>(\$ M)</i>	Unit Cost <i>(\$ M)</i>	Qty <i>(Each)</i>	Total Cost <i>(\$ M)</i>	Unit Cost <i>(\$ M)</i>	Qty <i>(Each)</i>	Total Cost <i>(\$ M)</i>	Unit Cost <i>(\$ M)</i>	Qty <i>(Each)</i>	Total Cost <i>(\$ M)</i>	Unit Cost <i>(\$ M)</i>	Qty <i>(Each)</i>	Total Cost <i>(\$ M)</i>
Hardware - Battlefield Airborne Control Node (BACN) Cost																		
Non Recurring Cost																		
Rapidly Deployable Payload Control Element	-	-	0.000	-	-	0.000	-	-	0.000	4.945	8	39.560	-	-	-	4.945	8	39.560
<i>Subtotal: Non Recurring Cost</i>	-	-	0.000	-	-	0.000	-	-	0.000	-	-	39.560	-	-	-	-	-	39.560
<i>Subtotal: Hardware - Battlefield Airborne Control Node (BACN) Cost</i>	-	-	0.000	-	-	0.000	-	-	0.000	-	-	39.560	-	-	-	-	-	39.560
Gross/Weapon System Cost	-	-	0.000	-	-	0.000	-	-	0.000	4.945	8	39.560	-	-	-	4.945	8	39.560

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity:
 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications
 Equip / BSA 4: Spcl Comm-Electronics Projects

P-1 Line Item Number / Title:
 834070 / Mobility Command And Control

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>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	-	10.083	10.192	21.186	-	21.186	10.557	10.745	10.937	11.133	-	84.833
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	10.083	10.192	21.186	-	21.186	10.557	10.745	10.937	11.133	-	84.833
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	10.083	10.192	21.186	-	21.186	10.557	10.745	10.937	11.133	-	84.833

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

Description:

PE 0401130F C-17 Aircraft (IF) - P-40A

Roll-On Conference Capsule (ROCC), when flown with the Steel Eagle module, enables US Government senior leaders and travel staff to work, communicate, and rest during long range missions into threat areas, with the protection of the C-17A Globemaster III's defensive systems capability. The ROCC will replace non-airworthy Silver Bullet airstream trailers. After ROCC airworthiness is determined during the RDT&E phase, the first ROCC capsule will be converted to the production configuration and delivered in FY21. The second ROCC capsule will be manufactured with delivery in FY21 along with an integrated logistics support package, heavy maintenance bench equipment, training services, and three years of contractor operation and maintenance support (CO&MS). Funding provided for ROCC can be used for program management administration. This is a New Start. Funding for this exhibit contained in PE 0401130F.

PE 0401840F AMC Command and Control System - P-40A

GLOBAL MOBILITY COMMAND AND CONTROL (C2) ARCHITECTURE AIR MOBILITY COMMAND (AMC): The AMC C2 architecture is an integrated, command-wide program that supports US Air Force airlift/air refueling missions around the globe with centralized control/decentralized execution. To execute America's Global Reach mission, Air Mobility Command's 618th Air Operations Center (AOC) plans, schedules, and directs a fleet of more than 1,100 mobility aircraft. The 618th AOC operates combat delivery, strategic airlift, air refueling, and aeromedical evacuation operations around the world. Funding for this exhibit is contained in program element (PE) 0401840F.

MOBILITY AIR FORCE (MAF) COMMAND AND CONTROL (C2) INFRASTRUCTURE: Provides base wired/wireless infrastructure equipment supporting AMC's 618th AOC and AMC's 11 bases to assure connectivity to AMC's command and control (C2) systems and to ensure they remain operational at AMC bases and operating locations. MAF C2 Infrastructure ensures connectivity with critical Air Force systems such as the Information Transport System (ITS), Global Combat Support System (GCSS) and the Global Decision Support System (GDSS); AMC's C2 systems such as the Consolidated Air Mobility Planning System (CAMPS) and Advanced Computer Flight Planning (ACFP) system and the infrastructure for Land Mobile Radio (LMR) systems across AMC providing intra-base command and control for base security, emergency management, flightline operations/maintenance, and crash response.

As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 4: Spcl Comm-Electronics Projects **P-1 Line Item Number / Title:** 834070 / Mobility Command And Control

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-40a	C-17 Aircraft (IF)				- / -	- / 0.000	- / 0.000	- / 10.817	- / -	- / 10.817
P-40a	AMC Command and Control System				- / -	- / 10.083	- / 10.192	- / 10.369	- / -	- / 10.369
P-40	Total Gross/Weapon System Cost				- / -	- / 10.083	- / 10.192	- / 21.186	- / -	- / 21.186

*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. Title represents the P-40a Title when only the P-40a Summary/Total is shown.

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

Justification:
 This program, Mobility Command And Control P-40A Category Roll-On Conference Capsule (ROCC) Item ROCC, is a new start.

 PE 0401840F AMC Command and Control System - P-40A

 MOBILITY AIR FORCE (MAF) COMMAND AND CONTROL (C2) INFRASTRUCTURE: FY20 funding continues procurement of wired and wireless base network infrastructure equipment to include cabling, routers, bridges, hubs, repeaters and switches to ensure information technology remains current and interoperability with AMC C2 systems is maintained to meet the needs of the warfighter and AMC's worldwide mobility mission.

 PE 0401130F C-17 Aircraft (IF) - P-40A
 Roll-On Conference Capsule (ROCC): FY20 funding necessary to meet Air Mobility Command requirement to provide airworthy conference capsules. This funding procures one Roll-On Conference Capsule (ROCC) and the necessary support for a FY21 delivery.

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4 **P-1 Line Item Number / Title:** 834070 / Mobility Command And Control **Aggregated Items Title:** C-17 Aircraft (IF)

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Roll-On Conference Capsule (ROCC)																				
ROCC	A		-	-	-	-	-	0.000	-	-	0.000	10.817	1	10.817	-	-	-	10.817	1	10.817
Subtotal: Roll-On Conference Capsule (ROCC)			-	-	-	-	-	0.000	-	-	0.000	-	-	10.817	-	-	-	-	-	10.817
Total			-	-	-	-	-	0.000	-	-	0.000	-	-	10.817	-	-	-	-	-	10.817

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

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4 **P-1 Line Item Number / Title:** 834070 / Mobility Command And Control **Aggregated Items Title:** AMC Command and Control System

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Uncategorized																				
WING LOCAL AREA NETWORK (LAN) - Network Infrastructure	A		-	-	-	10.083	1	10.083	10.192	1	10.192	-	-	10.369	-	-	-	-	-	10.369
Subtotal: Uncategorized			-	-	-	-	-	10.083	-	-	10.192	-	-	10.369	-	-	-	-	-	10.369
Total			-	-	-	-	-	10.083	-	-	10.192	-	-	10.369	-	-	-	-	-	10.369

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

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 4: Spcl Comm-Electronics Projects **P-1 Line Item Number / Title:** 834130 / Air Force Physical Security System

ID Code (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** 0207589F **Other Related Program Elements:** 0207588F, 0207589F, 0603287F, 0604287F

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>)	462.768	326.387	88.888	178.361	106.919	285.280	138.176	89.793	97.062	101.829	0.000	1,590.183
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	462.768	326.387	88.888	178.361	106.919	285.280	138.176	89.793	97.062	101.829	0.000	1,590.183
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	462.768	326.387	88.888	178.361	106.919	285.280	138.176	89.793	97.062	101.829	0.000	1,590.183

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

Description:

PE 0101122F Air-Launched Cruise Missile (ALCM) - P-40A
 PE 0101122F - AIR LAUNCHED CRUISE MISSILE (ALCM) SECURITY SYSTEMS includes commodity security equipment including intrusion detection sensors, alarm annunciators, and surveillance systems required for nuclear warhead storage locations.

PE 0101213F Minuteman Squadrons - P-40A
 PE 0101213F MINUTEMAN SQUADRONS/Minuteman Security Equipment includes commodity security equipment including intrusion detection sensors, alarm annunciators, and surveillance systems required for nuclear warhead storage locations.

PE 0207588F Air Base Ground Defense (ABGD) will procure Tactical Automated Security Systems (TASS) and other tactical/expeditionary equipment that is required to provide robust force protection capabilities worldwide; flight-line security, aircraft, intelligence, surveillance, and reconnaissance assets, critical infrastructure, sustained sortie generation and air operations, advanced technology force multipliers to include: night vision and thermal imagery equipment, counter sniper/battery capabilities, ground weapons, target acquisition radar, interoperable tactical communications, [required C3 and protective standoff equipment for] wheeled tactical [non-tactical], armored [un-armored] vehicles, tactical sensors systems, integrated and interoperable command control & communication (C3) platform & components, and unit/ personnel protective field equipment. Additionally, ABGD will procure all required Technology Integration Management (TIM) and associated integration and interoperability efforts.

PE 0207589F Base Physical Security Systems (BPSS)
 BPSS programs include the Integrated Base Defense Security System programs (IBDSS and various acquisition blocks), and Counter-Small UAS capabilities. These activities do the following: reduces the risk to AF personnel; nuclear (PL-1N), and non-nuclear (PL 1-4) assets (weapon systems, aircraft, command & control systems, etc.) and facilities (hangars, SCIFs, etc.) at AF and ANG installations globally. DoD downsizing, reductions in forward basing, and aircraft technology advances evolved AF weapons systems into increasingly valuable national power projection capabilities. However, the security afforded most AF aircraft, weapon systems, other critical resources, and associated personnel and facilities in terms of equipment or manpower has not kept pace with the changing world environment, state-of-the-art technology and potential threats. The emergence of Remotely Piloted Aircraft (RPA) has led to additional command, control and communications nodes that require commensurate protection level security efforts to enable effective Air Force power projection. Force Protection BPSS projects support long-term physical security requirements which allow installation commanders and security forces to adapt to, and counter, enduring and emergent threats to high priority assets in accordance with home station and the Aerospace Expeditionary Force concept. BPSS will procure Tactical Automated Security Systems (TASS) and other tactical/expeditionary equipment that is required to provide robust force protection capabilities worldwide; flight-line security, aircraft, intelligence, surveillance, and reconnaissance assets, critical infrastructure, sustained

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 4: Spcl Comm-Electronics Projects		P-1 Line Item Number / Title: 834130 / Air Force Physical Security System
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: 0207589F	Other Related Program Elements: 0207588F, 0207589F, 0603287F, 0604287F
Line Item MDAP/MAIS Code: N/A		
<p>sortie generation and air operations, advanced technology force multipliers to include: night vision and thermal imagery equipment, counter sniper/battery capabilities, ground weapons, target acquisition radar, interoperable tactical communications, [required C3 and protective standoff equipment for]wheeled tactical [non-tactical], armored [un-armored] vehicles, tactical sensors systems, integrated and interoperable command control & communication (C3) platform & components, and unit/personnel protective field equipment. Additionally, BPSS will procure all required Technology Integration Management (TIM) and associated integration and interoperability efforts.</p> <p>PE 0208047F Antiterrorism - P-40A PE 0208047F: ANTI-TERRORISM Tactical and Expeditionary Security Systems: FY18 funds antiterrorism activities for the Air Force. Primarily, this line funds the Air Force's only perimeter installation access control system, the Defense Biometrics Identification System (DBIDS). This line also funds mitigation efforts for Air Force vulnerabilities identified in Air Force and Joint higher headquarters inspections and vulnerability assessments, procurement of intrusion detection systems which greatly enhance the effectiveness of AF antiterrorism program efforts to detect, deter, and defend service members, civilian employees, family members, facilities, and other AF resources around the globe against terrorist attacks.</p> <p>PE 0208534F Command Support - Tactical Air Forces - P-40A Funding is required for Command Support for Tactical Air Forces.</p> <p>PE 0502625F IBDSS-ANG - P-40A PE 0502625F IBDSS-ANG is required for Battlefield Airman and includes Security Forces, Guardian Angels, Special Tactics, and Terminal Air Controllers. The items required include communication equipment, situational awareness equipment, personal protective equipment, night vision devices, weapons and weapons accessories, training devices, and explosive detection 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. Funding also supports BPSS programs. These activities do the following: reduces the risk to AF personnel; nuclear (PL-1N), and non-nuclear (PL 1-4) assets (weapon systems, aircraft, command & control systems, etc.) and facilities (hangars, SCIFs, etc.) at AF and ANG installations globally. IBDSS-ANG was previously titled Air Base Security Forces (ANG).</p> <p>As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.</p>		

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 4: Spcl Comm-Electronics Projects **P-1 Line Item Number / Title:** 834130 / Air Force Physical Security System

ID Code (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** 0207589F **Other Related Program Elements:** 0207588F, 0207589F, 0603287F, 0604287F

Line Item MDAP/MAIS Code: N/A

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	Air-Launched Cruise Missile (ALCM)				- / -	- / 1.757	- / 1.775	- / 1.806	- / -	- / 1.806
P-40a	Minuteman Squadrons				- / -	- / 0.751	- / 0.758	- / 0.772	- / -	- / 0.772
P-40a	Air Base Ground Defense				- / -	- / 3.827	- / 51.062	- / 2.099	- / 106.919	- / 109.018
P-40a	Base Physical Security Systems				- / 433.668	- / 173.908	- / 35.291	- / 2.561	- / 0.000	- / 2.561
P-3a	1 / C-sUAS (Capability Improvement)		A		- / 0.000	- / 112.500	- / 0.000	- / 98.000	- / 0.000	- / 98.000
P-3a	2 / IBDS-2 (Capability Improvement)		A		- / -	- / -	- / -	- / 73.123	- / 0.000	- / 73.123
P-40a	Antiterrorism				- / -	- / 8.147	- / 0.000	- / 0.000	- / -	- / 0.000
P-40a	Command Support - Tactical Air Forces				- / -	- / 3.000	- / 0.000	- / 0.000	- / -	- / 0.000
P-40a	Air Base Security Forces (ANG)				- / 29.100	- / 22.500	- / 0.000	- / 0.000	- / -	- / 0.000
P-40	Total Gross/Weapon System Cost				- / 462.768	- / 326.387	- / 88.888	- / 178.361	- / 106.919	- / 285.280

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-40a	Air-Launched Cruise Missile (ALCM)				- / -	- / -	- / -	- / -	- / -	- / -
P-40a	Minuteman Squadrons				- / -	- / -	- / -	- / -	- / -	- / -
P-40a	Air Base Ground Defense				- / -	- / -	- / -	- / -	- / -	- / -
P-40a	Base Physical Security Systems				- / 0.000	- / 0.000	- / 46.696	- / 52.592	- / 0.000	- / 744.716
P-3a	1 / C-sUAS (Capability Improvement)		A		- / 42.000	- / 0.000	- / 0.000	- / 0.000	- / -	- / 252.500
P-3a	2 / IBDS-2 (Capability Improvement)		A		- / 49.877	- / 50.760	- / 4.966	- / 0.000	- / -	- / 178.726
P-40a	Antiterrorism				- / -	- / -	- / -	- / -	- / -	- / -
P-40a	Command Support - Tactical Air Forces				- / -	- / -	- / -	- / -	- / -	- / -
P-40a	Air Base Security Forces (ANG)				- / -	- / -	- / -	- / -	- / -	- / -
P-40	Total Gross/Weapon System Cost				- / 138.176	- / 89.793	- / 97.062	- / 101.829	- / 0.000	- / 1,590.183

*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. Title represents the P-40a Title when only the P-40a Summary/Total is shown.

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

Justification:

PE 0101122F Air-Launched Cruise Missile (ALCM) - P-40A
 PE 0101122F - AIR LAUNCHED CRUISE MISSILE (ALCM) SECURITY SYSTEMS: FY18 funding procures commodity security equipment including intrusion detection sensors, alarm annunciators, and surveillance systems required for nuclear warhead storage locations.

PE 0101213F Minuteman Squadrons - P-40A

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 4: Spcl Comm-Electronics Projects		P-1 Line Item Number / Title: 834130 / Air Force Physical Security System
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: 0207589F	Other Related Program Elements: 0207588F, 0207589F, 0603287F, 0604287F
Line Item MDAP/MAIS Code: N/A		
<p>PE 0101213F MINUTEMAN SQUADRONS/Minuteman Security Equipment: FY17 funding procures commodity security equipment including intrusion detection sensors, alarm annunciators, and surveillance systems required for nuclear warhead storage locations.</p> <p>PE 0207588F Air Base Ground Defense - P-40A Air Base Ground Defense, (ABGD): FY19 funds Tactical Automated Security Systems (TASS) and other tactical/expeditionary equipment that is required to provide robust force protection capabilities worldwide; flight-line security, aircraft, intelligence, surveillance, and reconnaissance assets, critical infrastructure, sustained sortie generation and air operations, advanced technology force multipliers to include: night vision and thermal imagery equipment, counter sniper/battery capabilities, ground weapons, target acquisition radar, interoperable tactical communications, [required C3 and protective standoff equipment for] wheeled tactical [non-tactical], armored [un-armored] vehicles, tactical sensors systems,integrated and interoperable command control & communication (C3) platform & components, and unit/personnel protective field equipment. Additionally, ABGD will procure all required Technology Integration Management (TIM) and associated integration and interoperability efforts.</p> <p>PE 0207589F Base Physical Security Systems (BPSS) FY19 funding procures BPSS programs to include the Integrated Base Defense Security System programs (IBDSS and various acquisition blocks), and Counter-Small UAS capabilities. These activities do the following: reduces the risk to AF personnel; nuclear (PL-1N), and non-nuclear (PL 1-4) assets (weapon systems, aircraft, command & control systems, etc.) and facilities (hangars, SCIFs, etc.) at AF and ANG installations globally. DoD downsizing, reductions in forward basing, and aircraft technology advances evolved AF weapons systems into increasingly valuable national power projection capabilities. However, the security afforded most AF aircraft, weapon systems, other critical resources, and associated personnel and facilities in terms of equipment or manpower has not kept pace with the changing world environment, state-of-the-art technology and potential threats. The emergence of Remotely Piloted Aircraft (RPA) has led to additional command, control and communications nodes that require commensurate protection level security efforts to enable effective Air Force power projection. Force Protection BPSS projects support long-term physical security requirements which allow installation commanders and security forces to adapt to, and counter, enduring and emergent threats to high priority assets in accordance with home station and the Aerospace Expeditionary Force concept. BPSS will procure Tactical Automated Security Systems (TASS) and other tactical/expeditionary equipment that is required to provide robust force protection capabilities worldwide; flight-line security, aircraft, intelligence, surveillance, and reconnaissance assets, critical infrastructure, sustained sortie generation and air operations, advanced technology force multipliers to include: night vision and thermal imagery equipment, counter sniper/battery capabilities, ground weapons, target acquisition radar, interoperable tactical communications, [required C3 and protective standoff equipment for]wheeled tactical [non-tactical], armored [un-armored] vehicles, tactical sensors systems, integrated and interoperable command control & communication (C3) platform & components, and unit/personnel protective field equipment. Additionally, BPSS will procure all required Technology Integration Management (TIM) and associated integration and interoperability efforts.</p> <p>PE 0208047F Antiterrorism - P-40A PE 0208047F: ANTI-TERRORISM Tactical and Expeditionary Security Systems: FY18 funds antiterrorism activities for the Air Force (AF). Primarily, this line funds the AF's only perimeter installation access control system, the Defense Biometrics Identification System (DBIDS). It also funds mitigation efforts for AF vulnerabilities identified in AF and Joint higher headquarters inspections and Vulnerability Assessments (VAs), procurement of intrusion detection systems which greatly enhance the effectiveness of AF antiterrorism program efforts to detect, deter, and defend service members, civilian employees, family members, facilities, and other AF resources around the globe against terrorist attacks.</p> <p>PE 0208534F Command Support - Tactical Air Forces - P-40A FY18 funding is required to procure items for Command Support for Tactical Air Forces. Requesting \$3m in Overseas Contingency Operations (OCO) funds.</p> <p>PE 0502625F IBDSS-ANG PE 0502625F IBDSS-ANG is required for Battlefield Airman and includes Security Forces, Guardian Angels, Special Tactics, and Terminal Air Controllers. The items required include communication equipment, situational awareness equipment, personal protective equipment, night vision devices, weapons and weapons accessories, training devices, and explosive detection 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. Funding also supports BPSS programs. These activities do the following: reduces the risk to AF personnel; nuclear (PL-1N), and non-nuclear (PL 1-4) assets (weapon systems, aircraft, command & control systems, etc.) and facilities (hangars, SCIFs, etc.) at AF and ANG installations globally. IBDSS-ANG was previously titled Air Base Security Forces (ANG). ANG FY17 and FY18 funding only.</p>		

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 4: Spcl Comm-Electronics Projects		P-1 Line Item Number / Title: 834130 / Air Force Physical Security System
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: 0207589F	Other Related Program Elements: 0207588F, 0207589F, 0603287F, 0604287F
Line Item MDAP/MAIS Code: N/A		

Efforts with funding starting in FY 2021 through FY 2024 are summarized on the P-40. Not all details of this funding are included in this P-40 exhibit set. A summary of the excepted details is as follows:

- (a) FY 2021 Cost Delta: 46.299 million
- (b) FY 2022 Cost Delta: 39.033 million
- (c) FY 2023 Cost Delta: 45.400 million
- (d) FY 2024 Cost Delta: 49.237 million
- (e) FY Total Cost Delta: 414.241 million

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4	P-1 Line Item Number / Title: 834130 / Air Force Physical Security System	Aggregated Items Title: Air-Launched Cruise Missile (ALCM)
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Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Uncategorized																				
AIR LAUNCHED CRUISE MISSILE (ALCM) SECURITY SYSTEMS	A		-	-	-	-	-	1.757	-	-	1.775	-	-	1.806	-	-	-	-	-	1.806
Subtotal: Uncategorized			-	-	-	-	-	1.757	-	-	1.775	-	-	1.806	-	-	-	-	-	1.806
Total			-	-	-	-	-	1.757	-	-	1.775	-	-	1.806	-	-	-	-	-	1.806

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

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4	P-1 Line Item Number / Title: 834130 / Air Force Physical Security System	Aggregated Items Title: Minuteman Squadrons
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Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Uncategorized																				
Minuteman Security Equipment	A		-	-	-	-	-	0.751	-	-	0.758	-	-	0.772	-	-	-	-	-	0.772
Subtotal: Uncategorized			-	-	-	-	-	0.751	-	-	0.758	-	-	0.772	-	-	-	-	-	0.772
Total			-	-	-	-	-	0.751	-	-	0.758	-	-	0.772	-	-	-	-	-	0.772

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

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4	P-1 Line Item Number / Title: 834130 / Air Force Physical Security System	Aggregated Items Title: Air Base Ground Defense
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Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Physical Security Systems																				
Air Force Tactical Security Equipment	A		-	-	-	-	-	3.827	-	-	4.826	-	-	2.099	-	-	-	-	-	2.099
Base Security Zone	A		-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Al Dhafra	A		-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Log Det	A		-	-	-	-	-	-	-	-	46.236	-	-	-	-	-	106.919	-	-	106.919
Subtotal: Physical Security Systems			-	-	-	-	-	3.827	-	-	51.062	-	-	2.099	-	-	106.919	-	-	109.018
Total			-	-	-	-	-	3.827	-	-	51.062	-	-	2.099	-	-	106.919	-	-	109.018

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

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Exhibit P-40a, Budget Item Justification For Aggregated Modification Items: PB 2020 Air Force															Date: February 2019				
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4					P-1 Line Item Number / Title: 834130 / Air Force Physical Security System										Aggregated Modification Items Title: Base Physical Security Systems				

Item Number / Title	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
AFPSS4 / Base Physical Security Systems			-	-	113.009	-	-	1.206	-	-	1.927	-	-	0.525	-	-	-	-	-	0.525
CENTCOM / C-sUAS CENTCOM JUON			-	-	135.444	-	-	21.700	-	-	0.000	-	-	-	-	-	-	-	-	-
CSUAS1 / C-sUAS STRATCOM JEON			-	-	81.035	-	-	114.883	-	-	0.000	-	-	-	-	-	-	-	-	-
EUJUON / C-sUAS EUCOM JUON			-	-	61.260	-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-
IBDSS-1 / IBDSS-1			-	-	42.920	-	-	36.119	-	-	33.364	-	-	2.036	-	-	-	-	-	2.036
IBDSS-3 / IBDSS-3			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total			-	-	433.668	-	-	173.908	-	-	35.291	-	-	2.561	-	-	0.000	-	-	2.561

Item Number / Title	ID CD	MDAP/MAIS Code	FY 2021			FY 2022			FY 2023			FY 2024			To Complete			Total Cost		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
AFPSS4 / Base Physical Security Systems			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	116.667
CENTCOM / C-sUAS CENTCOM JUON			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	157.144
CSUAS1 / C-sUAS STRATCOM JEON			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	195.918
EUJUON / C-sUAS EUCOM JUON			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	61.260
IBDSS-1 / IBDSS-1			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	114.439
IBDSS-3 / IBDSS-3			-	-	-	-	-	-	-	46.696	-	-	52.592	-	-	-	-	-	-	99.288
Total			-	-	0.000	-	-	0.000	-	-	46.696	-	-	52.592	-	-	0.000	-	-	744.716

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

Modification Information:

Item Number / Title	Models of Systems Affected	Modification Type
AFPSS4 / Base Physical Security Systems	Bases	Capability Improvement
CENTCOM / C-sUAS CENTCOM JUON	Bases	Capability Improvement
CSUAS1 / C-sUAS STRATCOM JEON	Bases	Capability Improvement
EUJUON / C-sUAS EUCOM JUON	Bases	Capability Improvement
IBDSS-1 / IBDSS-1	Bases	Capability Improvement
IBDSS-3 / IBDSS-3	Bases	Capability Improvement

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Exhibit P-3a, Individual Modification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4	P-1 Line Item Number / Title: 834130 / Air Force Physical Security System	Modification Number / Title: 1 / C-sUAS

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

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	0.000	112.500	0.000	98.000	0.000	98.000	42.000	0.000	0.000	0.000	-	252.500
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	0.000	112.500	0.000	98.000	0.000	98.000	42.000	0.000	0.000	0.000	-	252.500
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	0.000	112.500	0.000	98.000	0.000	98.000	42.000	0.000	0.000	0.000	-	252.500

(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 Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

Counter Small Unmanned Aerial System (Cs-UAS) protection capabilities for use at downward selected high priority sites, AFSPC, and 7th Air Force UON.

Milestone/Development Status

Procurement of Counter Small Unmanned Aerial System (Cs-UAS) protection capabilities for use at downward selected high priority sites, AFSPC, and 7th Air Force UON.

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2020 Air Force										Date: February 2019			
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4					P-1 Line Item Number / Title: 834130 / Air Force Physical Security System					Modification Number / Title: 1 / C-sUAS			
ID Code (A=Service Ready, B=Not Service Ready) : A							MDAP/MAIS Code:						
Models of Systems Affected: Bases				Modification Type: Capability Improvement				Related RDT&E PEs: 0604287F					
Financial Plan	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
Procurement													
<i>Modification Item 1 of 1: Cs-UAS</i>													
B Kits													
Recurring													
Cs-UAS:EQUIPMENT Group B (Active)	- / -	8 / 35.600	0 / 0.000	12 / 27.555	- / -	12 / 27.555	3 / 10.635	- / -	- / -	- / -	- / -	23 / 73.790	
<i>Subtotal: Recurring</i>	- / -	- / 35.600	- / 0.000	- / 27.555	- / -	- / 27.555	- / 10.635	- / -	- / -	- / -	- / -	- / 73.790	
<i>Subtotal: Cs-UAS</i>	- / -	- / 35.600	- / 0.000	- / 27.555	- / -	- / 27.555	- / 10.635	- / -	- / -	- / -	- / -	- / 73.790	
<i>Subtotal: Procurement, All Modification Items</i>	- / -	- / 35.600	- / 0.000	- / 27.555	- / -	- / 27.555	- / 10.635	- / -	- / -	- / -	- / -	- / 73.790	
Support (All Modification Items)													
PMA - Contractor Services	- / -	- / 3.782	- / -	- / 18.936	- / -	- / 18.936	- / 7.624	- / -	- / -	- / -	- / -	- / 20.342	
ICS-Labor	- / -	- / 6.000	- / -	- / 11.615	- / -	- / 11.615	- / 4.483	- / -	- / -	- / -	- / -	- / 22.098	
<i>Subtotal: Support</i>	- / -	- / 9.782	- / -	- / 20.551	- / -	- / 20.551	- / 12.107	- / -	- / -	- / -	- / -	- / 42.440	
Installation													
<i>Modification Item 1 of 1: Cs-UAS</i>	- / -	8 / 67.118	0 / 0.000	12 / 49.894	- / -	12 / 49.894	3 / 19.258	- / -	- / -	- / -	- / -	23 / 136.270	
<i>Subtotal: Installation</i>	- / -	8 / 67.118	0 / 0.000	12 / 49.894	- / -	12 / 49.894	3 / 19.258	- / -	- / -	- / -	- / -	23 / 136.270	
Total													
Total Cost (Procurement + Support + Installation)	0.000	112.500	0.000	98.000	0.000	98.000	42.000	0.000	0.000	0.000	-	252.500	

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4	P-1 Line Item Number / Title: 834130 / Air Force Physical Security System	Modification Number / Title: 1 / C-sUAS
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ID Code (A=Service Ready, B=Not Service Ready) : A	MDAP/MAIS Code:
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Modification Item 1 of 1: Cs-UAS

Manufacturer Information

Manufacturer Name: Various Commercial Off the Shelf Vendors	Manufacturer Location: Multiple
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Administrative Leadtime (in Months): 1	Production Leadtime (in Months): 2
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Dates	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Contract Dates	Jun 2018	Jun 2019	Jun 2020				
Delivery Dates	Aug 2018	Aug 2019	Aug 2020				

Installation Information

Method of Implementation: Contract Field Team

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	- / -	8 / 67.118	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	8 / 67.118
FY 2019	- / -	- / -	0 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000
FY 2020	- / -	- / -	- / -	12 / 49.894	- / -	12 / 49.894	- / -	- / -	- / -	- / -	- / -	12 / 49.894
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	3 / 19.258	- / -	- / -	- / -	- / -	3 / 19.258
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	- / -	8 / 67.118	0 / 0.000	12 / 49.894	- / -	12 / 49.894	3 / 19.258	- / -	- / -	- / -	- / -	23 / 136.270

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	0	-	-	8	-	-	-	0	-	3	3	3	3	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	0	23
Out	0	-	-	-	8	-	-	-	0	-	-	-	2	-	-	3	2	2	2	-	1	1	1	1	-	-	-	-	-	0	23

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Exhibit P-3a, Individual Modification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4	P-1 Line Item Number / Title: 834130 / Air Force Physical Security System	Modification Number / Title: 2 / IBDSS-2

ID Code (A=Service Ready, B=Not Service Ready) : A							MDAP/MAIS Code:					
Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	-	-	-	73.123	0.000	73.123	49.877	50.760	4.966	0.000	-	178.726
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	-	-	73.123	0.000	73.123	49.877	50.760	4.966	0.000	-	178.726
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	-	-	73.123	0.000	73.123	49.877	50.760	4.966	0.000	-	178.726
<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 Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

INTEGRATED BASE DEFENSE SECURITY SYSTEM (IBDSS-2): Reduces the risk to AF personnel; nuclear (PL-1N), and non-nuclear (PL 1-4) assets (weapon systems, aircraft, command & control systems, etc.) and facilities (hangars, SCIFs, etc.) at AF and ANG installations globally. DoD downsizing, reductions in forward basing, and aircraft technology advances evolved AF weapons systems into increasingly valuable national power projection capabilities. However, the security afforded most AF aircraft, weapon systems, other critical resources, and associated personnel and facilities in terms of equipment or manpower has not kept pace with the changing world environment, state-of-the-art technology and potential threats. The emergence of Remotely Piloted Aircraft (RPA) has led to additional command, control and communications nodes that require commensurate protection level security efforts to enable effective Air Force power projection. Force Protection IBDSS projects support long-term physical security requirements which allow installation commanders and security forces to adapt to, and counter, enduring and emergent threats to high priority assets in accordance with home station and the Aerospace Expeditionary Force concept. This continuing effort was previously named Base Physical Security Systems and is not a New Start.

INTEGRATED BASE DEFENSE SECURITY SYSTEM (IBDSS-2): FY20-FY24 Funding is provided for procurement, design & engineering, modeling & simulation, infrastructure and allied support, installation, integration, training, acceptance testing, Interim Contractor Support (ICS) and interim spares for Base Physical Security Systems (BPSS) Intrusion Detection Systems (IDS). The funding also procures, installs and sustains a variety of electronic security alarms, sensors, and related systems to detect and provide early warning of potential threats against Air Force Protection Level (PL) 1,2,3, and 4 mission critical assets. Funding also supports the Nuclear (PL-1N) Weapon Storage Areas (WSAs) located throughout the CONUS and vault storage areas at main operating bases in Europe to meet long term physical security requirements in the face of enduring and emerging threats. This also includes upgrading existing system to ensure required capability for vault storage areas and associated intrusion detection, access control and assessment systems requirements, In Accordance With (IAW) USAF, EUCOM and NATO/SHAPE requirements. The funds also provide for upgrades, refurbishment, replacement or installation of new fences (required for sensor platforms) and/or lighting systems (to support the surveillance/assessment functions). Due to world-wide operational mission events, quantities are subject to change. IBDSS-2 will procure Tactical Automated Security Systems (TASS) and other tactical/expeditionary equipment that is required to provide robust force protection capabilities worldwide; flight-line security, aircraft, intelligence, surveillance, and reconnaissance assets, critical infrastructure, sustained sortie generation and air operations, advanced technology force multipliers to include: night vision and thermal imagery equipment, counter sniper/battery capabilities, ground weapons, target acquisition radar, inter operable tactical communications, [required C3 and protective standoff equipment for]wheeled tactical [non-tactical], armored [un-armored] vehicles, tactical sensors systems, and unit/personnel protective field equipment. Additionally, IBDSS-2 will procure all required Technology Integration Management (TIM) and associated integration and interoperability efforts.

We are currently restructuring IBDSS into discrete block upgrades.

Milestone/Development Status

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Exhibit P-3a, Individual Modification: PB 2020 Air Force										Date: February 2019			
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4					P-1 Line Item Number / Title: 834130 / Air Force Physical Security System					Modification Number / Title: 2 / IBDSS-2			
ID Code (A=Service Ready, B=Not Service Ready) : A							MDAP/MAIS Code:						
Models of Systems Affected: Bases				Modification Type: Capability Improvement				Related RDT&E PEs: 0603287F, 0604287F					
Financial Plan	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
Procurement													
<i>Modification Item 1 of 1:</i> IBDSS-2													
B Kits													
Recurring													
IBDSS-2:EQUIPMENT Group B (Active)	- / -	- / -	- / -	9 / 19.858	- / -	9 / 19.858	4 / 13.072	5 / 9.694	- / -	- / -	- / -	18 / 42.624	
<i>Subtotal: Recurring</i>	- / -	- / -	- / -	- / 19.858	- / -	- / 19.858	- / 13.072	- / 9.694	- / -	- / -	- / -	- / 42.624	
<i>Subtotal: IBDSS-2</i>	- / -	- / -	- / -	- / 19.858	- / -	- / 19.858	- / 13.072	- / 9.694	- / -	- / -	- / -	- / 42.624	
<i>Subtotal: Procurement, All Modification Items</i>	- / -	- / -	- / -	- / 19.858	- / -	- / 19.858	- / 13.072	- / 9.694	- / -	- / -	- / -	- / 42.624	
Support (All Modification Items)													
A&AS	- / -	- / -	- / -	- / 3.953	- / -	- / 3.953	- / 3.585	- / 3.657	- / -	- / -	- / -	- / 11.195	
PMA - Contractor Services	- / -	- / -	- / -	- / 3.607	- / -	- / 3.607	- / 2.852	- / 2.908	- / -	- / -	- / -	- / 9.367	
PMA - Other Gov't Costs	- / -	- / -	- / -	- / 1.376	- / -	- / 1.376	- / 1.187	- / 1.211	- / -	- / -	- / -	- / 3.774	
ICS-Labor	- / -	- / -	- / -	- / 18.371	- / -	- / 18.371	- / 15.510	- / 14.017	- / 4.966	- / -	- / -	- / 22.864	
<i>Subtotal: Support</i>	- / -	- / -	- / -	- / 17.307	- / -	- / 17.307	- / 13.134	- / 11.793	- / 4.966	- / -	- / -	- / 47.200	
Installation													
<i>Modification Item 1 of 1:</i> IBDSS-2	- / -	- / -	- / -	9 / 35.958	- / -	9 / 35.958	4 / 23.671	5 / 29.273	- / -	- / -	- / -	18 / 88.902	
<i>Subtotal: Installation</i>	- / -	- / -	- / -	9 / 35.958	- / -	9 / 35.958	4 / 23.671	5 / 29.273	- / -	- / -	- / -	18 / 88.902	
Total													
Total Cost (Procurement + Support + Installation)	-	-	-	73.123	0.000	73.123	49.877	50.760	4.966	0.000	-	178.726	

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Exhibit P-3a, Individual Modification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4	P-1 Line Item Number / Title: 834130 / Air Force Physical Security System	Modification Number / Title: 2 / IBDSS-2

ID Code (A=Service Ready, B=Not Service Ready) : A	MDAP/MAIS Code:
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Modification Item 1 of 1: IBDSS-2

Manufacturer Information

Manufacturer Name: Commercial Off The Shelf Manufacturer Location: Multiple

Administrative Leadtime (in Months): 3 Production Leadtime (in Months): 8

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

Installation Information

Method of Implementation: Contract Field Team

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	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	9 / 35.958	- / -	9 / 35.958	- / -	- / -	- / -	- / -	- / -	9 / 35.958
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	4 / 23.671	- / -	- / -	- / -	- / -	4 / 23.671
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	5 / 29.273	- / -	- / -	- / -	5 / 29.273
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	- / -	- / -	- / -	9 / 35.958	- / -	9 / 35.958	4 / 23.671	5 / 29.273	- / -	- / -	- / -	18 / 88.902

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	0	-	-	-	-	-	-	-	-	2	2	2	3	2	-	2	-	-	1	2	2	-	-	-	-	-	-	-	-	0	18
Out	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	3	2	-	3	3	-	3	2	-	-	-	-	0	18

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4 **P-1 Line Item Number / Title:** 834130 / Air Force Physical Security System **Aggregated Items Title:** Antiterrorism

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Uncategorized																				
Tactical and Expeditionary Security Systems	A		-	-	-	-	-	8.147	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
Subtotal: Uncategorized			-	-	-	-	-	8.147	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
Total			-	-	-	-	-	8.147	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000

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

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4 **P-1 Line Item Number / Title:** 834130 / Air Force Physical Security System **Aggregated Items Title:** Command Support - Tactical Air Forces

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Command Support Tactical Air Forces																				
Command Support Tactical Air Forces	A		-	-	-	3.000	1	3.000	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
Subtotal: Command Support Tactical Air Forces			-	-	-	-	-	3.000	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
Total			-	-	-	-	-	3.000	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000

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

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4	P-1 Line Item Number / Title: 834130 / Air Force Physical Security System	Aggregated Items Title: Air Base Security Forces (ANG)
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Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
IBDSS-ANG																				
Physical Security Systems	A		-	-	29.100	-	-	22.500	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
Subtotal: IBDSS-ANG			-	-	29.100	-	-	22.500	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
Total			-	-	29.100	-	-	22.500	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000

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

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity:
3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications
Equip / BSA 4: Spcl Comm-Electronics Projects

P-1 Line Item Number / Title:
834190 / Combat Training Ranges

ID Code (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** 0207429F **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>)	5.381	89.776	235.198	233.993	-	233.993	193.955	222.772	175.130	178.283	-	1,334.488
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	5.381	89.776	235.198	233.993	-	233.993	193.955	222.772	175.130	178.283	-	1,334.488
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	5.381	89.776	235.198	233.993	-	233.993	193.955	222.772	175.130	178.283	-	1,334.488

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

Initial Spares (<i>\$ in Millions</i>)	-	8.188	6.435	2.322	-	2.322	8.252	19.100	0.725	0.738	-	45.760
Flyaway Unit Cost (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

The Combat Training Ranges (CTR) program procures electronic telecommunication and instrumentation equipment and threat systems for training ranges worldwide to satisfy air combat and electronic warfare (EW) training capability requirements. It also procures range scoring systems and replacement equipment for electronics no longer logistically supportable. Funds may be used to address emerging and short-notice Diminishing Manufacturing and Material Shortage (DMSMS) issues.

JOINT THREAT EMITTER (JTE): The Joint Threat Emitter is designed to train aircrews to survive in a combat environment against Surface-to-Air Missile (SAM) and Air Defense Artillery (ADA) threats. The JTE simulates a range of threat signals, in multiple emitter kits, which interact with the aircraft radar warning receiver and electronic countermeasure system to provide realistic EW training environments for aircrew. The JTE leverages Commercial-Off-The Shelf (COTS) where possible to provide digital signal generation and feedback across its range of threats. The JTE system uses a Command-and-Control Unit (C2U) to operate a Threat Emitter Unit (TEU) producing a realistic threat environment for 4th and 5th Generation aircraft. Funding will also be used to purchase services applicable to the acquisition, site activation and implementation of the ground system including range site surveys, installation and training. The program procures new systems, retrofits fielded legacy JTE systems, and procures modifications for obsolete components for the fielded JTE fleet to extend their serviceable life.

ADVANCED RADAR THREAT SYSTEM VARIANT 2 (ARTS-V2): The ARTS-V2 program will procure a threat system simulator based on an advanced tactical, mobile, short/medium range foreign fielded SAM radar threat system. ARTS-V2 is designed to be used at Department of Defense (DoD) training ranges for aircrew training and tactics development to increase combat effectiveness and aircrew survivability by training aircrews to engage or defend against an advanced SAM threat before encountering it in actual combat. Various aircraft platforms may train against ARTS-V2, but the most stringent requirements placed on ARTS-V2 design come from 5th generation aircraft capabilities.

RANGE EQUIPMENT: This effort delivers range infrastructure and equipment in order to monitor and control an extended, realistic target environment for simulated ordnance delivery and provide scoring, feedback and debriefing to the aircrew. This effort includes, but is not limited to, the Joint Advanced Weapon Scoring System (JAWSS) program, which consists of Navy-developed scoring and feedback systems that provide weapon impact and laser spot scoring on bombing and gunnery ranges, EW threat subsystems such as noise and spoofing jammers and ground based laser countermeasures and directed lasers as well as radar and detection systems, data link connectivity, target shells, simulations and concealments, Integrated Air Combat Training instrumentation for range-less and tethered ground systems, and Range Safety Systems. This program may also procure small quantities of threat systems not currently in Air Force inventory.

RANGE COMMUNICATIONS: The Range Infrastructure Modernization Communication (RIMCOMM) program provides communication systems to connect various air defense threat radar simulation systems on Air Force ranges to simulate an integrated air defense system (IADS) and to provide blue force command and control for range operations. Infrastructure modernization includes replacing obsolete equipment,

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 4: Spcl Comm-Electronics Projects	P-1 Line Item Number / Title: 834190 / Combat Training Ranges
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ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: 0207429F	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: N/A

establishing a common infrastructure to support War Rooms and a future Live Mission Operations Capability (LMOC) enabling improved mission debriefs and Live, Virtual, Constructive (LVC) aircrew training, and standardization of all training range communications systems to support LVC training missions. This program focuses on procurement of range communication infrastructure equipment, including fiber optic cabling, microwave, Ultra High Frequency (UHF), and Very High Frequency (VHF) radios and antennas, data links and repeater stations, power subsystems, control systems, Air Combat Training System (ACTS) ground systems, and cryptological equipment for unclassified and secure communications for all Combat Training Ranges, in addition to studies, analysis, and integration efforts for range command and control, LVC training, and enhanced debrief capabilities.

LEGACY SYSTEMS: This program procures modifications for multiple obsolete legacy range threat systems (RTS) to extend their serviceable life. Legacy range threat systems include Multiple Threat Emitter System (MUTES), Miniature Multiple Threat Emitter System (Mini-MUTES), Modular Threat Emitter (MTE) system, Tactical Radar Threat Generator (TRTG) system, Band Simulator (Band Sim), Unmanned Modular Threat Emitter (UMTE) system, legacy Joint Threat Emitter (JTE) systems and other radar systems fielded throughout the combat training range enterprise. The program may procure depot stand-up tools such as software support workstations.

COMMON ELECTRONIC ATTACK RECEIVER (CEAR): The CEAR program replaces the obsolete Electronic Attack Receivers (EAR) on legacy threat systems such as the Unmanned Threat Emitter (UMTE), the Joint Threat Emitter (JTE), and the Miniature-Multiple Unmanned Threat Emitter System (Mini-MUTES). The CEAR provides real-time and recorded electronic warfare feedback to Combat Air Force (CAF) aircrews, improving their survivability in anti-access/area denial combat environments.

Funding for this exhibit contained in PE 0207429F Combat Training Ranges

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.

As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
AF	Quantity	8	9	9	0	9	-	-	-	-
	Total Obligation Authority	80.232	195.198	233.993	0.000	233.993	0.000	-	-	-
AFNG	Quantity	2	6	0	0	0	-	-	-	-
	Total Obligation Authority	9.544	40.000	0.000	0.000	0.000	-	-	-	-
AFR	Quantity	0	0	0	0	0	-	-	-	-
	Total Obligation Authority	0.000	0.000	0.000	0.000	0.000	-	-	-	-
Total: Secondary Distribution	Quantity	10	15	9	0	9	-	-	-	-
	Total Obligation Authority	89.776	235.198	233.993	0.000	233.993	0.000	-	-	-

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 4: Spcl Comm-Electronics Projects **P-1 Line Item Number / Title:** 834190 / Combat Training Ranges

ID Code (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** 0207429F **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	Advanced Radar Threat System V2	P-5a	B		- / -	- / -	- / -	- / 23.761	- / -	- / 23.761
P-40a	CEAR MODS				- / 0.000	- / 0.300	- / 9.425	- / 1.000	- / 0.000	- / 1.000
P-5	DTR		A		- / -	- / -	- / 0.750	- / 0.750	- / -	- / 0.750
P-5	JTE	P-5a	A		- / -	10 / 43.346	12 / 88.379	7 / 19.708	- / -	7 / 19.708
P-40a	JTE				- / 5.381	- / 3.650	- / 1.707	- / 1.735	- / 0.000	- / 1.735
P-40a	RIMCOMM AND RANGE EQUIP				- / -	- / 42.480	- / 134.937	- / 187.039	- / -	- / 187.039
P-40	Total Gross/Weapon System Cost				- / 5.381	- / 89.776	- / 235.198	- / 233.993	- / -	- / 233.993

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-5	Advanced Radar Threat System V2	P-5a	B		- / -	- / -	- / -	- / -	- / -	- / -
P-40a	CEAR MODS				- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 10.725
P-5	DTR		A		- / -	- / -	- / -	- / -	- / -	- / -
P-5	JTE	P-5a	A		- / -	- / -	- / -	- / -	- / -	- / -
P-40a	JTE				- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 12.473
P-40a	RIMCOMM AND RANGE EQUIP				- / -	- / -	- / -	- / -	- / -	- / -
P-40	Total Gross/Weapon System Cost				- / 193.955	- / 222.772	- / 175.130	- / 178.283	- / -	- / 1,334.488

*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. Title represents the P-40a Title when only the P-40a Summary/Total is shown.

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

Justification:

This program, ARTS V2 P-5, is a new start.

JTE: FY20 funding provides funding for procurement of one Threat Emitter Unit (TEU), retrofit kits and support for acceptance testing and fielding of JTE threat emitter units to include the TEU, Wideband Threat Emitter Unit (WTEU), command and control units, and associated support equipment.

ARTS-V2: FY20 funding procures one ARTS-V2 threat simulator system (which includes the radar cross section shell).

RANGE INFRASTRUCTURE MODERNIZATION COMMUNICATIONS (RIMCOMM): FY20 funding supports range communications equipment to provide an integrated air defense system (IADS) capability on Air Force ranges. Program will focus on continued investment in enabling equipment, studies and analyses to support integration efforts for a future Live Mission Operations Capability (LMOC), enabling improved mission debriefs and Live, Virtual, Constructive (LVC) aircrew training as well as procurement of equipment for all combat training ranges.

LEGACY SYSTEMS: The program will use funding to support and manage the control shelter and pedestal acquisition efforts.

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 4: Spcl Comm-Electronics Projects		P-1 Line Item Number / Title: 834190 / Combat Training Ranges
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: 0207429F	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A		
RANGE EQUIPMENT: FY20 supports the replacement and expansion of range infrastructure and equipment that is no longer logistically supportable in order to monitor and control an extended, realistic target environment for simulated ordnance delivery and aircrew training for airborne laser designators.		
CEAR: FY20 funding procures additional CEARs to modify UMTE threat emitter systems to replace obsolete electronic attack receivers.		
Efforts with funding starting in FY 2021 through FY 2024 are summarized on the P-40. Not all details of this funding are included in this P-40 exhibit set. A summary of the excepted details is as follows:		
(a) FY 2021 Cost Delta: 193.955 million		
(b) FY 2022 Cost Delta: 222.772 million		
(c) FY 2023 Cost Delta: 175.130 million		
(d) FY 2024 Cost Delta: 178.283 million		
(e) FY Total Cost Delta: 1,311.290 million		

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Exhibit P-5, Cost Analysis: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4	P-1 Line Item Number / Title: 834190 / Combat Training Ranges	Item Number / Title [DODIC]: Advanced Radar Threat System V2
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ID Code (A=Service Ready, B=Not Service Ready) : B **MDAP/MAIS Code:**

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	-	-	-	23.761	-	23.761
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	-	-	-	23.761	-	23.761
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	-	-	-	23.761	-	23.761

(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 Millions)	-	-	-	-	-	-

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 (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Hardware - Advanced Radar Threat System V2 Cost																		
Recurring Cost																		
Equipment ^(†)	-	-	-	-	-	-	-	-	-	22.661	1	22.661	-	-	-	22.661	1	22.661
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	22.661	-	-	-	-	-	22.661
<i>Subtotal: Hardware - Advanced Radar Threat System V2 Cost</i>	-	-	-	-	-	-	-	-	-	-	-	22.661	-	-	-	-	-	22.661
Support - Advanced Radar Threat System V2 Cost																		
ARTS V2 PMA	-	-	-	-	-	-	-	-	-	-	-	1.100	-	-	-	-	-	1.100
<i>Subtotal: Support - Advanced Radar Threat System V2 Cost</i>	-	-	-	-	-	-	-	-	-	-	-	1.100	-	-	-	-	-	1.100
Gross/Weapon System Cost	-	-	-	-	-	-	-	-	-	-	-	23.761	-	-	-	-	-	23.761

Remarks:

Critical Design Review: Dec 18, IOT&E: Apr 20-Jun 21

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
AF	Quantity	-	-	-	-	-
	Total Obligation Authority	-	-	23.761	-	23.761
Total:	Quantity	-	-	-	-	-

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Exhibit P-5, Cost Analysis: PB 2020 Air Force			Date: February 2019			
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4		P-1 Line Item Number / Title: 834190 / Combat Training Ranges		Item Number / Title [DODIC]: Advanced Radar Threat System V2		
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
Secondary Distribution	Total Obligation Authority	-	-	23.761	-	23.761

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

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Exhibit P-5a, Procurement History and Planning: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4	P-1 Line Item Number / Title: 834190 / Combat Training Ranges	Item Number / Title [DODIC]: Advanced Radar Threat System V2
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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>(\$ M)</i>	Specs Avail Now?	Date Revision Available	RFP Issue Date
Equipment		2020	Lockheed Martin / Gran Prairie, TX	C / FFP	AFLCMC Hill AFB	Jun 2020	Jun 2022	1	22.661	N	May 2020	

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Exhibit P-40a, Budget Item Justification For Aggregated Modification Items: PB 2020 Air Force															Date: February 2019				
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4					P-1 Line Item Number / Title: 834190 / Combat Training Ranges										Aggregated Modification Items Title: CEAR MODS				

Item Number / Title	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
CTR02 / CEAR UMTE Mod			-	-	-	-	-	0.300	-	-	9.425	-	-	1.000	-	-	-	-	-	1.000
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	0.300	-	-	9.425	-	-	1.000	-	-	-	-	-	1.000
Total			-	-	0.000	-	-	0.300	-	-	9.425	-	-	1.000	-	-	0.000	-	-	1.000
Item Number / Title	ID CD	MDAP/MAIS Code	FY 2021			FY 2022			FY 2023			FY 2024			To Complete			Total Cost		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
CTR02 / CEAR UMTE Mod			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.725
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total			-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	10.725

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

Modification Information:

Item Number / Title	Models of Systems Affected	Modification Type
CTR02 / CEAR UMTE Mod	CombatTrainingRange	Capability Improvement

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Exhibit P-5, Cost Analysis: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4	P-1 Line Item Number / Title: 834190 / Combat Training Ranges	Item Number / Title [DODIC]: DTR

ID Code (A=Service Ready, B=Not Service Ready) : A	MDAP/MAIS Code:
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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)	-	-	0.750	0.750	-	0.750
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	-	-	0.750	0.750	-	0.750
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	-	-	0.750	0.750	-	0.750

(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 Millions)	-	-	-	-	-	-

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 (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Support - DTR Cost																		
Digital Threat Relevancy PMA	-	-	-	-	-	-	-	-	0.750	-	-	0.750	-	-	-	-	-	0.750
<i>Subtotal: Support - DTR Cost</i>	-	-	-	-	-	-	-	-	0.750	-	-	0.750	-	-	-	-	-	0.750
Gross/Weapon System Cost	-	-	-	-	-	-	-	-	0.750	-	-	0.750	-	-	-	-	-	0.750

Remarks:

DTR Procurement funds support sustainment efforts associated with fielded legacy threat systems.

PMA includes Program Office Support and A&AS.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
AF	Quantity	-	-	-	-	-
	Total Obligation Authority	-	0.750	0.750	-	0.750
Total:	Quantity	-	-	-	-	-
Secondary Distribution	Total Obligation Authority	-	0.750	0.750	-	0.750

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Exhibit P-5, Cost Analysis: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4	P-1 Line Item Number / Title: 834190 / Combat Training Ranges	Item Number / Title [DODIC]: JTE

ID Code (A=Service Ready, B=Not Service Ready) : A	MDAP/MAIS Code:
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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	12	7	-	7
Gross/Weapon System Cost (\$ in Millions)	-	43.346	88.379	19.708	-	19.708
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	-	43.346	88.379	19.708	-	19.708
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	-	43.346	88.379	19.708	-	19.708

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

Initial Spares (\$ in Millions)	-	8.188	6.435	2.322	-	2.322
Gross/Weapon System Unit Cost (\$ in Millions)	-	4.335	7.365	2.815	-	2.815

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 (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Hardware - JTE Cost																		
Recurring Cost																		
JTE Threat Emitter Unit (TEU) ^(†)	-	-	-	5.712	5	28.562	6.542	2	13.084	6.786	2	13.572	-	-	-	6.786	2	13.572
JTE Fixed Command & Control Unit (FC2U)	-	-	-	0.658	5	3.290	-	-	-	-	-	-	-	-	-	-	-	-
JTE Wideband Threat Emitter Unit (WTEU)	-	-	-	5.239	1	5.239	5.239	12	62.868	-	-	-	-	-	-	-	-	-
ANG JTE Spares	-	-	-	-	-	-	-	-	5.811	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	37.091	-	-	81.763	-	-	13.572	-	-	-	-	-	13.572
<i>Subtotal: Hardware - JTE Cost</i>	-	-	-	-	-	37.091	-	-	81.763	-	-	13.572	-	-	-	-	-	13.572
Support - JTE Cost																		
A&AS (PMA)	-	-	-	-	-	1.840	-	-	1.840	-	-	1.540	-	-	-	-	-	1.540
PMA	-	-	-	-	-	0.010	-	-	0.010	-	-	0.010	-	-	-	-	-	0.010
Support	-	-	-	-	-	4.405	-	-	4.766	-	-	4.586	-	-	-	-	-	4.586
<i>Subtotal: Support - JTE Cost</i>	-	-	-	-	-	6.255	-	-	6.616	-	-	6.136	-	-	-	-	-	6.136
Gross/Weapon System Cost	-	-	-	4.335	10	43.346	7.365	12	88.379	2.815	7	19.708	-	-	-	2.815	7	19.708

Remarks:

- Support includes JTE end item engineering change proposals, training, and travel

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Exhibit P-5, Cost Analysis: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4	P-1 Line Item Number / Title: 834190 / Combat Training Ranges	Item Number / Title [DODIC]: JTE
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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
AF	Quantity	8	6	7	-	7
	Total Obligation Authority	33.802	48.379	19.708	-	19.708
AFNG	Quantity	2	6	-	-	-
	Total Obligation Authority	9.544	40.000	-	-	-
Total:	Quantity	10	12	7	-	7
Secondary Distribution	Total Obligation Authority	43.346	88.379	19.708	-	19.708

(†) indicates the presence of a P-5a

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Exhibit P-5a, Procurement History and Planning: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4	P-1 Line Item Number / Title: 834190 / Combat Training Ranges	Item Number / Title [DODIC]: JTE
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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>(\$ M)</i>	Specs Avail Now?	Date Revision Available	RFP Issue Date
JTE Threat Emitter Unit (TEU)		2018	Northrop Grumman Amherst Systems / Buffalo, NY	C / FFP	AFLCMC Hill AFB	May 2018	Feb 2020	5	5.712	Y		
JTE Threat Emitter Unit (TEU)		2019	Northrop Grumman Amherst Systems / Buffalo, NY	C / IDIQ	AFLCMC Hill AFB	Dec 2018	Dec 2020	2	6.542	Y		
JTE Threat Emitter Unit (TEU)		2020	Northrop Grumman Amherst Systems / Buffalo, NY	C / IDIQ	AFLCMC Hill AFB	Dec 2018	Dec 2020	2	6.786	Y		

Remarks:
 - TEU pricing bands are based on number of 'items' procured on a single order. FY19 TEU procured with WTEUs resulting in a lower unit cost. FY20 TEU is a single item procurement.

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Exhibit P-40a, Budget Item Justification For Aggregated Modification Items: PB 2020 Air Force															Date: February 2019				
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4					P-1 Line Item Number / Title: 834190 / Combat Training Ranges										Aggregated Modification Items Title: JTE				

Item Number / Title	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
CTR01 / Combat Training Ranges Joint Threat Emitter			-	-	5.381	-	-	3.650	-	-	1.707	-	-	1.735	-	-	-	-	-	1.735
<i>Secondary Distribution</i>																				
AF				-	-		-	3.650		-	1.707		-	1.735		-	-		-	1.735
Total			-	-	5.381	-	-	3.650	-	-	1.707	-	-	1.735	-	-	0.000	-	-	1.735

Item Number / Title	ID CD	MDAP/MAIS Code	FY 2021			FY 2022			FY 2023			FY 2024			To Complete			Total Cost		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
CTR01 / Combat Training Ranges Joint Threat Emitter			-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12.473
<i>Secondary Distribution</i>																				
AF				-	0.000		-	-		-	-		-	-		-	-		-	-
Total			-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	12.473

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

Modification Information:

Item Number / Title	Models of Systems Affected	Modification Type
CTR01 / Combat Training Ranges Joint Threat Emitter	JointThreatEmitter	Service Life Extension

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4 **P-1 Line Item Number / Title:** 834190 / Combat Training Ranges **Aggregated Items Title:** RIMCOMM AND RANGE EQUIP

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
RIMCOMM																				
RIMCOMM Projects	A		-	-	-	-	-	37.110	-	-	64.237	-	-	83.151	-	-	-	-	-	83.151
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	37.110	-	-	64.237	-	-	83.151	-	-	-	-	-	83.151
Subtotal: RIMCOMM			-	-	-	-	-	37.110	-	-	64.237	-	-	83.151	-	-	-	-	-	83.151
Range Equipment																				
Range Equipment Projects	A		-	-	-	-	-	5.370	-	-	18.115	-	-	53.388	-	-	-	-	-	53.388
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	5.370	-	-	18.115	-	-	53.388	-	-	-	-	-	53.388
Radar Signal Emulators	A		-	-	-	-	-	-	23.625	2	47.250	20.900	1	20.900	-	-	-	20.900	1	20.900
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	-	-	2	47.250	-	1	20.900	-	-	-	-	1	20.900
Mobile Radar System	A		-	-	-	-	-	-	-	-	-	29.600	1	29.600	-	-	-	29.600	1	29.600
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	-	-	-	-	-	1	29.600	-	-	-	-	1	29.600
Subtotal: Range Equipment			-	-	-	-	-	5.370	-	-	65.365	-	-	103.888	-	-	-	-	-	103.888
Support																				
RSE PMA	A		-	-	-	-	-	-	5.335	1	5.335	-	-	0.000	-	-	-	-	-	0.000
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	-	-	1	5.335	-	-	0.000	-	-	-	-	-	0.000
Subtotal: Support			-	-	-	-	-	-	-	-	5.335	-	-	0.000	-	-	-	-	-	0.000
Total			-	-	-	-	-	42.480	-	-	134.937	-	-	187.039	-	-	-	-	-	187.039

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

Remarks:

- Range Equipment increased due to increased requirements to support interim capabilities for 5th Generation aircraft training and readiness, standardization of equipment in the range war rooms, and increased requirement to support advanced systems.
- RSEs fielding at Joint Pacific Alaska Range Complex only.
- MRS will field at Nevada Test and Training Range.

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity:
 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 4: Spcl Comm-Electronics Projects

P-1 Line Item Number / Title:
 834210 / Minimum Essential Emergency Comm N

ID Code (A=Service Ready, B=Not Service Ready): B **Program Elements for Code B Items:** 0303131F **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>)	-	0.292	140.875	132.648	-	132.648	41.412	51.913	40.691	47.619	-	455.450
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	0.292	140.875	132.648	-	132.648	41.412	51.913	40.691	47.619	-	455.450
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	0.292	140.875	132.648	-	132.648	41.412	51.913	40.691	47.619	-	455.450

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

Description:

The Minimum Essential Emergency Communications Network (MEECN) portfolio modernizes the systems necessary to effectively provide assured communications connectivity between the President and the strategic deterrence forces in stressed environments.

Global Aircrew Strategic Network Terminal (Global ASNT) replaces inadequate, unsustainable strategic communications equipment at bomber, tanker and reconnaissance Wing Command Posts (WCPs), Nuclear Task Forces and Munitions Support Squadrons (MUNSS) and for Mobile Support Teams (MSTs). Global ASNT is a ground-based system that will provide survivable, secure communication paths to receive Emergency Action Messages (EAMs), Force Management messages, and Force Direction messages and disseminate them to bomber, tanker, and reconnaissance aircrews.

Global ASNT is being fielded in separate capability increments.

Global ASNT Inc 1 fields required Extremely High Frequency/Advanced Extremely High Frequency (EHF/AEHF) capabilities and replaces inadequate, unsustainable strategic mobile and fixed-site Single Channel Anti-jam Man-Portable (SCAMP) terminals and Secure, Mobile, Anti-Jam, Reliable, Tactical - Terminal (SMART-T) equipment. FY15 was the first year of Increment 1 procurement funding to support pre-production activities. The majority of pre-production support activities will be conducted in FY17 and FY18 in advance of the Milestone C decision in 3QFY19.

Global ASNT Inc 2 delivers an Aircrew Alerting System (AAS) consisting of personal and general alerting equipment, and High Frequency (HF) and Ultra High Frequency (UHF) capabilities. Increment 2 replaces inadequate, unsustainable Electromagnetic Pulse Hardened Dispersal Communication (EHDC) systems and Aircrew Alerting Communications Electromagnetic Pulse (AACE) systems.

Funding for this exhibit is contained in PE 0303131F.

As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 4: Spcl Comm-Electronics Projects **P-1 Line Item Number / Title:** 834210 / Minimum Essential Emergency Comm N

ID Code (A=Service Ready, B=Not Service Ready): B **Program Elements for Code B Items:** 0303131F **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	Minimum Essential Emergency Comm N	P-5a	B		- / -	- / 0.292	- / 140.875	- / 132.648	- / -	- / 132.648
P-40	Total Gross/Weapon System Cost				- / -	- / 0.292	- / 140.875	- / 132.648	- / -	- / 132.648

*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:
 Global ASNT Increment 1 FY2019 funds will support production activities including preparation and planning for depot standup, engineering start-up, schedule preparation and planning, production configuration control, production roadmap activities, and procurement of 48 production kits.

 Global ASNT Increment 1 FY2020 funds will support production activities including preparation and planning for depot standup, engineering activities, schedule preparation and planning, production configuration control, production roadmap activities, procurement of 42 production kits, and site installations. Initiate interim contractor support (ICS).

 FY2019 and FY2020 funds also include purchases of Electronic Security Systems (ESS) to provide Physical Security Level 3 (PL-3) protection for Global ASNT antennas. Global ASNT is replacing a PL-4 asset.

 This program has overarching diminishing manufacturing sources (DMS) requirements and as such may need to use procurement funding to address these requirements.

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Exhibit P-5, Cost Analysis: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4	P-1 Line Item Number / Title: 834210 / Minimum Essential Emergency Comm N	Item Number / Title [DODIC]: Minimum Essential Emergency Comm N

ID Code (A=Service Ready, B=Not Service Ready) : B	MDAP/MAIS Code:
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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)	-	0.292	140.875	132.648	-	132.648
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	-	0.292	140.875	132.648	-	132.648
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	-	0.292	140.875	132.648	-	132.648

(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 Millions)	-	-	-	-	-	-

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 (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Hardware - Minimum Essential Emergency Comm N Cost																		
Recurring Cost																		
Global ASNT Terminals ^(†)	-	-	-	-	-	-	2.723	48	130.697	2.929	42	123.029	-	-	-	2.929	42	123.029
Electronic Security System (ESS) ^(†)	-	-	-	-	-	-	0.267	26	6.950	0.250	12	3.000	-	-	-	0.250	12	3.000
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	137.647	-	-	126.029	-	-	-	-	-	126.029
<i>Subtotal: Hardware - Minimum Essential Emergency Comm N Cost</i>	-	-	-	-	-	-	-	-	137.647	-	-	126.029	-	-	-	-	-	126.029
Support - Minimum Essential Emergency Communication Network (MEECN) Cost																		
Direct Mission Suppt (DMS)	-	-	-	-	-	-	-	-	0.920	-	-	2.354	-	-	-	-	-	2.354
Program Support Cost (PSC)	-	-	-	-	-	0.292	-	-	2.308	-	-	4.265	-	-	-	-	-	4.265
<i>Subtotal: Support - Minimum Essential Emergency Communication Network (MEECN) Cost</i>	-	-	-	-	-	0.292	-	-	3.228	-	-	6.619	-	-	-	-	-	6.619
Gross/Weapon System Cost	-	-	-	-	-	0.292	-	-	140.875	-	-	132.648	-	-	-	-	-	132.648

^(†) indicates the presence of a P-5a

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Exhibit P-5a, Procurement History and Planning: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4	P-1 Line Item Number / Title: 834210 / Minimum Essential Emergency Comm N	Item Number / Title [DODIC]: Minimum Essential Emergency Comm N
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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>(\$ M)</i>	Specs Avail Now?	Date Revision Available	RFP Issue Date
Global ASNT Terminals		2019	Raytheon / Largo, FL	C / FFP	AFLCMC Hanscom AFB	May 2019	Aug 2020	48	2.723	N	Apr 2019	
Global ASNT Terminals		2020	Raytheon / Largo, FL	C / FFP	AFLCMC Hanscom AFB	May 2020	Aug 2021	42	2.929	N	Apr 2020	
Electronic Security System (ESS)		2019	TBD / TBD	TBD	AFLCMC Hanscom AFB	Jun 2019	May 2020	26	0.267	N	Jun 2019	
Electronic Security System (ESS)		2020	TBD / TBD	TBD	AFLCMC Hanscom AFB	Oct 2019	May 2020	12	0.250	N	Oct 2019	

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 4: Spcl Comm-Electronics Projects	P-1 Line Item Number / Title: 834240 / Wide Area Surveillance (WAS)
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ID Code (A=Service Ready, B=Not Service Ready): B	Program Elements for Code B Items: 0604445F	Other Related Program Elements: 0604445F
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Line Item MDAP/MAIS Code: 519

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>)	-	73.487	87.104	80.818	-	80.818	76.031	7.893	2.239	18.183	818.915	1,164.670
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	73.487	87.104	80.818	-	80.818	76.031	7.893	2.239	18.183	818.915	1,164.670
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	73.487	87.104	80.818	-	80.818	76.031	7.893	2.239	18.183	818.915	1,164.670

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

Initial Spares (<i>\$ in Millions</i>)	-	-	-	3.007	-	3.007	3.008	3.007	3.061	3.117	-	15.200
Flyaway Unit Cost (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

Wide Area Surveillance (WAS) consists of two advanced sensor systems, the Stateside Affordable Radar System (STARS) and Scorpion, incorporated into a single WAS System. Based on existing technological capabilities, WAS will detect/track low, slow and other asymmetrical threats in the airspace and meet the user needs of sensing stressing airborne targets in complex environments with affordable sensors. The sensor outputs will be incorporated into the Battle Control Systems-Fixed (BCS-F) air picture and utilized as the North American Aerospace Defense Command/ Northern Command (NORAD/ NORTHCOM) Command and Control (C2) air surveillance system of record.

The WAS strategy is an acquisition approach for full capability to produce, and field highly capable and sustainable advanced sensors in the National Capitol Region. In FY20, the WAS program management office plans to exercise Production and Interim Contractor Support (ICS) Contract options for both STARS and Scorpion systems.

FY20 will also procure initial spares and repair parts to support Deployable C3 Systems, the Information Systems Security Program, and Wide Area Surveillance.

Funding for this exhibit contained in PE 0604445F, Wide Area Surveillance.

Some aspects of the WAS program are classified and will be provided on a need-to-know basis.

As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 4: Spcl Comm-Electronics Projects **P-1 Line Item Number / Title:** 834240 / Wide Area Surveillance (WAS)

ID Code (A=Service Ready, B=Not Service Ready): B **Program Elements for Code B Items:** 0604445F **Other Related Program Elements:** 0604445F

Line Item MDAP/MAIS Code: 519

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	Wide Area Surveillance	P-5a, P-21	B		- / -	- / 73.487	- / 87.104	- / 80.818	- / -	- / 80.818
P-40	Total Gross/Weapon System Cost				- / -	- / 73.487	- / 87.104	- / 80.818	- / -	- / 80.818

*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:
 Will include but are not limited to:
 - FY20 funds will procure, produce and field operational STARS and Scorpion sensors, provide ICS for fielded sensors and procure system infrastructure to support operations and support activities in accordance with NORAD and NORTHCOM.
 - FY20 funds program management administration and direct mission support providing management, engineering, cost and technical support for the program office.
 - FY20 funds will support potential diminishing manufacturing sources, material shortages, obsolescence solutions, sparing, and recapitalization to include if optimal, life of type buys or bridge buys limited to the program of record quantity.
 - Some key components of each WAS site require significant lead time items.

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Exhibit P-5, Cost Analysis: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4	P-1 Line Item Number / Title: 834240 / Wide Area Surveillance (WAS)	Item Number / Title [DODIC]: Wide Area Surveillance

ID Code (A=Service Ready, B=Not Service Ready) : B	MDAP/MAIS Code:
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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)	-	73.487	87.104	80.818	-	80.818
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	-	73.487	87.104	80.818	-	80.818
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	-	73.487	87.104	80.818	-	80.818

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

Initial Spares (\$ in Millions)	-	0.000	0.000	3.007	-	3.007
Gross/Weapon System Unit Cost (\$ in Millions)	-	-	-	-	-	-

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 (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Hardware - Wide Area Surveillance Cost																		
Recurring Cost																		
Prime ^(t) (1)	-	-	-	6.699	9	60.295	6.529	10	65.291	5.852	10	58.515	-	-	-	5.852	10	58.515
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	60.295	-	-	65.291	-	-	58.515	-	-	-	-	-	58.515
Non Recurring Cost																		
Prime ICS (2)	-	-	-	-	-	6.027	-	-	15.310	-	-	14.728	-	-	-	-	-	14.728
<i>Subtotal: Non Recurring Cost</i>	-	-	-	-	-	6.027	-	-	15.310	-	-	14.728	-	-	-	-	-	14.728
<i>Subtotal: Hardware - Wide Area Surveillance Cost</i>	-	-	-	-	-	66.322	-	-	80.601	-	-	73.243	-	-	-	-	-	73.243
Support - Wide Area Surveillance Cost																		
DMS Support	-	-	-	-	-	2.343	-	-	1.429	-	-	1.472	-	-	-	-	-	1.472
PMA Contractor Services	-	-	-	-	-	4.822	-	-	5.074	-	-	6.103	-	-	-	-	-	6.103
<i>Subtotal: Support - Wide Area Surveillance Cost</i>	-	-	-	-	-	7.165	-	-	6.503	-	-	7.575	-	-	-	-	-	7.575
Gross/Weapon System Cost	-	-	-	-	-	73.487	-	-	87.104	-	-	80.818	-	-	-	-	-	80.818

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

Footnotes:

(1) Hardware Recurring Prime: FY18/ FY19/ FY20 total WAS quantities/costs will be broken out between STARS and Scorpion systems, which have noticeably different average unit costs

(2) Hardware Non-Recurring Prime: FY18/ FY19/ FY20 total WAS quantities/costs will be broken out between STARS and Scorpion systems, which have noticeably different average unit costs.

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Exhibit P-5a, Procurement History and Planning: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4	P-1 Line Item Number / Title: 834240 / Wide Area Surveillance (WAS)	Item Number / Title [DODIC]: Wide Area Surveillance
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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>(\$ M)</i>	Specs Avail Now?	Date Revision Available	RFP Issue Date
Prime ^(†)		2018	Multiple/Various / Various	Various	AFLCMC Hanscom AFB	Jul 2019 ⁽³⁾	Jul 2020	9	6.699	N	Jan 2019	
Prime ^(†)		2019	Multiple/Various / Various	TBD	AFLCMC Hanscom AFB	Jul 2020 ⁽⁴⁾	Dec 2021	10	6.529	N	Jun 2018	
Prime ^(†)		2020	Multiple/Various / Various	TBD	AFLCMC Hanscom AFB	May 2021 ⁽⁵⁾	Dec 2022	10	5.852	N	Jun 2019	

^(†) indicates the presence of a P-21

Footnotes:

⁽³⁾ Hardware Recurring Prime: FY18 quantities/costs includes STARS and Scorpion systems.; STARS Prime Contract: July 2019. ; Scorpion Prime Contract: July 2019 contractor will begin to procure hardware.

⁽⁴⁾ FY19 funding will exercise production contract options for STARS (Exercise contract option July 2020) and award a production contract for Scorpion systems (July 2020).

⁽⁵⁾ Hardware Recurring Prime: FY20 STARS (Exercise Contract Option Two May 2021) Scorpion (Exercise Contract Option One July 2021); Due to MS-C delay, WAS requesting \$31.6M RDT&E ATR. WAS FY18 and FY19 OPAF recommended source. If plan approved, award date will shift to July 2020.

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Exhibit P-21, Production Schedule: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4	P-1 Line Item Number / Title: 834240 / Wide Area Surveillance (WAS)	Item Number / Title [DODIC]: Wide Area Surveillance
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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		
Prime ⁽¹⁾																																	
1		2018	AF	9	2	7	-	1	-	1	-	1	-	-	-	-	-	-	1	-	-	1	-	-	1	-	-	1	-	0			
1		2019	AF	10	0	10	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-	1	-	1	-	1	-	4			
1		2020	AF	10	0	10	A -												-	-	-	-	-	-	-	-	-	-	-	-	-	-	10
							O C T	N O V	D E C	J A N	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 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4 **P-1 Line Item Number / Title:** 834240 / Wide Area Surveillance (WAS) **Item Number / Title [DODIC]:** Wide Area Surveillance

Cost Elements <i>(Units in Each)</i>						Fiscal Year 2023												Fiscal Year 2024												BALANCE	
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2022	BAL DUE AS OF 1 OCT	Calendar Year 2023												Calendar Year 2024												
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G		S E P
Prime ⁽¹⁾																															
1		2018	AF	9	9	0																							0		
1		2019	AF	10	6	4	1	1	-	-	1	-	-	1															0		
1		2020	AF	10	0	10	-	-	1	-	1	-	1	-	1	-	2	-	1	1										2	
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	

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Exhibit P-21, Production Schedule: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4	P-1 Line Item Number / Title: 834240 / Wide Area Surveillance (WAS)	Item Number / Title [DODIC]: Wide Area Surveillance
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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	Multiple/Various - Various	1	1	10	0	20	19	39	0	0	0	0

Remarks:
Prime cost elements include multiple contracts for the STARS and Scorpion System. For each individual contract award, the WAS program delivery schedule does not exceed 12 months from delivery of the first unit.

"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 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 4: Spcl Comm-Electronics Projects **P-1 Line Item Number / Title:** 834320 / C3 Countermeasures

ID Code (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0208087F

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>)	-	37.764	30.001	25.036	-	25.036	23.950	21.724	22.110	66.036	-	226.621
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	37.764	30.001	25.036	-	25.036	23.950	21.724	22.110	66.036	-	226.621
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	37.764	30.001	25.036	-	25.036	23.950	21.724	22.110	66.036	-	226.621

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

Description:

These programs support Cyberspace Activities.

National Technical Nuclear Forensics PE 0207573F - P-40A

Continues efforts previously funded by OSD for Prompt Diagnostics. Procures terrestrially-based sensors and communications for prompt output signal detection and nuclear debris collection analysis and evaluation to support nuclear event attribution. Funding also includes procurement of technical data and any required follow on system support.

Electronic Warfare Integrated Reprogramming (EWIR) PE 0207439F - P-40A

DISTRIBUTED MISSION OPERATIONS AND THREAT CHANGE ANALYSIS: Conducted by the 453rd Electronic Warfare Squadron (453 EWS), EWIR provides analytical capabilities and reachback support for DoD acquisition, planning and mission execution activities. These capabilities ensure electronic warfare (EW) systems and integrated combat platforms correctly recognize and respond to enemy, friendly and noncombatant systems operating within the electromagnetic environment. The effort includes funds used to procure specialized information technology systems used to identify electromagnetic spectrum emitter changes that impact combat defensive and electronic warfare systems and to conduct detailed analyses in support of operational mission planning, tactics, techniques and procedures (TTP) development, acquisition and test & evaluation. These analyses provide the means to understand the performance of their systems in hostile environments, directly impacting the survivability of combat-coded USAF aircraft and aircrews. Funding for this exhibit contained in PE0207439F.

Distributed Cyber Warfare Operations (DCWO) PE 0208087F - P-5

PE 0208087F, Distributed Cyber Warfare Operations, changed from AF Offensive Cyber Operations.

Provides for the innovation, test, support and deployment of Cyberspace solutions in the form of material and non-material Cyberspace platforms, access, and payloads for USAF Offensive Cyberspace Operations (OCO) to include but not limited to USAF OCO units, the Cyber Mission Forces, COCOMs, and other authorized agencies. Funding procures specialized hardware and software necessary for real-time deployment, exploit identification, tool development and testing in an environment simulating real-world operational infrastructures and enclaves. Funding also is used for the upgrade and modification of the USAF operated cyber test and training range, operated by the test and training squadrons under the 67th Cyber Wing. Funding for this exhibit contained in PE 0208087F.

Some aspects of the effort are classified and will be provided on a need to know basis. For further information please contact AFLCMC/HNCO, 210-925-6653.

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 4: Spcl Comm-Electronics Projects		P-1 Line Item Number / Title: 834320 / C3 Countermeasures
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0208087F
Line Item MDAP/MAIS Code: N/A		
<p>Intel Data Applications PE 0208288F - P-40A Includes several subprograms: CONSTANT WEB, SENSOR SHADOW, Technical Electronic Intelligence (ELINT) Analytics/Tool Development and Operational Reconnaissance (Ops Recce) Capability, Analytics/Tool Development.</p> <p>*CONSTANT WEB is a database developed by the US Air Force's Intelligence Surveillance and Reconnaissance Agency (AFISRA) that contains information on both hostile and friendly C3 networks, units, and installations. It also provides limited criticality assessments of C3 elements.</p> <p>*SENSOR SHADOW is a Command and Control Warfare (C2W) and information tool designed to support strategic and operational planners. Funding provides upgrades of critical computers, processing systems, and infrastructure to support holistic Information Operations (IO) and nodal analysis in support of unique aspects of targeting that enables the shift from conventional to IW/C2W targeting.</p> <p>*Technical Electronic Intelligence (TechELINT) Analytics/Tool Development provides for the acquisition of new analytical software tools, storage and communications capability to allow the judicious processing, exploitation and dissemination of intercepted ELINT from US and allied systems.</p> <p>*Operational Reconnaissance (Ops Recce) Capability, Analytics/Tool Development provides for increased battlespace awareness through the use of sensors/platforms to achieve effects beyond what those sensors/platforms were originally designed.</p> <p>Air Base Ground Defense PE 0205788F - P-40A Ground based air defense capability designed to counter current and emerging threats to forward operation locations. Contact AF A3XY 703-614-0402 or A5RE 703-697-9393.</p> <p>As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.</p>		

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications **P-1 Line Item Number / Title:** 834320 / C3 Countermeasures
Equip / BSA 4: Spcl Comm-Electronics Projects

ID Code (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0208087F

Line Item MDAP/MAIS Code: N/A

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	Electronic Warfare Integrated Reprogramming (EWIR)				- / -	- / 1.570	- / 0.000	- / 0.000	- / -	- / 0.000
P-40a	National Technical Nuclear Forensics				- / -	- / 5.711	- / 6.070	- / 0.000	- / -	- / 0.000
P-40a	Air Base Ground Defense				- / -	- / 13.124	- / 0.000	- / 0.000	- / -	- / 0.000
P-5	Distributed Cyber Warfare Operations		A		- / -	3 / 16.990	7 / 23.931	11 / 25.036	- / -	11 / 25.036
P-40a	Intel Data Applications				- / -	- / 0.369	- / 0.000	- / 0.000	- / -	- / 0.000
P-40	Total Gross/Weapon System Cost				- / -	- / 37.764	- / 30.001	- / 25.036	- / -	- / 25.036

*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. Title represents the P-40a Title when only the P-40a Summary/Total is shown.

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

Justification:

These programs support Cyberspace Activities.

National Technical Nuclear Forensics PE 0207573F - P-40A

Funding procures terrestrially-based sensors and communications for prompt output signal detection and nuclear debris collection analysis and evaluation to support nuclear event attribution. Funding also includes procurement of technical data and any required follow on system support.

Electronic Warfare Integrated Reprogramming (EWIR) PE 0207439F - P-40A

Funding will replace capital equipment for the electronic warfare (EW) Threat Change Analysis and Distributed Mission Operations infrastructure and databases. Specific equipment items and quantities may change due to mission needs.

AF Distributed Cyber Warfare Operations (DCWO) PE 0208087F - P-40A

FY20 funding will procure additional instances of platforms, accesses, and payloads in the DCWO portfolio. Funding will also procure cyber weapon system testing and training assets. Some aspects of the effort are classified and will be provided on a need to know basis. For further information please contact AFLCMC/HNCO, 210-925-6653.

Intel Data Applications PE 0208288F - P-40A

Funding procures equipment to support ground processing functions associated with airborne operations, provide threat simulator validation and intel database development, and provide tactical network indications/warning, intrusion analysis and threat signature development.

Air Base Ground Defense PE 0205788F - P-40A

Ground based air defense capability designed to counter current and emerging threats to forward operation locations. Contact AF A3XY 703-614-0402 or A5RE 703-697-9393.

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force														Date: February 2019					
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4							P-1 Line Item Number / Title: 834320 / C3 Countermeasures							Aggregated Items Title: Electronic Warfare Integrated Reprogramming (EWIR)					

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Uncategorized																				
Client PCs	A		-	-	-	0.200	1	0.200	-	-	0.000	-	-	-	-	-	-	-	-	-
Computer Server	A		-	-	-	0.660	1	0.660	-	-	0.000	-	-	-	-	-	-	-	-	-
Data Storage System	A		-	-	-	0.505	1	0.505	-	-	0.000	-	-	-	-	-	-	-	-	-
Network Infrastructure	A		-	-	-	0.205	1	0.205	-	-	0.000	-	-	-	-	-	-	-	-	-
Tape Backup System	A		-	-	-	-	-	0.000	-	-	0.000	-	-	-	-	-	-	-	-	-
Subtotal: Uncategorized			-	-	-	-	-	1.570	-	-	0.000	-	-	-	-	-	-	-	-	-
Total			-	-	-	-	-	1.570	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000

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

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4	P-1 Line Item Number / Title: 834320 / C3 Countermeasures	Aggregated Items Title: National Technical Nuclear Forensics
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Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
National Technical Nuclear Forensics																				
Nuclear Forensics - Prompt Diagnostics	A		-	-	-	-	-	5.711	-	-	6.070	-	-	0.000	-	-	-	-	-	0.000
Subtotal: National Technical Nuclear Forensics			-	-	-	-	-	5.711	-	-	6.070	-	-	0.000	-	-	-	-	-	0.000
Total			-	-	-	-	-	5.711	-	-	6.070	-	-	0.000	-	-	-	-	-	0.000

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

Remarks:
Continues efforts previously funded by OSD for Prompt Diagnostics. Procures terrestrial-based sensors and communications for prompt diagnostics, collection, analysis, and evaluation of a nuclear detonation. Funding also includes procurement of technical data and any required initial system support. Funding was placed in BPAC 834010 starting in FY20.

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4	P-1 Line Item Number / Title: 834320 / C3 Countermeasures	Aggregated Items Title: Air Base Ground Defense
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Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
ABGD1																				
Program 1	A		-	-	-	9.086	1	9.086	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
Subtotal: ABGD1			-	-	-	-	-	9.086	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
ABGD2																				
Program 2	A		-	-	-	4.038	1	4.038	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: ABGD2			-	-	-	-	-	4.038	-	-	-	-	-	-	-	-	-	-	-	-
Total			-	-	-	-	-	13.124	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000

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

Remarks:
Ground based air defense capability designed to counter current and emerging threats to forward operation locations. Contact AF A3XY 703-614-0402 or A5RE 703-697-9393.

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Exhibit P-5, Cost Analysis: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4	P-1 Line Item Number / Title: 834320 / C3 Countermeasures	Item Number / Title [DODIC]: Distributed Cyber Warfare Operations

ID Code (A=Service Ready, B=Not Service Ready) : A	MDAP/MAIS Code:
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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)	-	3	7	11	-	11
Gross/Weapon System Cost (\$ in Millions)	-	16.990	23.931	25.036	-	25.036
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	-	16.990	23.931	25.036	-	25.036
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	-	16.990	23.931	25.036	-	25.036

(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 Millions)	-	5.663	3.419	2.276	-	2.276

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 (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Hardware - Distributed Cyber Warfare Operations Cost																		
Recurring Cost																		
Cyber Mission Platform (CMP) System	-	-	-	1.582	3	4.746	1.481	1	1.481	1.481	3	4.443	-	-	-	1.481	3	4.443
HYDRA aka Ronin	-	-	-	-	-	-	0.050	1	0.050	0.638	2	1.276	-	-	-	0.638	2	1.276
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	4.746	-	-	1.531	-	-	5.719	-	-	-	-	-	5.719
Non Recurring Cost																		
Cyber Unique Equipment	-	-	-	-	-	12.057	-	-	9.378	-	-	10.760	-	-	-	-	-	10.760
CMP	-	-	-	-	-	-	-	-	-	-	-	0.559	-	-	-	-	-	0.559
TNA	-	-	-	-	-	-	-	-	1.990	-	-	-	-	-	-	-	-	-
Testing and Training Equipment	-	-	-	-	-	-	-	-	3.773	-	-	1.713	-	-	-	-	-	1.713
<i>Subtotal: Non Recurring Cost</i>	-	-	-	-	-	12.057	-	-	15.141	-	-	13.032	-	-	-	-	-	13.032
<i>Subtotal: Hardware - Distributed Cyber Warfare Operations Cost</i>	-	-	-	-	-	16.803	-	-	16.672	-	-	18.751	-	-	-	-	-	18.751
Software - Distributed Cyber Warfare Operations Cost																		
Recurring Cost																		
Payloads	-	-	-	-	-	-	0.781	5	3.907	0.632	3	1.896	-	-	-	0.632	3	1.896
TNA	-	-	-	-	-	-	-	-	0.000	0.880	1	0.880	-	-	-	0.880	1	0.880
HYDRA	-	-	-	-	-	-	-	-	-	0.585	2	1.170	-	-	-	0.585	2	1.170

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Exhibit P-5, Cost Analysis: PB 2020 Air Force												Date: February 2019					
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4						P-1 Line Item Number / Title: 834320 / C3 Countermeasures						Item Number / Title [DODIC]: Distributed Cyber Warfare Operations					
ID Code (A=Service Ready, B=Not Service Ready) : A												MDAP/MAIS Code:					

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	3.907	-	-	3.946	-	-	-	-	-	3.946
<i>Subtotal: Software - Distributed Cyber Warfare Operations Cost</i>	-	-	-	-	-	-	-	-	3.907	-	-	3.946	-	-	-	-	-	3.946
Support - Distributed Cyber Warfare Operations Cost																		
PMA Contractor Services - CMP	-	-	-	-	-	0.187	-	-	1.831	-	-	0.587	-	-	-	-	-	0.587
PMA Contractor Services - HYDRA	-	-	-	-	-	-	-	-	0.000	-	-	0.914	-	-	-	-	-	0.914
PMA Contractor Services - TNA	-	-	-	-	-	-	-	-	0.821	-	-	0.419	-	-	-	-	-	0.419
PMA Contractor Services - Payloads	-	-	-	-	-	-	-	-	0.700	-	-	0.419	-	-	-	-	-	0.419
<i>Subtotal: Support - Distributed Cyber Warfare Operations Cost</i>	-	-	-	-	-	0.187	-	-	3.352	-	-	2.339	-	-	-	-	-	2.339
Gross/Weapon System Cost	-	-	-	5.663	3	16.990	3.419	7	23.931	2.276	11	25.036	-	-	-	2.276	11	25.036

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4 **P-1 Line Item Number / Title:** 834320 / C3 Countermeasures **Aggregated Items Title:** Intel Data Applications

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Uncategorized																				
PE 0208288F INTEL DATA APPLICATIONS	A		-	-	-	-	-	0.369	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
Subtotal: Uncategorized			-	-	-	-	-	0.369	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
Total			-	-	-	-	-	0.369	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000

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

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity:
 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 4: Spcl Comm-Electronics Projects

P-1 Line Item Number / Title:
 834410 / Integrated Personnel and Pay System

ID Code (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0901250F

Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	-	0.000	0.000	20.900	-	20.900	0.000	0.000	0.000	0.000	-	20.900
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	0.000	0.000	20.900	-	20.900	0.000	0.000	0.000	0.000	-	20.900
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	0.000	0.000	20.900	-	20.900	0.000	0.000	0.000	0.000	-	20.900

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

Description:

The Air Force Integrated Personnel and Pay System (AFIPPS) will be a web enabled, Enterprise Resource Planning (ERP) solution providing integrated Total Force personnel and pay capabilities across the Air Force Active, Guard and Reserve Components. It will serve as the platform to enable Total Force Integration within Human Resource Management. The system represents the Air Force commitment to modernizing business practices and providing enhanced support for today's service members and their families. AFIPPS will align with Department of Defense (DoD) data standards for personnel, pay, and accounting, including the Common Human Resource Information Standards (CHRIS), which will ensure compliance with the Business Enterprise Architecture (BEA).

Funding for this exhibit was contained in PE 0901250F.

As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 4: Spcl Comm-Electronics Projects **P-1 Line Item Number / Title:** 834410 / Integrated Personnel and Pay System

ID Code (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0901250F

Line Item MDAP/MAIS Code: N/A

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	Integrated Personnel and Pay System				- / -	- / 0.000	- / 0.000	- / 20.900	- / -	- / 20.900
P-40	Total Gross/Weapon System Cost				- / -	- / 0.000	- / 0.000	- / 20.900	- / -	- / 20.900

*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. Title represents the P-40a Title when only the P-40a Summary/Total is shown.

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

Justification:

This program, Category Payroll COTS Software Licenses Item 834410-Integrated Personnel & Pay System (PE 0901250F), is a new start.

Payroll COTS Software Licenses

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4 **P-1 Line Item Number / Title:** 834410 / Integrated Personnel and Pay System **Aggregated Items Title:** Integrated Personnel and Pay System

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Payroll COTS Software Licenses																				
834410-Integrated Personnel & Pay System (PE 0901250F)	A		-	-	-	-	-	0.000	-	-	0.000	-	-	20.900	-	-	-	-	-	20.900
Subtotal: Payroll COTS Software Licenses			-	-	-	-	-	0.000	-	-	0.000	-	-	20.900	-	-	-	-	-	20.900
Total			-	-	-	-	-	0.000	-	-	0.000	-	-	20.900	-	-	-	-	-	20.900

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

Remarks:
Payroll COTS Software Licenses to supports the Total Force (Regular AF, AF Reserves, and Air National Guard).

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 4: Spcl Comm-Electronics Projects **P-1 Line Item Number / Title:** 834430 / GCSS-AF Fos

ID Code (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0708012F, 0708610F

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>)	-	1.426	0.483	11.226	-	11.226	3.651	11.206	3.923	3.638	-	35.553
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	1.426	0.483	11.226	-	11.226	3.651	11.206	3.923	3.638	-	35.553
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	1.426	0.483	11.226	-	11.226	3.651	11.206	3.923	3.638	-	35.553

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

Description:

PE 0708610F LOGISTICS INFORMATION TECHNOLOGY (LOGIT)

The Air Force logistics enterprise is comprised of multiple overarching functional areas, end-to-end supply chain support, base supply inventories, and predictive analysis and forecasting. Enterprise Logistics Systems deliver integrated logistics information driving war winning decisions by shaping, acquiring, and sustaining warfighting IT capabilities and mission support. OPAF funding will be used for capital equipment replacement to include servers and will also be used to purchase multi-year software licenses.

Systems contained in these business areas include, but are not limited to, the Air Force Equipment Management System (AFEMS), Integrated Maintenance Data System (IMDS), Reliability and Maintainability Information System (REMIS), Reliability, Availability, Maintainability for Pods (RAMPOD), Integrated Logistics System-Supply (ILS-S), Stock Control System (SCS), Enhanced Technical Information Management System (ETIMS), Product Lifecycle Management (PLM), Supply Capability Initiative (SCI), and Item Master Logistics Capability Initiative (IMLCI).

Funding for this exhibit contained in PE 0708610F.

As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 4: Spcl Comm-Electronics Projects **P-1 Line Item Number / Title:** 834430 / GCSS-AF Fos

ID Code (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0708012F, 0708610F

Line Item MDAP/MAIS Code: N/A

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	Logistics Support Activities				- / -	- / 0.425	- / 0.000	- / 0.000	- / -	- / 0.000
P-40a	Logistics Information Technology (LOGIT)				- / -	- / 1.001	- / 0.483	- / 11.226	- / -	- / 11.226
P-40	Total Gross/Weapon System Cost				- / -	- / 1.426	- / 0.483	- / 11.226	- / -	- / 11.226

*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. Title represents the P-40a Title when only the P-40a Summary/Total is shown.

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

Justification:

PE 0708610F LOGISTICS INFORMATION TECHNOLOGY (LOGIT)

The FY20 OPAF funding will be used primarily to purchase end user licenses for the Item Master Logistics Capability Initiative as well as procure various types/amounts of software in support of unit mission requirements for Air Force personnel.

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4	P-1 Line Item Number / Title: 834430 / GCSS-AF Fos	Aggregated Items Title: Logistics Support Activities
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Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Uncategorized																				
Reliability, Availability, and Maintainability for Pods (RAMPOD) - Tech Refresh - Servers and per...	A		-	-	-	0.425	1	0.425	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
Subtotal: Uncategorized			-	-	-	-	-	0.425	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
Total			-	-	-	-	-	0.425	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000

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

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force														Date: February 2019					
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4							P-1 Line Item Number / Title: 834430 / GCSS-AF Fos							Aggregated Items Title: Logistics Information Technology (LOGIT)					

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Uncategorized																				
Item Master Logistics Capability Initiative - End User Licenses	A		-	-	-	0.002	630	1.001	0.002	304	0.483	0.002	7,066	11.226	-	-	-	0.002	7,066	11.226
Subtotal: Uncategorized			-	-	-	-	-	1.001	-	-	0.483	-	-	11.226	-	-	-	-	-	11.226
Total			-	-	-	-	-	1.001	-	-	0.483	-	-	11.226	-	-	-	-	-	11.226

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

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity:
3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 4: Spcl Comm-Electronics Projects

P-1 Line Item Number / Title:
834470 / Defense Enterprise Accounting & Mgt Sys

ID Code (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0901554F

Line Item MDAP/MAIS Code: N87

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>)	13.040	1.000	0.802	1.905	-	1.905	0.900	3.107	3.162	3.219	0.000	27.135
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	13.040	1.000	0.802	1.905	-	1.905	0.900	3.107	3.162	3.219	0.000	27.135
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	13.040	1.000	0.802	1.905	-	1.905	0.900	3.107	3.162	3.219	0.000	27.135

(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 Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

Defense Enterprise Accounting and Management System (DEAMS) is a commercial-off-the-shelf (COTS), Oracle-based software implementation effort that will provide an auditable, modern accounting and finance system. DEAMS is a Joint United States Air Force (USAF) and United States Transportation Command (USTRANSCOM) Enterprise Resource Planning (ERP) Program that will provide core funds execution management functions consistent with financial management laws, regulations and policy, general ledger, funds management, payments, receivables, cost and revenues, and fiduciary reporting. DEAMS is compliant with the Clinger-Cohen Act, Business Enterprise Architecture (BEA), and integrates into Global Combat Support System-Air Force (GCSS-AF). When fully deployed, DEAMS will be key to Air Force compliance with the Financial Improvement and Audit Readiness (FIAR) requirement in the 2010 National Defense Authorization Act (NDAA).

DEAMS user deployments include:

- Air Mobility Command (AMC) without Transportation Working Capital Funds (TWCF)
- AMC with TWCF, in conjunction with Defense Finance and Accounting Service (DFAS) Rome
- Air Combat Command (ACC) and Air Force Global Strike Command (AFGSC)
- Air Force Reserve Command (AFRC), Air National Guard (ANG), and other Geographically Separated Units (GSUs) to include DFAS Limestone, Air Force District of Washington (AFDW), Air Force Special Operations Command (AFSOC), U.S. Air Force Academy (USAF), Pacific Air Forces (PACAF), and DFAS Japan
- U.S. Air Forces in Europe (USAFE), DFAS Europe, Air Education and Training Command (AETC), and Joint Base San Antonio
- Air Force Material Command (AFMC), and Air Force Space Command (AFSPC)
- Remaining DFAS locations and all other GSUs

On 23 January 2017, the senior official provided the Critical Change Report (CCR) with certifications to Congress. The report recommended a restructure of DEAMS from one increment to multiple increments. The Milestone Decision Authority (MDA) approved the restructured program for DEAMS Increment (Inc) 1, to include deferring certain requirements to future increments, a limited deployment to an additional 700 users for Inc 1 to United States Air Forces in Europe (USAFE), and the updated Full Deployment Authority to Proceed (FD ATP) criteria via an Acquisition Decision Memorandum (ADM) dated 2 June 2017. FD ATP date is August 2020 and Capability Support Authority to Proceed (CS ATP) date is February 2021.

The remaining DEAMS Inc 1 schedule includes Oracle e-Business Suite R12 upgrade and reporting, auditing, and disbursing initiatives. DEAMS was designated as an Agile Pilot program in the FY19 NDAA. Reporting, auditing, and disbursing will be completed using Agile Software Development.

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 4: Spcl Comm-Electronics Projects		P-1 Line Item Number / Title: 834470 / Defense Enterprise Accounting & Mgt Sys
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0901554F
Line Item MDAP/MAIS Code: N87		
<p>DEAMS Inc 1 funding through FY 2020 is to support Inc 1 deployments. DEAMS Continuous Capabilities Development (CCD) funding begins in FY2022 and will support CCD Agile deployments. DEAMS Inc 1 and CCD will require software user licenses to support system deployments as well as potential software and hardware requirements needed to manage, execute, and deliver DEAMS system capability including necessary system upgrades.</p> <p>Funds are used to procure software user licenses and other potential hardware and software using multiple contracts and various vendors. Software license counts are estimates and may vary at actual execution based on system needs.</p> <p>This funding request will support potential DMS and obsolescence solutions, to include if optimal, life of type buys or bridge buys limited to the program of record quantity. This program element may include necessary civilian pay expenses required to manage, execute, and deliver DEAMS system capability.</p> <p>Beginning in FY20 DEAMS procurement funding moves to PE 0901554F, Defense Enterprise Accounting and Management System (DEAMS). Procurement funding prior to FY19 for DEAMS was in PE 0901538F, Financial Management Information Systems Development (FMISD).</p> <p>As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.</p>		
<p>Justification: Funds are used to procure software licenses and other potential hardware using multiple contracts and various vendors. Software license counts are estimates and may vary at actual execution based on system needs.</p> <p>This funding request will support potential Diminishing Manufacturing Statement (DMS) and obsolescence solutions, to include, if optimal, life of type buys or bridge buys limited to the program of record quantity. This program element may include necessary civilian pay expenses required to manage, execute, and deliver DEAMS system capability.</p>		

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity:
3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications
Equip / BSA 4: Spcl Comm-Electronics Projects

P-1 Line Item Number / Title:
834480 / Maintenance Repair & Overhaul Initiative

ID Code (A=Service Ready, B=Not Service Ready): B **Program Elements for Code B Items:** 0708055F **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>)	0.000	0.000	12.207	1.912	-	1.912	0.000	0.000	0.000	0.000	-	14.119
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	0.000	0.000	12.207	1.912	-	1.912	0.000	0.000	0.000	0.000	-	14.119
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	0.000	0.000	12.207	1.912	-	1.912	0.000	0.000	0.000	0.000	-	14.119

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

Description:

MAINTENANCE REPAIR AND OVERHAUL INITIATIVE (MROI):

MROI creates an integrated capability that plans, schedules, and executes organic depot maintenance support functions critical to agile planning, optimized workload assignment, resource allocation and throughput, thereby increasing depot maintenance support to the warfighter. The items being procured are commercial software licenses to allow limited/full deployment. The software is known to work in commercial environments. MROI will test the Air Force configuration of the software in DISA environments with added Reports, Interfaces, Conversions and Extensions (RICE) objects.

Testing will be performed as part of the System Implementer activities. The contract was awarded 11 Jul 2018. MROI DT&E is projected for Mar 2020, IOT&E is projected for Apr 2020 and FOT&E is projected for Jan 2022.

Maintenance Repair and Overhaul Initiative will be using, for the first time in FY 2019, 3080 funding to support CY 2022 delivery of the MROI capability currently under development (RDT&E).

Funding for this exhibit contained in PE 0708055F.

As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.

Justification:

In FY 2019 MROI was a new start.

The FY 2020 procurement dollars in the amount of \$1.912M procure various types/amounts of software in support of unit mission requirements for Air Force personnel. The budget reflects funding to procure production software licenses in quantities sufficient to support the MROI user community based on multiple release strategy.

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 4: Spcl Comm-Electronics Projects	P-1 Line Item Number / Title: 834520 / Theater Battle Mgt C2 System
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ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0207410F, 0305015F, 0305984F
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Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	0.000	9.646	5.191	6.337	-	6.337	5.631	5.111	0.396	0.421	-	32.733
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	0.000	9.646	5.191	6.337	-	6.337	5.631	5.111	0.396	0.421	-	32.733
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	0.000	9.646	5.191	6.337	-	6.337	5.631	5.111	0.396	0.421	-	32.733

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

Description:

PE 0207410F Air & Space Operations Center (AOC) - P-40A

1. Theater Battle Management Core Systems - Force Level (TBMCS FL): An integrated battle management system used to plan, execute, and assess an air campaign. It provides automated planning tools enabling consistent, coordinated battle management at both Air and Space Operations Centers (AOC) and non-AOC entities for operations and intelligence functions. TBMCS FL is a United States Air Force lead system with joint interest responsible for generation and dissemination of the Air Tasking Order and inter-operates with allied units.

2. Unit Command and Control (UC2) provides the wing and base commanders, and their battle staffs, with timely and accurate information for effective decision making. UC2 also provides a secure, automatable, deployable, and distributed wing-level command and control system with connectivity to TBMCS.

PE 0305015F C2 Air Operations Suite - C2 Info Services - P-40A

1. Theater Battle Management Core Systems - Force Level (TBMCS FL): An integrated battle management system used to plan, execute, and assess an air campaign. It provides automated planning tools enabling consistent, coordinated battle management at both Air and Space Operations Centers (AOC) and non-AOC entities for operations and intelligence functions. TBMCS FL is a United States Air Force lead system with joint interest responsible for generation and dissemination of the Air Tasking Order and inter-operates with allied units.

2. Command and Control, Incident Management and Emergency Response Application (C2IMERA) (formerly Unit Command and Control [UC2]) provides the wing and base commanders, and their battle staffs, with timely and accurate information for effective decision making. C2IMERA also provides a secure, automatable, deployable, and distributed wing-level command and control system with connectivity to TBMCS.

PE 0305984F Personnel Recovery Command and Control (PRC2) - P40A

3. Provides PRC2 services supporting all Combatant Commands, Joint Services and other government agencies. Capabilities include web-based access to isolated personnel reports for all Department of Defense (DoD) personnel, C2 tools for performing command and control of recovery efforts for downed airmen/isolated ground troops, and rapid identification of personnel in distress. PRC2 is used within AOC/ Areas Of Responsibility (AOR), Joint Personnel Recovery Centers, and Rescue Coordination Centers to provide the capabilities and services for planning and executing recovery of isolated personnel, and rapidly collaborate, disseminate, and store time-sensitive personnel recovery information.

Funding for this exhibit contained in PE 0207410F, PE 0305015F and PE 0305984F.

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 4: Spcl Comm-Electronics Projects		P-1 Line Item Number / Title: 834520 / Theater Battle Mgt C2 System
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0207410F, 0305015F, 0305984F
Line Item MDAP/MAIS Code: N/A		

As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 4: Spcl Comm-Electronics Projects **P-1 Line Item Number / Title:** 834520 / Theater Battle Mgt C2 System

ID Code (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0207410F, 0305015F, 0305984F

Line Item MDAP/MAIS Code: N/A

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	Air & Space Operations Center (AOC)				- / 0.000	- / 4.976	- / 0.000	- / 0.000	- / 0.000	- / 0.000
P-40a	Air & Space Operations Center (AOC)				- / 0.000	- / 3.384	- / 0.000	- / 0.000	- / 0.000	- / 0.000
P-40a	C2 Air Operations Suite - C2 Info Services				- / 0.000	- / 0.000	- / 2.923	- / 5.514	- / 0.000	- / 5.514
P-40a	C2 Air Operations Suite - C2 Info Services				- / 0.000	- / 0.000	- / 0.967	- / 0.500	- / 0.000	- / 0.500
P-40a	Personnel Recovery Command & Ctrl (PRC2)				- / 0.000	- / 1.286	- / 1.301	- / 0.323	- / 0.000	- / 0.323
P-40	Total Gross/Weapon System Cost				- / 0.000	- / 9.646	- / 5.191	- / 6.337	- / -	- / 6.337

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-40a	Air & Space Operations Center (AOC)				- / -	- / -	- / -	- / -	- / -	- / -
P-40a	Air & Space Operations Center (AOC)				- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 3.384
P-40a	C2 Air Operations Suite - C2 Info Services				- / -	- / -	- / -	- / -	- / -	- / -
P-40a	C2 Air Operations Suite - C2 Info Services				- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 1.467
P-40a	Personnel Recovery Command & Ctrl (PRC2)				- / 0.347	- / 0.372	- / 0.396	- / 0.421	- / 0.000	- / 4.446
P-40	Total Gross/Weapon System Cost				- / 5.631	- / 5.111	- / 0.396	- / 0.421	- / -	- / 32.733

*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. Title represents the P-40a Title when only the P-40a Summary/Total is shown.

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

Justification:

PE 0207410F Air & Space Operations Center (AOC) - P-40A

1. TBMCs FL: Provides the Joint and Combined Air Component Commander with the automated tools necessary to effectively and efficiently plan, monitor, and execute the air campaign. This includes planning and issuing the Air Tasking and Airspace Control Orders that ensure the theater commander's intent is supported through the application of airpower using the latest intelligence.

2. Unit Command and Control (UC2): Provides the wing and base commanders and their battle staffs with timely and accurate information for effective decision making. UC2 also provides secure, automatable, deployable, and distributed wing-level command and control system with connectivity to TBMCs.

PE 0305015F C2 Air Operations Suite - C2 Info Services - P-40A

1. TBMCs FL: Provides the Joint and Combined Air Component Commander with the automated tools necessary to effectively and efficiently plan, monitor, and execute the air campaign. This includes planning and issuing the Air Tasking and Airspace Control Orders that ensure the theater commander's intent is supported through the application of airpower using the latest intelligence. FY20 funding will field TBMCs FL Capital Equipment Replacement (CER) to the systems to maintain security posture and field to more than 40 locations.

a. TBMCs FL PROGRAM MANAGEMENT ADMINISTRATION (PMA): FY20 funding includes provisions for government contract oversight, technical expertise, and program office support associated with the fielding of TBMCs FL.

b. TBMCs FL FIELDING: FY20 funding will continue to support fielding of the TBMCs FL upgrades.

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 4: Spcl Comm-Electronics Projects		P-1 Line Item Number / Title: 834520 / Theater Battle Mgt C2 System
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0207410F, 0305015F, 0305984F
Line Item MDAP/MAIS Code: N/A		

c. TBMCS FL: FY20 funds will continue to be used to procure hardware and associated software licenses for fielding to various sites.

2. Command and Control, Incident Management, Emergency Response Application (C2IMERA) (formerly Unit Command and Control [UC2]): Provides the wing and base commanders and their battle staffs with timely and accurate information for effective decision making. C2IMERA also provides secure, automatable, deployable, and distributed wing-level command and control system with connectivity to TBMCS.

a. C2IMERA HARDWARE AND COMMERCIAL-OFF-THE-SHELF (COTS) SOFTWARE: FY20 funds will be used to provide hardware assets that support C2IMERA operations.

b. C2IMERA PMA: FY20 funding includes provisions for government contract oversight, technical expertise, and program office support associated with the fielding of C2IMERA.

PE 0305984F Personnel Recovery Command and Control (PRC2) - P40A

3. PRC2: Provides PRC2 services supporting all Combatant Commands, Joint Services and other government agencies. Capabilities include web-based access to isolated personnel reports for all Department of Defense (DoD) personnel, C2 tools for performing command and control of recovery efforts for downed airmen/isolated ground troops, and rapid identification of personnel in distress. PRC2 is used within AOC/Areas Of Responsibility (AOR), Joint Personnel Recovery Centers, and Rescue Coordination Centers to provide the capabilities and services for planning and executing recovery of isolated personnel, and rapidly collaborate, disseminate, and store time-sensitive personnel recovery information.

a. PRC2 HARDWARE AND COTS SOFTWARE: FY20 funding will continue procure various hardware pieces and associated software licenses for fielding to various sites.

b. PRC2 PMA: FY20 funding will provide for government program oversight, technical expertise, and program office support associated with the fielding of PRC2.

Efforts with funding starting in FY 2021 through FY 2024 are summarized on the P-40. Not all details of this funding are included in this P-40 exhibit set. A summary of the excepted details is as follows:

(a) FY 2021 Cost Delta: 5.284 million

(b) FY 2022 Cost Delta: 4.739 million

(c) FY Total Cost Delta: 23.436 million

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4 **P-1 Line Item Number / Title:** 834520 / Theater Battle Mgt C2 System **Aggregated Items Title:** Air & Space Operations Center (AOC)

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
TBMCS FL																				
Capital Equipment Replacement	A		-	-	0.000	-	-	2.076	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
DMS Contractor Services	A		-	-	0.000	-	-	1.988	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
PMA Contractor Services	A		-	-	0.000	-	-	0.912	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
Subtotal: TBMCS FL			-	-	0.000	-	-	4.976	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
Total			-	-	0.000	-	-	4.976	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000

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

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Exhibit P-40a, Budget Item Justification For Aggregated Modification Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4 **P-1 Line Item Number / Title:** 834520 / Theater Battle Mgt C2 System **Aggregated Modification Items Title:** Air & Space Operations Center (AOC)

Item Number / Title	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
TBMCS / UC2			-	-	0.000	-	-	3.384	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
Total			-	-	0.000	-	-	3.384	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000

Item Number / Title	ID CD	MDAP/MAIS Code	FY 2021			FY 2022			FY 2023			FY 2024			To Complete			Total Cost		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
TBMCS / UC2			-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	-	-	-	3.384
Total			-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	3.384

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

Modification Information:

Item Number / Title	Models of Systems Affected	Modification Type
TBMCS / UC2	UC2	Capability Improvement

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force															Date: February 2019				
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4						P-1 Line Item Number / Title: 834520 / Theater Battle Mgt C2 System						Aggregated Items Title: C2 Air Operations Suite - C2 Info Services							

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
TBMCS FL																				
Capital Equipment Replacement	A		-	-	0.000	-	-	0.000	-	-	1.923	-	-	4.514	-	-	0.000	-	-	4.514
DMS Contractor Services	A		-	-	0.000	-	-	0.000	-	-	0.600	-	-	0.600	-	-	0.000	-	-	0.600
PMA Contractor Services	A		-	-	0.000	-	-	0.000	-	-	0.400	-	-	0.400	-	-	0.000	-	-	0.400
Subtotal: TBMCS FL			-	-	0.000	-	-	0.000	-	-	2.923	-	-	5.514	-	-	0.000	-	-	5.514
Total			-	-	0.000	-	-	0.000	-	-	2.923	-	-	5.514	-	-	0.000	-	-	5.514

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

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Exhibit P-40a, Budget Item Justification For Aggregated Modification Items: PB 2020 Air Force														Date: February 2019					
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4						P-1 Line Item Number / Title: 834520 / Theater Battle Mgt C2 System						Aggregated Modification Items Title: C2 Air Operations Suite - C2 Info Services							

Item Number / Title	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
1TBMC2 / C2IMERA			-	-	0.000	-	-	0.000	-	-	0.967	-	-	0.500	-	-	0.000	-	-	0.500
Total			-	-	0.000	-	-	0.000	-	-	0.967	-	-	0.500	-	-	0.000	-	-	0.500

Item Number / Title	ID CD	MDAP/MAIS Code	FY 2021			FY 2022			FY 2023			FY 2024			To Complete			Total Cost		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
1TBMC2 / C2IMERA			-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	-	-	-	1.467
Total			-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	1.467

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

Modification Information:

Item Number / Title	Models of Systems Affected	Modification Type
1TBMC2 / C2IMERA	C2IMERA	Capability Improvement

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Exhibit P-40a, Budget Item Justification For Aggregated Modification Items: PB 2020 Air Force														Date: February 2019					
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4							P-1 Line Item Number / Title: 834520 / Theater Battle Mgt C2 System							Aggregated Modification Items Title: Personnel Recovery Command & Ctrl (PRC2)					

Item Number / Title	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
2TBMC2 / PRC2			-	-	0.000	-	-	1.286	-	-	1.301	-	-	0.323	-	-	0.000	-	-	0.323
Total			-	-	0.000	-	-	1.286	-	-	1.301	-	-	0.323	-	-	0.000	-	-	0.323

Item Number / Title	ID CD	MDAP/MAIS Code	FY 2021			FY 2022			FY 2023			FY 2024			To Complete			Total Cost		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
2TBMC2 / PRC2			-	-	0.347	-	-	0.372	-	-	0.396	-	-	0.421	-	-	-	-	-	4.446
Total			-	-	0.347	-	-	0.372	-	-	0.396	-	-	0.421	-	-	0.000	-	-	4.446

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

Modification Information:

Item Number / Title	Models of Systems Affected	Modification Type
2TBMC2 / PRC2	PersonnelRecoveryCommandandControl	Capability Improvement

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity:
3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications
Equip / BSA 4: Spcl Comm-Electronics Projects

P-1 Line Item Number / Title:
834530 / Air & Space Operations Center (AOC)

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>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	-	25.498	38.589	33.243	-	33.243	26.021	14.606	19.208	18.336	-	175.501
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	25.498	38.589	33.243	-	33.243	26.021	14.606	19.208	18.336	-	175.501
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	25.498	38.589	33.243	-	33.243	26.021	14.606	19.208	18.336	-	175.501

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

Description:

The Air Operations Center Weapon System (AOC WS), AN/USQ-163 Falconer, the senior element of the Theater Air Control System, is the weapon system that the Commander, Air Force Forces (COMAFFOR) provides the Combined/Joint Force Air Component Commander (C/JFACC) for monitoring, planning, executing and assessing theater-wide air and space operations in support of the air battle campaign to meet the Combined/Joint Force Commander's (C/JFC) objectives.

The AOC WS contains over 40 Command and Control (C2) systems/applications (3rd Party Commercial Off the Shelf (COTS)/Government Off the Shelf (GOTS)) that are continually being updated under semi-annual/annual/bi-annual efforts (i.e., Baseline Releases [BR]). The AOC WS 10.1 integrates these changes as well as provides periodic Capital Equipment Replacement (CER) to keep the AOC WS interoperable, supportable, and compliant (e.g., certification and accreditation). Fielding will provide Joint C2 interoperability, and respond to the highest priority Combatant Command (CCMD) interoperability problems including: (a) incorporating fixes to shortfalls in interactions with CCMD targeting support systems, (b) enhancing the effectiveness of the operational picture to respond to the proliferation of sensors, and (c) handling data interface changes being experienced with older 3rd Party program deliveries. Major subsystems have enhanced their security profile and this fielding will serve as a re-accreditation of the overall AOC WS baseline. Primary efforts in fielding include CER and baseline updates via variously sized BRs. BRs are regularly scheduled 3rd Party COTS/GOTS application updates. They are normally comprised of hardware/software changes/updates/modernized improvements/modifications and security patches. Each BR is based on warfighter-validated needs that require updates to the AOC WS 10.1. The AOC program's agile modification of the baseline 10.1 brought forward a hybrid cloud environment employment including on premise installation.

The AOC WS funding provides system hardware, software, technical documents, CER (e.g., replacing end-of-life/end of support Direct Mission Support (DMS) and 3rd Party components), core radio and initial training to standardize and sustain the AOC WS. This includes the integration, test and fielding of cyber security improvements and existing 3rd Party modernized improvements/modifications (e.g., replace paper copy with electronic requests). The fielding and CER consist of AOCs and their associated support sites (e.g., Help Desk, Formal Training Unit (FTU), experimental sites, and Air Reserve Component sites). In FY 2019, funding increased to support moving the AOC baseline toward a cloud-based commercially managed Infrastructure and Platform as a Service (IaaS/PaaS) hosting platform/environment.

There are three distinct categories of AOCs: Geographic, Global (formally known as Functional), and assorted AOC Support Functions (Help Desk, Field Training Unit (FTU), Operational Support Facility (OSF) and Air Reserve Component sites). While all sites start with the standardized 10.1 baseline, each is specifically tailored to the needs of the associated Geographic CCMD or Global (formally known as Functional) Command. Thus, as no two AOCs are alike, when a CER or BR is accomplished, each site is unique and requires its own specifically designed site-engineered fielding plan and associated hardware, which drives differences in site specific (i.e., unit) costs.

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 4: Spcl Comm-Electronics Projects	P-1 Line Item Number / Title: 834530 / Air & Space Operations Center (AOC)
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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

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

The FY 2020 funding request was reduced by \$1.139 million to account for the availability of prior year execution balances.

Funding for this exhibit contained in PE 0207410F.

As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
AF	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	23.681	33.569	32.143	-	32.143	-	-	-	-
AFNG	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	1.256	3.347	0.500	-	0.500	-	-	-	-
AFR	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	0.561	1.673	0.600	-	0.600	-	-	-	-
Total: Secondary Distribution	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	25.498	38.589	33.243	-	33.243	-	-	-	-

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 4: Spcl Comm-Electronics Projects **P-1 Line Item Number / Title:** 834530 / Air & Space Operations Center (AOC)

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	Air & Space Operations Center (AOC)		A		- / -	- / 25.498	- / 38.589	- / 33.243	- / -	- / 33.243
P-40	Total Gross/Weapon System Cost				- / -	- / 25.498	- / 38.589	- / 33.243	- / -	- / 33.243

*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:

1. FIELDING: Primary efforts include integration and fielding of improvements/upgrades of existing 3rd Party applications as well as newly developed replacement applications, CER (replacing end-of-life/end of support components) and baseline updates via variously sized BRs.

a. CAPITAL EQUIPMENT REPLACEMENT (CER): FY20 funds will be used to support moving the AOC baseline toward a cloud-based commercially managed Infrastructure and Platform as a Service (IaaS/PaaS) hosting platform/environment and address numerous commercial end-of-life and DMS components including components associated with C2 applications (3rd Party COTS/GOTS) that must be resolved.

b. BASELINE RELEASES (BR): FY20 will fund BRs, periodic maintenance upgrades, emergency fixes, cyber security improvements and other activities (e.g., testing activities).

c. FIELDING SYSTEM PROGRAM OFFICE (SPO) SUPPORT: FY20 funds will be used to provide government oversight, technical expertise, and program office support associated with the fielding of AOC.

d. TEST SUPPORT (45th / 47th Test Squadron [45 TS/47 TS]): FY20 funds will be used to provide government oversight and technical expertise associated with the testing of AOC.

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Exhibit P-5, Cost Analysis: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4	P-1 Line Item Number / Title: 834530 / Air & Space Operations Center (AOC)	Item Number / Title [DODIC]: Air & Space Operations Center (AOC)

ID Code (A=Service Ready, B=Not Service Ready) : A	MDAP/MAIS Code:
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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)	-	25.498	38.589	33.243	-	33.243
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	-	25.498	38.589	33.243	-	33.243
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	-	25.498	38.589	33.243	-	33.243

(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 Millions)	-	-	-	-	-	-

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 (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Hardware - Hardware End Item Cost																		
Recurring Cost																		
1.a.1. CAPITAL EQUIPMENT REPLACEMENT: GEOGRAPHIC/GLOBAL (formerly known as Functional) AOC - AD	-	-	-	-	-	1.098	-	-	1.274	-	-	2.727	-	-	-	-	-	2.727
1.a.2. CAPITAL EQUIPMENT REPLACEMENT: AOC SUPPORT SITES - AD	-	-	-	-	-	0.111	-	-	1.104	-	-	2.173	-	-	-	-	-	2.173
1.a.3. CAPITAL EQUIPMENT REPLACEMENT: AOC EXPERIMENTAL SITES - AD	-	-	-	-	-	2.112	-	-	2.136	-	-	2.173	-	-	-	-	-	2.173
1.a.4. CAPITAL EQUIPMENT REPLACEMENT - RESERVE	-	-	-	-	-	0.561	-	-	1.673	-	-	0.600	-	-	-	-	-	0.600
1.a.5. CAPITAL EQUIPMENT REPLACEMENT - GUARD	-	-	-	-	-	1.256	-	-	3.347	-	-	0.500	-	-	-	-	-	0.500

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Exhibit P-5, Cost Analysis: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4	P-1 Line Item Number / Title: 834530 / Air & Space Operations Center (AOC)	Item Number / Title [DODIC]: Air & Space Operations Center (AOC)
ID Code (A=Service Ready, B=Not Service Ready) : A		MDAP/MAIS Code:

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
1.b.1. BASELINE RELEASE: AOC SITES - AD	-	-	-	-	-	7.235	-	-	8.368	-	-	3.057	-	-	-	-	-	3.057
1.b.2. BASELINE RELEASE: SUPPORT SITES - AD	-	-	-	-	-	4.172	-	-	3.347	-	-	4.974	-	-	-	-	-	4.974
1.c. FIELDING SPO SUPPORT	-	-	-	-	-	4.882	-	-	10.409	-	-	10.124	-	-	-	-	-	10.124
1.d. TEST SUPPORT (46 TS)	-	-	-	-	-	1.216	-	-	2.705	-	-	2.757	-	-	-	-	-	2.757
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	22.643	-	-	34.363	-	-	29.085	-	-	-	-	-	29.085
<i>Subtotal: Hardware - Hardware End Item Cost</i>	-	-	-	-	-	22.643	-	-	34.363	-	-	29.085	-	-	-	-	-	29.085
<i>Support - Support End Item Cost</i>																		
2.a. PROGRAM MANAGEMENT ADMINISTRATION: PROGRAM SUPPORT	-	-	-	-	-	2.855	-	-	4.226	-	-	4.158	-	-	-	-	-	4.158
<i>Subtotal: Support - Support End Item Cost</i>	-	-	-	-	-	2.855	-	-	4.226	-	-	4.158	-	-	-	-	-	4.158
Gross/Weapon System Cost	-	-	-	-	-	25.498	-	-	38.589	-	-	33.243	-	-	-	-	-	33.243

Remarks:

- 1). Due to different levels of complexity, differences in equipment to be updated, and length of required time necessary for modification, the total cost will fluctuate between fiscal years.
- 2). Differences in site specific setup (due to variations between mission specific needs and differences in site type i.e., Geographic vs. Global (formally known as Functional) vs. Associated Support Site vs. Air Reserve Component Sites) will drive differences in site specific requirements (e.g., time required, hardware required and software required). This makes quantification impossible, as there is no single baseline to produce a quantity against. Per DoD Financial Regulation 7000.14-R, Volume 2B, Chapter 4, Exhibit P-5 Instruction, the quantities in the P-5 are left blank as there is no way to report applicable quantities.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
AF	Quantity	-	-	-	-	-
	Total Obligation Authority	23.681	33.569	32.143	-	32.143
AFNG	Quantity	-	-	-	-	-
	Total Obligation Authority	1.256	3.347	0.500	-	0.500
AFR	Quantity	-	-	-	-	-
	Total Obligation Authority	0.561	1.673	0.600	-	0.600
Total:	Quantity	-	-	-	-	-

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Exhibit P-5, Cost Analysis: PB 2020 Air Force				Date: February 2019		
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 4		P-1 Line Item Number / Title: 834530 / Air & Space Operations Center (AOC)		Item Number / Title [DODIC]: Air & Space Operations Center (AOC)		
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
Secondary Distribution	Total Obligation Authority	25.498	38.589	33.243	-	33.243

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 4: Spcl Comm-Electronics Projects	P-1 Line Item Number / Title: 834880 / Spectrum Relocation Fund
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ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	-	0.586	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	-	0.586
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	0.586	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	-	0.586
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	0.586	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	-	0.586

(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 Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

Funding supports spectrum relocation and sharing activities.

Funding for this exhibit contained in PE 0303267F.

As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.

Justification:

No funding requested for FY20.

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity:
 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications
 Equip / BSA 5: Air Force Communications

P-1 Line Item Number / Title:
 835060 / Base Information Transpt Infrast (BITI) Wired

ID Code (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0303112F

Line Item MDAP/MAIS Code: N78

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	-	15.228	17.271	69.530	-	69.530	33.173	109.268	52.010	112.047	199.914	608.441
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	15.228	17.271	69.530	-	69.530	33.173	109.268	52.010	112.047	199.914	608.441
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	15.228	17.271	69.530	-	69.530	33.173	109.268	52.010	112.047	199.914	608.441

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

Description:

BASE INFORMATION TRANSPORT INFRASTRUCTURE (BITI), formerly known as INFORMATION TRANSPORT SYSTEM (ITS): BITI delivers the Air Force cyberspace network and integrated infrastructure for 174 fixed Air Force installations (active duty, reserve, and Air National Guard (ANG)) and Geographically Separated Units (GSU) at approved locations. Integrated BITI will have a consolidated cyber capability addressing emerging cyber threats to infrastructure. BITI capabilities encompass all optical systems, digital voice/data/video systems, commercial devices, unified capabilities and wireless capabilities. The end result of a Turnkey project is a high-speed packet switching and circuit transport of critical information among core buildings and mission areas on a base. Additionally, BITI provides a robust and secure wireless infrastructure that incorporates high-availability and multi-tiered network connections at approved facilities requiring remote access. The efforts in this program budget line through its various increments and major projects, coupled with the efforts from the Air Force Network budget line enable the fielding, support and sustainment of standard, enterprise solutions for the entire Air Force Intranet from the individual base communications closets to the Air Force gateways and all the components and systems in-between in cyberspace. As Unified Capabilities (UC) evolves, BITI will respond with expanded bandwidth to provide the necessary throughput.

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.

BITI will ensure that Air Force operating locations have sufficient infrastructure, bandwidth, and overall network capability to support the current and future communication needs of the Air Force and Joint-Command warfighter via reliable and survivable information transport with sufficient capacity and capability to meet the classified and unclassified data, voice, video, imagery, and telemetry requirements at each installed location.

BITI Turnkey: Deployed complete BITI system/sub-system infrastructure/equipment for fixed Air Force installations (active duty, reserve and ANG) and GSU at approved locations. The last of the BITI Turnkey projects were completed on 29 Sep 2017 which enabled the BITI Program to declare completion of the Full Deployment (FD) milestone.

BITI Turnkey Modification: Follow on full base internal network modifications for system/sub-system infrastructure. Turnkey Modifications are completed on bases that have already received a Turnkey. As requirements have evolved, base missions have changed and some bases that have already received an earlier Turnkey may not have the fiber needed for the current Base Area Network spec. The Turnkey Modifications expands on the existing outside and inside plant, but not to the extent of an initial Turnkey. The last six (6) Turnkey Modifications started in FY15 and finished in FY18. After completion of these last Turnkey Modifications, all BITI base work will be Recapitalizations.

UNCLASSIFIED

Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 5: Air Force Communications	P-1 Line Item Number / Title: 835060 / Base Information Transpt Infrast (BITI) Wired
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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: 0303112F
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Line Item MDAP/MAIS Code: N78

BITI Recapitalization: Replaces critical "backbone" infrastructure of network equipment installed as part of Turnkeys on a routine basis for fielded systems for over 174 fixed Air Force installations (active duty, reserve, and Air National Guard (ANG)) and Geographically Separated Units (GSUs) at approved locations.

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.

Funding for this exhibit contained in PE 0303112F.

As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
AF	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	7.485	12.581	63.145	-	63.145	26.981	107.305	43.584	106.694
AFNG	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	7.743	4.690	4.819	-	4.819	3.446	1.963	8.426	5.170
AFR	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	-	0.000	1.566	-	1.566	2.746	0.000	-	0.183
Total: Secondary Distribution	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	15.228	17.271	69.530	-	69.530	33.173	109.268	52.010	112.047

UNCLASSIFIED

Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 5: Air Force Communications **P-1 Line Item Number / Title:** 835060 / Base Information Transpt Infrast (BITI) Wired

ID Code (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0303112F

Line Item MDAP/MAIS Code: N78

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	1 / BITI Mod/Recaps (Capability Improvement)		A		- / -	- / 15.228	- / 17.271	- / 69.530	- / 0.000	- / 69.530
P-3a	2 / BITI Mod/Recaps BITI Modification 2 (Capability Improvement)		A		- / -	- / -	- / -	- / -	- / -	- / -
P-40	Total Gross/Weapon System Cost				- / -	- / 15.228	- / 17.271	- / 69.530	- / -	- / 69.530

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	1 / BITI Mod/Recaps (Capability Improvement)		A		- / 33.173	- / 109.268	- / 0.000	- / 0.000	- / -	- / 244.470
P-3a	2 / BITI Mod/Recaps BITI Modification 2 (Capability Improvement)		A		- / -	- / -	- / 52.010	- / 112.047	- / 199.914	- / 363.971
P-40	Total Gross/Weapon System Cost				- / 33.173	- / 109.268	- / 52.010	- / 112.047	- / 199.914	- / 608.441

*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:
 BITI: FY20 funding includes, but is not limited to, implementation and upgrades to broadband, fiber-optic digital information transport networks to provide mission-critical information transfer capabilities at fixed Air Force bases (Active Duty, Air Force Reserve and Air National Guard) and selected geographically separated unit locations. Procurement efforts include, but are not limited, site surveys, installations, and interim contractor support (ICS).

 BITI Turnkey Modification: FY18 deliveries modified the complete system infrastructure/equipment on bases that had already received a Turnkey. The last six (6) installations started taking place in FY15 and finished in FY18.

 BITI Recapitalization: FY20 replaces BITI Turnkey fielded systems for 33 fixed Air Force installations.

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 5	P-1 Line Item Number / Title: 835060 / Base Information Transpt Infrast (BITI) Wired	Modification Number / Title: 1 / BITI Mod/Recaps

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

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	-	15.228	17.271	69.530	0.000	69.530	33.173	109.268	0.000	0.000	-	244.470
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	15.228	17.271	69.530	0.000	69.530	33.173	109.268	0.000	0.000	-	244.470
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	15.228	17.271	69.530	0.000	69.530	33.173	109.268	0.000	0.000	-	244.470

(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 Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

BITI Turnkey Modification: FY18 deliveries modified the complete system infrastructure/equipment on bases that had already received a Turnkey. Modernizations responded to Commercial-Off-The-Shelf (COTS) obsolescence, address changes in bandwidth requirements, and re-scaled the Base Area Network backbone equipment to support the base until the next mod/recapitalization (5 year cycle). The last 6 installations started taking place in FY15 and completed in FY18.

BITI Recapitalization: FY18-FY22 replaces BITI Turnkey fielded systems for 174 fixed Air Force installations.

Milestone/Development Status

Sustainment

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
AF	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	7.485	12.581	63.145	-	63.145	26.981	107.305	-	-
AFNG	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	7.743	4.690	4.819	-	4.819	3.446	1.963	-	-
AFR	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	-	0.000	1.566	-	1.566	2.746	0.000	-	-
Total: Secondary Distribution	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	15.228	17.271	69.530	0.000	69.530	33.173	109.268	0.000	0.000

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2020 Air Force										Date: February 2019			
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 5					P-1 Line Item Number / Title: 835060 / Base Information Transpt Infrast (BITI) Wired					Modification Number / Title: 1 / BITI Mod/Recaps			
ID Code (A=Service Ready, B=Not Service Ready) : A							MDAP/MAIS Code:						
Models of Systems Affected: BITI				Modification Type: Capability Improvement				Related RDT&E PEs: 0303112F					
Financial Plan	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
Procurement													
<i>Modification Item 1 of 1:</i> BITI Recapitalization													
B Kits													
Recurring													
BITI Recapitalization:EQUIPMENT Group B (Active)	- / -	2 / 2.642	17 / 6.367	13 / 8.993	- / -	13 / 8.993	10 / 10.816	38 / 15.943	- / -	- / -	- / -	80 / 44.761	
BITI Recapitalization:EQUIPMENT Group B (Guard)	- / -	30 / 6.648	20 / 3.785	16 / 4.004	- / -	16 / 4.004	19 / 2.770	0 / 1.963	- / -	- / -	- / -	85 / 19.170	
BITI Recapitalization:EQUIPMENT Group B (Reserve)	- / -	- / -	0 / 0.000	4 / 1.363	- / -	4 / 1.363	5 / 2.207	0 / 0.000	- / -	- / -	- / -	9 / 3.570	
<i>Subtotal: Recurring</i>	- / -	- / 9.290	- / 10.152	- / 14.360	- / -	- / 14.360	- / 15.793	- / 17.906	- / -	- / -	- / -	- / 67.501	
<i>Subtotal: BITI Recapitalization</i>	- / -	- / 9.290	- / 10.152	- / 14.360	- / -	- / 14.360	- / 15.793	- / 17.906	- / -	- / -	- / -	- / 67.501	
<i>Subtotal: Procurement, All Modification Items</i>	- / -	- / 9.290	- / 10.152	- / 14.360	- / -	- / 14.360	- / 15.793	- / 17.906	- / -	- / -	- / -	- / 67.501	
Support (All Modification Items)													
GROUP B: TOTAL NONRECURRING	- / -	- / 0.680	- / 2.291	- / 38.806	- / -	- / 38.806	- / 0.000	- / 72.844	- / -	- / -	- / -	- / 114.621	
PMA - Other Gov't Costs	- / -	- / 0.364	- / 0.458	- / 0.405	- / -	- / 0.405	- / 0.414	- / 0.421	- / -	- / -	- / -	- / 2.062	
A&AS	- / -	- / 3.252	- / 0.000	- / 9.211	- / -	- / 9.211	- / 8.857	- / 9.930	- / -	- / -	- / -	- / 31.250	
PMA - Contractor Services	- / -	- / 0.357	- / 1.945	- / 4.170	- / -	- / 4.170	- / 4.253	- / 4.338	- / -	- / -	- / -	- / 15.063	
<i>Subtotal: Support</i>	- / -	- / 4.653	- / 4.694	- / 52.592	- / -	- / 52.592	- / 13.524	- / 87.533	- / -	- / -	- / -	- / 162.996	
Installation													
<i>Modification Item 1 of 1:</i> BITI Recapitalization	- / -	32 / 1.285	37 / 2.425	33 / 2.578	- / -	33 / 2.578	34 / 3.856	38 / 3.829	- / -	- / -	- / -	174 / 13.973	
<i>Subtotal: Installation</i>	- / -	32 / 1.285	37 / 2.425	33 / 2.578	- / -	33 / 2.578	34 / 3.856	38 / 3.829	- / -	- / -	- / -	174 / 13.973	
Total													
Total Cost (Procurement + Support + Installation)	-	15.228	17.271	69.530	0.000	69.530	33.173	109.268	0.000	0.000	-	244.470	

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 5	P-1 Line Item Number / Title: 835060 / Base Information Transpt Infrast (BITI) Wired	Modification Number / Title: 1 / BITI Mod/Recaps
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ID Code (A=Service Ready, B=Not Service Ready) : A **MDAP/MAIS Code:**

Modification Item 1 of 1: BITI Recapitalization

Manufacturer Information

Manufacturer Name: TBD/Multiple Manufacturer Location: TBD

Administrative Leadtime (in Months): 1 Production Leadtime (in Months): 0

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

Installation Information

Method of Implementation: Contractor Facility

Installation Cost	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2018	- / -	32 / 1.285	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	32 / 1.285
FY 2019	- / -	- / -	37 / 2.425	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	37 / 2.425
FY 2020	- / -	- / -	- / -	33 / 2.578	- / -	33 / 2.578	- / -	- / -	- / -	- / -	- / -	33 / 2.578
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	34 / 3.856	- / -	- / -	- / -	- / -	34 / 3.856
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	38 / 3.829	- / -	- / -	- / -	38 / 3.829
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	- / -	32 / 1.285	37 / 2.425	33 / 2.578	- / -	33 / 2.578	34 / 3.856	38 / 3.829	- / -	- / -	- / -	174 / 13.973

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	0	-	-	-	-	32	-	37	-	-	-	-	33	-	34	-	-	-	38	-	-	-	-	-	-	-	-	-	0	174	
Out	0	-	-	-	-	-	12	12	19	15	11	-	8	8	16	18	8	9	10	10	9	9	-	-	-	-	-	-	0	174	

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Exhibit P-3a, Individual Modification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 5	P-1 Line Item Number / Title: 835060 / Base Information Transpt Infrast (BITI) Wired	Modification Number / Title: 2 / BITI Mod/Recaps BITI Modification 2

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

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	52.010	112.047	199.914	363.971
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	52.010	112.047	199.914	363.971
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	52.010	112.047	199.914	363.971

(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 Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

BITI Recapitalization: FY23 - FY27 continues the five year recapitalization cycle that is addressed on Recaps BITI Modification 1. The five year recapitalization cycle affects 174 fixed Air Force Installations.

NOTE: Direction in January 2016 was to begin reporting the modification effort for BITI on a P-3a exhibit starting for the FY18 and beyond. Modification 2 covers the second five year recapitalization from FY23 - FY27.

Milestone/Development Status

Sustainment

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
AF	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	-	-	-	-	-	-	-	43.584	106.694
AFNG	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	-	-	-	-	-	-	-	8.426	5.170
AFR	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	-	-	-	-	-	-	-	-	0.183
Total: Secondary Distribution	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	-	-	-	-	-	-	-	52.010	112.047

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2020 Air Force										Date: February 2019			
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 5					P-1 Line Item Number / Title: 835060 / Base Information Transpt Infrast (BITI) Wired					Modification Number / Title: 2 / BITI Mod/Recaps BITI Modification 2			
ID Code (A=Service Ready, B=Not Service Ready) : A							MDAP/MAIS Code:						
Models of Systems Affected: BITI				Modification Type: Capability Improvement				Related RDT&E PEs: 0303112F					
Financial Plan	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
Procurement													
<i>Modification Item 1 of 1:</i> BITI Recapitalization (2)													
B Kits													
Recurring													
BITI Recapitalization:EQUIPMENT Group B (Active)	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	4 / 2.708	13 / 7.111	61 / 44.298	78 / 54.117	
BITI Recapitalization:EQUIPMENT Group B (Guard)	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	32 / 7.010	20 / 4.300	35 / 7.341	87 / 18.651	
BITI Recapitalization:EQUIPMENT Group B (Reserve)	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.183	9 / 3.876	9 / 4.059	
<i>Subtotal: Recurring</i>	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 9.718	- / 11.594	- / 55.515	- / 76.827	
<i>Subtotal: BITI Recapitalization (2)</i>	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 9.718	- / 11.594	- / 55.515	- / 76.827	
<i>Subtotal: Procurement, All Modification Items</i>	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 9.718	- / 11.594	- / 55.515	- / 76.827	
Support (All Modification Items)													
GROUP B: TOTAL NONRECURRING	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 25.706	- / 82.908	- / 85.580	- / 194.194	
PMA - Other Gov't Costs	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.429	- / 0.438	- / 1.371	- / 2.238	
A&AS	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 10.128	- / 10.331	- / 32.248	- / 52.707	
PMA - Contractor Services	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 4.425	- / 4.514	- / 14.091	- / 23.030	
<i>Subtotal: Support</i>	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 40.688	- / 98.191	- / 133.290	- / 272.169	
Installation													
<i>Modification Item 1 of 1:</i> BITI Recapitalization (2)	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	36 / 1.604	33 / 2.262	105 / 11.109	174 / 14.975	
<i>Subtotal: Installation</i>	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	36 / 1.604	33 / 2.262	105 / 11.109	174 / 14.975	
Total													
Total Cost (Procurement + Support + Installation)	-	-	-	-	-	-	-	-	52.010	112.047	199.914	363.971	

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Exhibit P-3a, Individual Modification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 5	P-1 Line Item Number / Title: 835060 / Base Information Transpt Infrast (BITI) Wired	Modification Number / Title: 2 / BITI Mod/Recaps BITI Modification 2
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ID Code (A=Service Ready, B=Not Service Ready) : A **MDAP/MAIS Code:**

Modification Item 1 of 1: BITI Recapitalization (2)

Manufacturer Information

Manufacturer Name: TBD/Multiple	Manufacturer Location: TBD
Administrative Leadtime (in Months): 1	Production Leadtime (in Months): 0

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

Installation Information

Method of Implementation: Contractor Facility

Installation Cost	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2018	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	36 / 1.604	- / -	- / -	36 / 1.604
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	33 / 2.262	- / -	33 / 2.262
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	105 / 11.109	105 / 11.109
Total	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	36 / 1.604	33 / 2.262	105 / 11.109	174 / 14.975

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	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	36	-	-	-	-	33	105	174
Out	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	9	9	9	9	-	138	174

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity:
 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications
 Equip / BSA 5: Air Force Communications

P-1 Line Item Number / Title:
 835080 / AFNET

ID Code (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0208088F, 0208099F, 0303089F, 0303112F

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>)	-	174.777	72.596	147.063	-	147.063	142.754	128.875	136.082	133.401	-	935.548
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	174.777	72.596	147.063	-	147.063	142.754	128.875	136.082	133.401	-	935.548
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	174.777	72.596	147.063	-	147.063	142.754	128.875	136.082	133.401	-	935.548

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

Description:

These programs support Cyberspace Activities.

AFNet provides Commercial Off-The-Shelf (COTS) solutions to implement, deliver and upgrade installation processing nodes and boundaries, AF NIPRNet Gateways, Information Management Suite, enterprise network security, network situational awareness and C2 capabilities, and allows for the interface with and assured movement of information from terrestrial, air and space-based networks, thus enabling Air Force Information Operations (AFINOps). All funds used for AFNet Systems support the continued establishment and transformation of the AFINOps construct toward the standards and specifications of the DoD Joint Information Environment (JIE). The procurement efforts in this program budget line include, but are not limited to, system equipment, engineering/integration, certification and accreditation, deployment, testing, training equipment/systems, associated training and interim contractor support. Procurements implement technology and capabilities within the AFNet in accordance with the DoD IT Roadmap, AF Information Dominance Flight Plan, AF Cyber Blueprint and the AF Network Action Plan. All activities may incorporate support to other program elements across the Air Force Information Enterprise in accordance with SAF/A6 CIO direction, the Data Center Optimization Initiative (DCOI), previously known as the Federal Data Center Consolidation Initiative (FDCCI), and the JIE strategy.

PE 0208088F, AIR FORCE CYBERSPACE DEFENSE Weapon System (ACD)

AIR FORCE CYBERSPACE DEFENSE WEAPON SYSTEM (ACD): Procures and installs active defensive counter cyberspace operations and situational awareness capabilities in a Defensive Cyberspace Operations role to achieve cyberspace superiority for assigned missions. ACD procurements allow for 24/7/365 monitoring and defense of US Air Force and US Central Command, and Third Party SIPR/NIPR computer networks against hostile attacks as well as intrusion detection, network traffic analysis, network forensics analysis, countermeasure development and execution, and incident response. ACD provides indication and warning, correlation, logging, vulnerability remediation, assessment, process management, blocking, vulnerability identification, investigation and containment. In addition, ACD provides Cyber Security Service Provider (CSSP) system upgrades to the AFNet and several third party entities including Joint Strike Fighter, USTRANSCOM, and others. Efforts include, but are not limited to: Host Based Security System upgrades, Next Generation Firewall and Full Packet Capture and Data Analytics Enterprise.

FY20 funds will procure updates via 1067 requests for ACD which include, but are not limited to, Host Based Security System upgrades, Data Analytics, and hardware/software upgrades to move toward the JIE.

PE 0208099F, UNIFIED PLATFORM (UP)

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 5: Air Force Communications		P-1 Line Item Number / Title: 835080 / AFNET
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0208088F, 0208099F, 0303089F, 0303112F
Line Item MDAP/MAIS Code: N/A		
<p>UNIFIED PLATFORM (UP): Procures capabilities to provide the Cyber Mission Forces (CMFs), U.S. Cyber Command (USCYBERCOM), and AF Major Commands a joint cyber operations infrastructure capable of mission planning, data analytics, and decision support for the execution of full-spectrum cyberspace operations through tactical levels of warfare.</p> <p>FY20 funds will procure hardware necessary for the effective deployment of operational capability to the CMFs. Funding for this exhibit contained in PE 0208099F.</p> <p>PE 0303089F, CYBERSPACE OPERATIONS SYSTEMS</p> <p>This PE executes requirements for both AFINC and CSCS weapon systems. Funds may be used for other AFNet requirements if required.</p> <p>(1) AIR FORCE INTRANET CONTROL (AFINC): Procures and installs equipment for network operations, network defense and overall management of the AF NIPRNet Gateways (GW), the Information Management Suite (IMS) and the base Service Delivery Point Routers as well as the Air Force discrete requirements associated with the Joint Regional Security Stacks (JRSS). Efforts include, but are not limited to: AFNet NIPR GW (MAC-1 system) and SIPR GW, which deliver critical network defense capabilities for the AF enterprise with over 800k users directly supporting flying, maintenance, space and cyber operations across the full range of military operations. GWs prevent and detect unauthorized network infiltration attempts and automatically initiate network defense countermeasures to eliminate the adversary's ability to gain access to the enterprise. With the migration of all Air Force installations to JRSS the Air Force will decommission the GWs. The IMS provides the Air Force with secure, real time, out of band network management for the weapon system infrastructure and unifies the management/defense of AF networks and assets. Funding includes recapitalization of the IMS as well as procures equipment upgrades that directly relate to the migration of AF traffic and technology transition from the AFNet NIPR Gateways to the JRSS.</p> <p>(2) CYBERSPACE SECURITY AND CONTROL SYSTEM (CSCS): Procures and installs capabilities contributing to cyber mission assurance, including proactive defense and persistent network operations for the Air Force, the Air Force-provisioned portions of the DoD Information Network (DoDIN), and the Air Force Information Network (AFIN). CSCS modifications support the following activities: fault resolution to maintain operational capabilities; lead-in coordination activities at base-level Network Control Centers for necessary network security actions; monitoring of AF network services; managing of boundary protection devices and the Air Force network infrastructure; and continuous network situational awareness. Efforts include, but are not limited to: Data Center Consolidation and migration to the JIE; upgrade to the Core Services and the Air Force Vulnerability Management (AFVM) and Network Management.</p> <p>FY20 funds will procure modifications for CSCS and AFINC based on 1067 requests. CSCS includes, but is not limited to, Vulnerability Management, Area Processing Center and Regional Data Center Consolidations, Installation Service Nodes (ISNs), Installation Processing Nodes (IPNs), and base boundaries. AFINC includes, but is not limited to, Gateway e-mail security/DNS upgrades and SDP Router tech refresh.</p> <p>PE 0303228F, JOINT INFORMATION ENVIRONMENT (JIE)</p> <p>JIE is not a new start. This effort was previously funded under PE 0303089F and is now under PE 0303228F. No Budget Year FY2020 funding requested.</p> <p>JOINT INFORMATION ENVIRONMENT (JIE): This PE executes the requirements for JIE. Funds may be used for other AFNET requirements. DoD leadership has established and is tracking JIE implementation tasks that incrementally address diverse key categories that include but are not limited to: JRSS, network Consolidation, Security, Enterprise Services, Application Rationalization, Enterprise Licensing, Mobility Service, Cloud Computing, and Installation types (e.g., Core Data Centers, Enterprise Operations Center, etc.). Much of the Increment 1 effort focuses on delivering and implementing reference and solution architectures and artifacts, developing TTPs needed to operate JIE capabilities (with global instantiation), defining and establishing an initial set of enterprise services, and establishing the governance processes critical to JIE management. Similar implementation tasks will be established for PACOM and CONUS during Increments 2 and 3 respectively. JIE funding may be used to maintain the current architecture of the AFNET while JIE implementation is ongoing.</p> <p>FY20 funds will be used to implement the federal and DoD CIO mandated Multiprotocol Label Switching (MPLS) Router Network Time Division Multiplexing (TDM) to Internet Protocol (IP) transition as well as tech refresh provider edge (PE) routers installed during in 2016. The funding will also be used to fund AFNET network infrastructure, security, and enterprise services initiatives that will ensure AF compliance and supportability of DoD cloud initiatives.</p>		

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 5: Air Force Communications		P-1 Line Item Number / Title: 835080 / AFNET
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0208088F, 0208099F, 0303089F, 0303112F
Line Item MDAP/MAIS Code: N/A		

Funding for this exhibit is contained in PEs 0208088F, 0208099F, 0303089F, and 0303228F.

The FY2020 funding request for WSC 835080 was reduced by \$8.499M to account for the availability of prior year execution balances.

As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity:
3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications **P-1 Line Item Number / Title:**
835080 / AFNET
Equip / BSA 5: Air Force Communications

ID Code (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0208088F, 0208099F, 0303089F, 0303112F

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	1 / ACD WS 0208088F (Reliability & Maintainability)		A		- / -	- / 30.914	- / 30.044	- / 16.883	- / 0.000	- / 16.883
P-40a	Unified Platform (UP)				- / -	- / 0.000	- / 0.000	- / 4.963	- / -	- / 4.963
P-3a	1 / AFINC/CSCS WS 0303089 (Reliability & Maintainability)		A		- / -	- / 143.863	- / 42.552	- / 125.217	- / 0.000	- / 125.217
P-40a	Joint Information Environment (JIE)				- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000
P-40	Total Gross/Weapon System Cost				- / -	- / 174.777	- / 72.596	- / 147.063	- / -	- / 147.063

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	1 / ACD WS 0208088F (Reliability & Maintainability)		A		- / 23.895	- / 33.325	- / 33.917	- / 34.528	- / -	- / 203.506
P-40a	Unified Platform (UP)				- / -	- / -	- / -	- / -	- / -	- / -
P-3a	1 / AFINC/CSCS WS 0303089 (Reliability & Maintainability)		A		- / 104.475	- / 81.000	- / 87.445	- / 83.889	- / -	- / 668.441
P-40a	Joint Information Environment (JIE)				- / 9.420	- / 9.588	- / 9.759	- / 9.934	- / 0.000	- / 38.701
P-40	Total Gross/Weapon System Cost				- / 142.754	- / 128.875	- / 136.082	- / 133.401	- / -	- / 935.548

*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. Title represents the P-40a Title when only the P-40a Summary/Total is shown.

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

Justification:
This program, AFNET P-40A Category Unified Platform PE 28099F Item Unified Platform (UP), is a new start.

These programs support Cyberspace Activities.

FY20 AFNET (835080) funding provides for, but is not limited to, procurement & transformation of the installed and supported critical classified and unclassified information equipment capabilities for the Air Force Network (AFNet) Systems, modification efforts within three defensive cyber weapon systems (ACD, AFINC & CSCS), transformation/establishment of AFINOps to DoD JIE standards and specification, and implementation of the UP.

PE 0208088F, AF DEFENSIVE CYBERSPACE OPERATIONS

(1) ACD: Procures and installs active defensive counter cyberspace systems, situational awareness capabilities, and comprehensive malware forensics analysis.

PE 0208099F, UNIFIED PLATFORM (UP)

(1) UP: Procures capabilities to provide the Cyber Mission Forces (CMFs), U.S. Cyber Command (USCYBERCOM), and AF Major Commands a Joint cyber operations infrastructure capable of mission planning, data analytics, and decision support for the execution of full-spectrum cyberspace operations at the operations through tactical levels of warfare.

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 5: Air Force Communications		P-1 Line Item Number / Title: 835080 / AFNET
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0208088F, 0208099F, 0303089F, 0303112F
Line Item MDAP/MAIS Code: N/A		
PE 0303089F, CYBERSPACE OPERATIONS SYSTEMS		
<p>(1) AFINC: Procures and installs equipment for network operations, network defense and overall management of the AF NIPRNet Gateways as well as the Air Force discrete requirements associated with the Joint Regional Security Stacks (JRSS).</p> <p>(2) CSCS: Procures and installs capabilities contributing to cyber mission assurance, including proactive defense and persistent network operations for the Air Force and the Air Force-provisioned portions of the DoD Information Network (DoDIN) and the Air Force Information Network (AFIN).</p> <p>PE 0303228F, JOINT INFORMATION ENVIRONMENT (JIE)</p> <p>JIE is not a new start. This effort was previously funded under PE 0303089F and is now under PE 0303228F. No Budget Year FY2020 funding requested.</p> <p>(1) JIE: Procures end items to support AF JIE implementation tasks that incrementally address key categories which include but are not limited to: JRSS, Network Consolidation, Security, Enterprise Services, Application Rationalization, Enterprise Licensing, Mobility Service, Cloud Computing, and Installation Types. JIE funding may be used to maintain the current AFNET architecture while JIE implementation is ongoing.</p> <p>Efforts with funding starting in FY 2021 through FY 2024 are summarized on the P-40. Not all details of this funding are included in this P-40 exhibit set. A summary of the excepted details is as follows:</p> <ul style="list-style-type: none">(a) FY 2021 Cost Delta: 4.964 million(b) FY 2022 Cost Delta: 4.962 million(c) FY 2023 Cost Delta: 4.961 million(d) FY 2024 Cost Delta: 5.050 million(e) FY Total Cost Delta: 24.900 million		

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Exhibit P-3a, Individual Modification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 5	P-1 Line Item Number / Title: 835080 / AFNET	Modification Number / Title: 1 / ACD WS 0208088F

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

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	-	30.914	30.044	16.883	0.000	16.883	23.895	33.325	33.917	34.528	-	203.506
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	30.914	30.044	16.883	0.000	16.883	23.895	33.325	33.917	34.528	-	203.506
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	30.914	30.044	16.883	0.000	16.883	23.895	33.325	33.917	34.528	-	203.506

(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 Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

PE 0208088F, AF DEFENSIVE CYBERSPACE OPERATIONS (ACD) WEAPON SYSTEM

Requirements for ACD have been funded previously in 0303112F and 0207425F as part of the AFNet 835080 procurement exhibit. Funds may be used for other AFNet requirements if required.
PE 0208088F, AIR FORCE CYBERSPACE DEFENSE (ACD) Weapon System

AIR FORCE CYBERSPACE DEFENSE WEAPON SYSTEM (ACD): Procures and installs active defensive counter cyberspace operations and situational awareness capabilities in a Defensive Cyberspace Operations role to achieve cyberspace superiority for assigned missions. ACD procurements allow for 24/7/365 monitoring and defense of US Air Force and US Central Command, and Third Party SIPR/NIPR computer networks against hostile attacks as well as intrusion detection, network traffic analysis, network forensics analysis, countermeasure development and execution, and incident response. ACD provides indication and warning, correlation, logging, vulnerability remediation, assessment, process management, blocking, vulnerability identification, investigation and containment. In addition, ACD provides CSSP (Cyber Security Service Provider) system upgrades to the AFNet and several third party entities including Joint Strike Fighter, USTRANSCOM, and others. Efforts include, but are not limited to: Host Based Security System upgrades, Next Generation Firewall and Full Packet Capture and Data Analytics Enterprise.

FY20 funds will procure updates via 1067 requests for ACD which include, but are not limited to, Host Based Security System upgrades, Data Analytics, and hardware/software upgrades to move toward the JIE.

Milestone/Development Status

Sustainment

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Exhibit P-3a, Individual Modification: PB 2020 Air Force											Date: February 2019		
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 5				P-1 Line Item Number / Title: 835080 / AFNET				Modification Number / Title: 1 / ACD WS 0208088F					
ID Code (A=Service Ready, B=Not Service Ready) : A							MDAP/MAIS Code:						
Models of Systems Affected: ACD				Modification Type: Reliability & Maintainability				Related RDT&E PEs: 0303112F					
Financial Plan	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
Procurement													
<i>Modification Item 1 of 1:</i> ACD MODs													
B Kits													
Recurring													
ACD MODs:EQUIPMENT Group B (Active)	- / -	1 / 22.772	1 / 20.681	1 / 7.333	- / -	1 / 7.333	1 / 14.154	1 / 23.389	1 / 23.783	1 / 24.212	- / -	7 / 136.324	
<i>Subtotal: Recurring</i>	- / -	- / 22.772	- / 20.681	- / 7.333	- / -	- / 7.333	- / 14.154	- / 23.389	- / 23.783	- / 24.212	- / -	- / 136.324	
<i>Subtotal: ACD MODs</i>	- / -	- / 22.772	- / 20.681	- / 7.333	- / -	- / 7.333	- / 14.154	- / 23.389	- / 23.783	- / 24.212	- / -	- / 136.324	
<i>Subtotal: Procurement, All Modification Items</i>	- / -	- / 22.772	- / 20.681	- / 7.333	- / -	- / 7.333	- / 14.154	- / 23.389	- / 23.783	- / 24.212	- / -	- / 136.324	
Support (All Modification Items)													
PMA - Contractor Services	- / -	- / 6.674	- / 7.510	- / 7.660	- / 0.000	- / 7.660	- / 7.814	- / 7.970	- / 8.129	- / 8.275	- / -	- / 54.032	
PMA - Other Gov't Costs	- / -	- / 1.468	- / 1.853	- / 1.890	- / -	- / 1.890	- / 1.927	- / 1.966	- / 2.005	- / 2.041	- / -	- / 13.150	
<i>Subtotal: Support</i>	- / -	- / 8.142	- / 9.363	- / 9.550	- / 0.000	- / 9.550	- / 9.741	- / 9.936	- / 10.134	- / 10.316	- / -	- / 67.182	
Installation													
<i>Subtotal: Installation</i>	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	
Total													
Total Cost (Procurement + Support + Installation)	-	30.914	30.044	16.883	0.000	16.883	23.895	33.325	33.917	34.528	-	203.506	

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Exhibit P-3a, Individual Modification: PB 2020 Air Force						Date: February 2019	
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 5			P-1 Line Item Number / Title: 835080 / AFNET			Modification Number / Title: 1 / ACD WS 0208088F	
ID Code (A=Service Ready, B=Not Service Ready) : A					MDAP/MAIS Code:		
Modification Item 1 of 1: ACD MODs							
Manufacturer Information							
Manufacturer Name: Multiple				Manufacturer Location: Various			
Administrative Leadtime (in Months): 7				Production Leadtime (in Months): 12			
Dates	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Contract Dates	May 2018	May 2019	May 2020	May 2021	May 2022	May 2023	May 2024
Delivery Dates	May 2019	May 2020	May 2021	May 2022	May 2023	May 2024	May 2025
Installation Information							
Method of Implementation (Organic): Org/Intermediate					Installation Quantity: 7		

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 5	P-1 Line Item Number / Title: 835080 / AFNET	Aggregated Items Title: Unified Platform (UP)
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Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Unified Platform PE 28099F																				
Unified Platform (UP)	A		-	-	-	-	-	0.000	-	-	0.000	2.482	2	4.963	-	-	-	2.482	2	4.963
Subtotal: Unified Platform PE 28099F			-	-	-	-	-	0.000	-	-	0.000	-	-	4.963	-	-	-	-	-	4.963
Total			-	-	-	-	-	0.000	-	-	0.000	-	-	4.963	-	-	-	-	-	4.963

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

Remarks:
Funds in the Unified Platform (UP) PE will procure hardware necessary for the effective deployment of a Joint cyber operations infrastructure to the Cyber Mission Forces.

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Exhibit P-3a, Individual Modification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 5	P-1 Line Item Number / Title: 835080 / AFNET	Modification Number / Title: 1 / AFINC/CSCS WS 0303089

ID Code (A=Service Ready, B=Not Service Ready) : A	MDAP/MAIS Code:
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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>)	-	143.863	42.552	125.217	0.000	125.217	104.475	81.000	87.445	83.889	-	668.441
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	143.863	42.552	125.217	0.000	125.217	104.475	81.000	87.445	83.889	-	668.441
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	143.863	42.552	125.217	0.000	125.217	104.475	81.000	87.445	83.889	-	668.441

(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 Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

PE 0303089F, CYBERSPACE OPERATIONS SYSTEMS

This PE executes requirements for both AFINC and CSCS weapon systems. Funds may be used for other AFNet requirements if required.

(1) AIR FORCE INTRANET CONTROL (AFINC): Procures and installs equipment for network operations, network defense and overall management of the AF NIPRNet Gateways (GW), the Information Management Suite (IMS) and the base Service Delivery Point Routers as well as the Air Force discrete requirements associated with the Joint Regional Security Stacks (JRSS). Efforts include, but are not limited to: AFNet NIPR GW (MAC-1 system) and SIPR GW, which deliver critical network defense capabilities for the AF enterprise with over 800k users directly supporting flying, maintenance, space and cyber operations across the full range of military operations. GWs prevent and detect unauthorized network infiltration attempts and automatically initiate network defense countermeasures to eliminate the adversary's ability to gain access to the enterprise. With the migration of all Air Force installations to JRSS the Air Force will decommission the GWs. The IMS provides the Air Force with secure, real time, out of band network management for the weapon system infrastructure and unifies the management/defense of AF networks and assets. Funding includes recapitalization of the IMS as well as procures equipment upgrades that directly relate to the migration of AF traffic and technology transition from the AFNet NIPR Gateways to the JRSS.

(2) CYBERSPACE SECURITY AND CONTROL SYSTEM (CSCS): Procures and installs capabilities contributing to cyber mission assurance, including proactive defense and persistent network operations for the Air Force, the Air Force-provisioned portions of the DoD Information Network (DoDIN), and the Air Force Information Network (AFIN). CSCS modifications support the following activities: fault resolution to maintain operational capabilities; lead-in coordination activities at base-level Network Control Centers for necessary network security actions; monitoring of AF network services; managing of boundary protection devices and the Air Force network infrastructure; and continuous network situational awareness. Efforts include, but are not limited to: Data Center Consolidation and migration to the JIE; upgrade to the Core Services and the Air Force Vulnerability Management (AFVM) and Network Management.

FY20 funds will procure modifications for CSCS and AFINC based on 1067 requests. CSCS includes, but is not limited to, Vulnerability Management, Area Processing Center and Regional Data Center Consolidations, Installation Service Nodes (ISNs), Installation Processing Nodes (IPNs), and base boundaries. AFINC includes, but is not limited to, Gateway e-mail security/DNS upgrades and SDP Router tech refresh.

Milestone/Development Status

Sustainment

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Exhibit P-3a, Individual Modification: PB 2020 Air Force										Date: February 2019			
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 5					P-1 Line Item Number / Title: 835080 / AFNET					Modification Number / Title: 1 / AFINC/CSCS WS 0303089			
ID Code (A=Service Ready, B=Not Service Ready) : A							MDAP/MAIS Code:						
Models of Systems Affected: AFINC-CSCS-WS				Modification Type: Reliability & Maintainability				Related RDT&E PEs: 0303112F					
Financial Plan	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
Procurement													
<i>Modification Item 1 of 1:</i> AFINC/CSCS WS MODs													
B Kits													
Recurring													
AFINC/CSCS WS MODs:EQUIPMENT Group B (Active)	- / -	1 / 130.901	1 / 31.850	1 / 110.125	- / -	1 / 110.125	1 / 89.081	1 / 65.277	1 / 71.408	1 / 67.564	- / -	7 / 566.206	
<i>Subtotal: Recurring</i>	- / -	- / 130.901	- / 31.850	- / 110.125	- / -	- / 110.125	- / 89.081	- / 65.277	- / 71.408	- / 67.564	- / -	- / 566.206	
<i>Subtotal: AFINC/CSCS WS MODs</i>	- / -	- / 130.901	- / 31.850	- / 110.125	- / -	- / 110.125	- / 89.081	- / 65.277	- / 71.408	- / 67.564	- / -	- / 566.206	
<i>Subtotal: Procurement, All Modification Items</i>	- / -	- / 130.901	- / 31.850	- / 110.125	- / -	- / 110.125	- / 89.081	- / 65.277	- / 71.408	- / 67.564	- / -	- / 566.206	
Support (All Modification Items)													
PMA - Contractor Services	- / -	- / 11.828	- / 9.308	- / 13.772	- / -	- / 13.772	- / 14.048	- / 14.350	- / 14.637	- / 14.900	- / -	- / 92.843	
PMA - Other Gov't Costs	- / -	- / 1.134	- / 1.394	- / 1.320	- / -	- / 1.320	- / 1.346	- / 1.373	- / 1.400	- / 1.425	- / -	- / 19.392	
<i>Subtotal: Support</i>	- / -	- / 12.962	- / 10.702	- / 15.092	- / -	- / 15.092	- / 15.394	- / 15.723	- / 16.037	- / 16.325	- / -	- / 102.235	
Installation													
<i>Subtotal: Installation</i>	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	
Total													
Total Cost (Procurement + Support + Installation)	-	143.863	42.552	125.217	0.000	125.217	104.475	81.000	87.445	83.889	-	668.441	

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Exhibit P-3a, Individual Modification: PB 2020 Air Force						Date: February 2019	
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 5			P-1 Line Item Number / Title: 835080 / AFNET			Modification Number / Title: 1 / AFINC/CSCS WS 0303089	
ID Code (A=Service Ready, B=Not Service Ready) : A					MDAP/MAIS Code:		
Modification Item 1 of 1: AFINC/CSCS WS MODs							
Manufacturer Information							
Manufacturer Name: Multiple				Manufacturer Location: Various			
Administrative Leadtime (in Months): 7				Production Leadtime (in Months): 12			
Dates	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Contract Dates	May 2018	May 2019	May 2020	May 2021	May 2022	May 2023	May 2024
Delivery Dates	May 2019	May 2020	May 2021	May 2022	May 2023	May 2024	May 2025
Installation Information							
Method of Implementation (Organic): Org/Intermediate					Installation Quantity: 7		

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Exhibit P-40a, Budget Item Justification For Aggregated Modification Items: PB 2020 Air Force													Date: February 2019					
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 5						P-1 Line Item Number / Title: 835080 / AFNET						Aggregated Modification Items Title: Joint Information Environment (JIE)						

Item Number / Title	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
JIE-1 / JIE-Mod			-	-	-	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
Total			-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000

Item Number / Title	ID CD	MDAP/MAIS Code	FY 2021			FY 2022			FY 2023			FY 2024			To Complete			Total Cost		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
JIE-1 / JIE-Mod			-	-	9.420	-	-	9.588	-	-	9.759	-	-	9.934	-	-	-	-	-	38.701
Total			-	-	9.420	-	-	9.588	-	-	9.759	-	-	9.934	-	-	0.000	-	-	38.701

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

Modification Information:

Item Number / Title	Models of Systems Affected	Modification Type
JIE-1 / JIE-Mod	JIE	Reliability & Maintainability

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications **P-1 Line Item Number / Title:** 835110 / Joint Communications Support Element (JCSE)
Equip / BSA 5: Air Force Communications

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>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	-	5.135	3.145	6.505	-	6.505	6.194	5.472	5.569	5.669	-	37.689
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	5.135	3.145	6.505	-	6.505	6.194	5.472	5.569	5.669	-	37.689
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	5.135	3.145	6.505	-	6.505	6.194	5.472	5.569	5.669	-	37.689

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

Description:

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

Funding for this exhibit is contained in PE 0207422F, Deployable Command, Control, and Communications (C3) Systems.

As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications **P-1 Line Item Number / Title:** 835110 / Joint Communications Support Element (JCSE)
Equip / BSA 5: Air Force Communications

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-40a	Joint Communications Support Element (JCSE)				- / -	- / 5.135	- / 3.145	- / 6.505	- / -	- / 6.505
P-40	Total Gross/Weapon System Cost				- / -	- / 5.135	- / 3.145	- / 6.505	- / -	- / 6.505

*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. Title represents the P-40a Title when only the P-40a Summary/Total is shown.

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

Justification:
 JCSE: FY20 base funding procures communications equipment based on Strategic Planning Guidance. This includes the maximum capabilities for narrowband, wideband and protected satellite communications (SATCOM) terminals and systems, tactical radios, terrestrial communications systems, satellite hubs, networking elements, virtual appliances, Video Teleconferencing (VTC) capabilities, alternative power solutions, Airborne /En-Route, Forced Entry, Cyber Security, and Mobile Joint C2 equipment. Advancements in technology have provided opportunities to modernize current equipment sets with enhanced capabilities to meet the program goals which include meeting emerging real-world operational and cyber defense requirements with maximum capabilities, the smallest possible footprint, lowest operations and maintenance costs, and seamless integration with the global information grid. This equipment is a critical part of Command, Control and Communications packages that provide direct operational support to joint forces and HQ elements deployed to austere locations around the globe. Per the Planning Guidance, the Air Force is mandated to fund one-third of the fair share of JCSE's validated equipment modernization plan. JCSE's Program is built/restructured based on Combatant Command (CCMD) and Service Components' requirements and emerging technologies. The Services influence JCSE's spending plan through recommendations in concert with Major Defense Acquisition Program (MDAP) schedules, ensuring that Service dollars meet Joint Service requirements.

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force														Date: February 2019					
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 5							P-1 Line Item Number / Title: 835110 / Joint Communications Support Element (JCSE)							Aggregated Items Title: Joint Communications Support Element (JCSE)					

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Uncategorized																				
JCSE Deployable C3 Systems	A		-	-	-	5.135	1	5.135	3.145	1	3.145	6.505	1	6.505	-	-	-	6.505	1	6.505
Subtotal: Uncategorized			-	-	-	-	-	5.135	-	-	3.145	-	-	6.505	-	-	-	-	-	6.505
Total			-	-	-	-	-	5.135	-	-	3.145	-	-	6.505	-	-	-	-	-	6.505

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

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications
P-1 Line Item Number / Title: 835140 / USCENTCOM
 Equip / BSA 5: Air Force Communications

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>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	-	18.719	8.194	20.190	-	20.190	19.676	18.320	18.647	18.982	-	122.728
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	18.719	8.194	20.190	-	20.190	19.676	18.320	18.647	18.982	-	122.728
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	18.719	8.194	20.190	-	20.190	19.676	18.320	18.647	18.982	-	122.728

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

Description:

PE 0201122F USCENTCOM COMMUNICATIONS

HQ USCENTCOM's mission is to work with its national and international partners in promoting development and cooperation among nations, responding to crises, and deterring or defeating state and transnational aggression in order to establish regional security and stability across its entire Area of Responsibility (AOR). Since USCENTCOM's AOR, covering the Middle East, includes the challenges of regional stability and violent extremists, this Combatant Command's mission is critical in regards to the Overseas Contingency Operations (OCO). To meet its mission responsibilities across this geographical expanse, HQ USCENTCOM must rely heavily on Command, Control, Communications, and Computer (C4) systems capable of achieving full spectrum information superiority.

Funding for this effort is contained in PE 0201122F USCENTCOM Communications.

USCENTCOM COMMAND AND CONTROL SYSTEMS: Effort will provide end of life replacement for, but not limited to, Command and Control (C2) systems (thin client, server, etc), Joint Information Environment (JIE), classified and unclassified voice, data and video dissemination, storage area network (SAN) infrastructure, establishment of mission partner networks such as but not limited to; CENTCOM Partner Network (CPN), CENTCOM Partner Network Extended (CPN-X), Mission Partner Environment Information System (MPE-IS), and other coalition partner networks which provide secure networks for bilateral / multilateral information sharing up to the SECRET RELEASABLE level. Support maximum data storage capacity requirements for HQ war records collection, Modeling & Simulation Systems (J8MS), and uninterrupted power supply (UPS) required for the command's collateral classified and unclassified data networks. This equipment provides HQ USCENTCOM with effective C4 systems to effectively conduct current and future operations throughout the AOR.

PE 0201131F AIR COMBAT COMMAND (ACC) COMMUNICATIONS

Air Forces United States Central Command (AFCENT) is the ACC component designated to support USCENTCOM operations in deployed theaters for the AF. Funds C4 systems throughout the area of responsibility (AOR). Procurement efforts include: communications infrastructure requirements, satellite terminal equipment, data network servers and associated information assurance tools, information transfer nodes and routers, joint radio relays, as well as deployed air traffic control and landing systems and navigational aid systems. AFCENT funds/support our portion of CENTCOM directed mission partner initiatives such as CPN X to ensure interoperability.

Funding for this effort is contained in PE 0201131F AIR COMBAT COMMAND (ACC) COMMUNICATIONS

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 5: Air Force Communications		P-1 Line Item Number / Title: 835140 / USCENTCOM
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		

As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications **P-1 Line Item Number / Title:** 835140 / USCENTCOM
Equip / BSA 5: Air Force Communications

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-40a	USCENTCOM Communications				- / -	- / 4.576	- / 2.084	- / 4.720	- / -	- / 4.720
P-40a	Service Support to USCENTCOM - Communications				- / -	- / 14.143	- / 6.110	- / 15.470	- / -	- / 15.470
P-40	Total Gross/Weapon System Cost				- / -	- / 18.719	- / 8.194	- / 20.190	- / -	- / 20.190

*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. Title represents the P-40a Title when only the P-40a Summary/Total is shown.

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

Justification:

PE 0201122F USCENTCOM COMMUNICATIONS

USCENTCOM COMMAND AND CONTROL SYSTEMS: FY20 funding will procure C4 equipment items required for HQ USCENTCOM, MacDill AFB, FL, Disaster Recovery Site (Site X), and CENTCOM Forward HQ at Al Udeid, Qatar, to effectively conduct communications support missions impacting Command and Control (C2) and operational missions conducted by the Commander and staff. The C4/Information Technology (IT) supporting the command must be replaced to meet the ever increasing demands of current, ongoing contingency operations, and the growth of data storage requirements.

STORAGE CAPABILITIES: HQ CENTCOM and CENTCOM Forward HQ require maximum storage capabilities to maintain a level of readiness, reduce server footprint, and continue capabilities as they are implemented.

PE 0201131F AIR COMBAT COMMAND (ACC) COMMUNICATIONS FY20 funds will provide:

BASE COMMAND, CONTROL, COMMUNICATIONS, COMPUTERS, AND INTELLIGENCE (C4I) INFRASTRUCTURE. This FY20 effort will support communications CENTCOM Theater Posture Plan (TPP) locations identified for post OEF support. This effort is required at several AFCENT locations in the AOR and will provide critical infrastructure to support the transition to the Joint Information Environment, as required by DoD CIO mandate. Mode 5 mandate requires AFCENT obtain transition devices for theater radars to ensure proper C2. Developing infrastructure must be funded to support counter Unmanned Aircraft System technologies and new technologies for air domain awareness. Replacement for aged Air Traffic Control And Landing Systems equipment is required.

Southwest Asia - THEATER ENTERPRISE REQUIREMENTS - AFCENT must procure new system to support contingency operations and base opening/closure requirements, which average 2 base openings and closing per year regardless of new or ongoing contingencies. A new Jordanian Base (MSAB) has been added to the enduring base list and commercialization projects are underway to completed transition from tactical support to enduring infrastructure.

JOINT INFORMATION ENVIRONMENT: Implementation of JIE at MacDill AFB with HQ USCENTCOM establishing regional node.

FY20 effort will continue to support infrastructure and services essential secure networks for bilateral and multilateral information up to the secret releasable level. Support the networks and cross domain solution necessary to securely and safely integrate coalition sensors and C2 capabilities with C2 efforts. Includes integration of Coalition operations into our Combined Air Operations Center at Al Uedied AB

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 5 **P-1 Line Item Number / Title:** 835140 / USCENTCOM **Aggregated Items Title:** USCENTCOM Communications

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Uncategorized																				
USCENTCOM COMMAND AND CONTROL SYSTEM	A		-	-	-	4.576	1	4.576	2.084	1	2.084	4.720	1	4.720	-	-	-	4.720	1	4.720
Subtotal: Uncategorized			-	-	-	-	-	4.576	-	-	2.084	-	-	4.720	-	-	-	-	-	4.720
Total			-	-	-	-	-	4.576	-	-	2.084	-	-	4.720	-	-	-	-	-	4.720

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

Remarks:
 USCENTCOM: FY20 procurement funds in the amount of \$3.084M will procure C4 equipment items required for HQ USCENTCOM, MacDill AFB, FL and CENTCOM Forward HQ at Al Udeid, Qatar. Funding is vital to effectively conduct communications support missions impacting Command and Control (C2) and operational missions conducted by the Commander and staff supporting the Command's CONPLAN/OPLANS. The C4/Information Technology (IT) supporting the command must be replaced to meet the ever increasing demands of enduring operations and the growth of data storage requirements, as well as emergent cyber threats.

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force														Date: February 2019					
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 5							P-1 Line Item Number / Title: 835140 / USCENTCOM							Aggregated Items Title: Service Support to USCENTCOM - Communications					

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Uncategorized																				
Deployable Tactical Air Navigation (DTACAN)	A		-	-	-	5.000	1	5.000	2.400	2	4.800	4.853	1	4.853	-	-	-	4.853	1	4.853
BASE C4I SUPPORT	A		-	-	-	-	-	0.000	0.500	2	1.000	0.406	4	1.624	-	-	-	0.406	4	1.624
SWA-THEATER ENTERPRISE REQUIREMENTS	A		-	-	-	1.502	6	9.009	0.310	1	0.310	8.993	1	8.993	-	-	-	8.993	1	8.993
JOINT INFORMATION ENVIRONMENT CAPABILITIES	A		-	-	-	-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-
AFCENT PMA Other Government Costs	A		-	-	-	-	-	0.134	-	-	-	-	-	-	-	-	-	-	-	-
AFCENT PMA Contract Service	A		-	-	-	-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Uncategorized			-	-	-	-	-	14.143	-	-	6.110	-	-	15.470	-	-	-	-	-	15.470
Total			-	-	-	-	-	14.143	-	-	6.110	-	-	15.470	-	-	-	-	-	15.470

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

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity:
 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications **P-1 Line Item Number / Title:**
 835160 / USSTRATCOM
 Equip / BSA 5: Air Force Communications

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>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	-	0.000	0.000	11.244	-	11.244	13.441	13.712	13.956	14.209	-	66.562
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	0.000	0.000	11.244	-	11.244	13.441	13.712	13.956	14.209	-	66.562
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	0.000	0.000	11.244	-	11.244	13.441	13.712	13.956	14.209	-	66.562

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

Description:

The USSTRATCOM COMMAND AND CONTROL FACILITY (C2F) IT Enterprise will incorporate all facets of the previously reported within PE 0303255F, USSTRATCOM C2 SYSTEMS LIFECYCLE HARDWARE MANAGEMENT (old C2 Modernization), ANALYSIS AND TARGETING, and FORCE SURVIVABILITY, ANALYSIS, AND MANAGEMENT SYSTEM (FSAM). The USSTRATCOM REPLACEMENT FACILITY FIT-OUT program does not have funding in FY20. All programs and systems will now ride on enterprise infrastructure, and be reported under BPAC 835160 PE 11301F, except the GDC2 program. It will continue to be reported under PE 0303255F, but is a separate program included in BPAC 835160.

This is not a new start.

a. USSTRATCOM C2 SYSTEMS LIFECYCLE HARDWARE MANAGEMENT: This effort provides the C2 infrastructure and hardware to acquire, process, and deliver information, as needed, to enhance decision making for USSTRATCOM. This effort employs a set of underlying information services, technologies, and tools that enable the Commander of USSTRATCOM to achieve broad operational warfighting capabilities. The C2F IT Enterprise adds capability as it builds to a final architecture. The cyber architecture is a collection of distributed databases and applications, integrated through a grid of supporting services. This effort was previously referred to as "C2 Modernization and reported under BPAC 833140, PE 0303255F and is NOT a new start.

Beginning in FY20 this program will be captured under the USSTRATCOM IT Enterprise construct, BPAC 835160, PE 0101301F

b. ANALYSIS AND TARGETING - JOINT WARFARE ANALYSIS CENTER (JWAC): effort provides the hardware that enables the JWAC to develop and recommend strategic technical solutions. JWAC coordinates directly with the staffs of all Unified Commands, Department of Defense (DoD) elements, Combatant Commands, military services, and other government departments and agencies to respond to crises.

Beginning in FY20 this program will be captured under the USSTRATCOM IT Enterprise construct, BPAC 835160, PE 0101301F

c. FORCE SURVIVABILITY, ANALYSIS, AND MANAGEMENT: Provides a decision support system and is designed to provide the commander with Force Management (pre attack) and Force Survival (post attack) information needed to ensure survival of strategic forces. Provides the commander vital decision making data by correlating strategic force status reported by Force Status Reporting (FSR) with missile attack warning information. Processing and Display Subsystem - Migration (PDS-M) will continue to provide the commander with missile attack warning information

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 5: Air Force Communications		P-1 Line Item Number / Title: 835160 / USSTRATCOM
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		
<p>Beginning in FY20 this program will be captured under the USSTRATCOM IT Enterprise construct, BPAC 835160, PE 0101301F</p> <p>d. GLOBAL DISTRIBUTED COMMAND AND CONTROL (GDC2): Detailed information is classified and will be provided on a need to know basis. For further information please contact the Strategic C2 Systems Branch (SAF/AQID) at (202) 404-3405. This effort will not be reported as part of the IT Enterprise. GDC2 will continue to be reported under PE 0303255F within BPAC 835160</p> <p>e. USSTRATCOM REPLACEMENT FACILITY FIT-OUT: No funding in FY20 and out</p> <p>As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.</p>		

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications **P-1 Line Item Number / Title:** 835160 / USSTRATCOM
Equip / BSA 5: Air Force Communications

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-40a	USSTRATCOM IT Enterprise				- / -	- / 0.000	- / 0.000	- / 8.917	- / -	- / 8.917
P-40a	Command, Control, Communication, and Computers (C4) - STRATCOM				- / -	- / 0.000	- / 0.000	- / 2.327	- / -	- / 2.327
P-40	Total Gross/Weapon System Cost				- / -	- / 0.000	- / 0.000	- / 11.244	- / -	- / 11.244

*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. Title represents the P-40a Title when only the P-40a Summary/Total is shown.
 Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.

Justification:
 USSTRATCOM IT Enterprise - This effort provides the Command and Control infrastructure and hardware to acquire, process, and deliver information, as needed, to enable and enhance decision making for USSTRATCOM. USSTRATCOM is tasked with vital roles for our nation. These roles require secure and survivable infrastructure in order to conduct strategic planning, warfighting operations, provide global situational awareness to the National Command Authorities and Combatant Commands, aid the President's nuclear response decision-making process. This effort employs a set of underlying information services, technologies, and tools to ensure a standard configuration of information technology architecture that operationalizes USSTRATCOM's mission priorities, with a Combat-Ready Force prepared for Decisive Response. The enterprise architecture is a collection of distributed databases and applications, integrated through a cloud-based infrastructure. The facility includes features and capabilities such as secure High-Altitude Electromagnetic Pulse (HEMP) Shielded Command and Control Center, Installation Processing Node, multiple 24/7 mission operations centers, storage and maintenance areas, labs/workrooms, backup generators, Uninterruptible Power Source, and Technical Control Facility.

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 5 **P-1 Line Item Number / Title:** 835160 / USSTRATCOM **Aggregated Items Title:** USSTRATCOM IT Enterprise

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
IT Enterprise																				
Installation Processing Node Hardware Lifecycle Management	A		-	-	-	-	-	0.000	-	-	0.000	-	-	-	-	-	-	-	-	-
Computer Network Defense	A		-	-	-	-	-	0.000	-	-	0.000	-	-	-	-	-	-	-	-	-
Network / Communication Hardware	A		-	-	-	-	-	0.000	-	-	0.000	-	-	-	-	-	-	-	-	-
Client Infrastructure Hardware	A		-	-	-	-	-	0.000	-	-	0.000	-	-	-	-	-	-	-	-	-
Audio Visual / VTC Hardware	A		-	-	-	-	-	0.000	-	-	0.000	-	-	-	-	-	-	-	-	-
Continuity of Operations	A		-	-	-	-	-	0.000	-	-	0.000	8.917	1	8.917	-	-	-	8.917	1	8.917
Subtotal: IT Enterprise			-	-	-	-	-	0.000	-	-	0.000	-	-	8.917	-	-	-	-	-	8.917
Total			-	-	-	-	-	0.000	-	-	0.000	-	-	8.917	-	-	-	-	-	8.917

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

Remarks:

In FY20 the C2 Facility Fit-Out project has no funding. Last year of Procurement funding was FY19.

Beginning in FY20 the USSTRATCOM IT Enterprise Construct is adapted - PE 11301F

The C2 Mod, FSAM, and JWAC programs will now be reported under the C2 IT Enterprise program

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force															Date: February 2019				
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 5							P-1 Line Item Number / Title: 835160 / USSTRATCOM								Aggregated Items Title: Command, Control, Communication, and Computers (C4) - STRATCOM				

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Global Distributed Command and Control																				
GDC2 Ground	A		-	-	-	-	-	0.000	-	-	0.000	1.831	1	1.831	-	-	-	1.831	1	1.831
GDC2 Classified	A		-	-	-	-	-	-	-	-	0.000	0.496	1	0.496	-	-	-	0.496	1	0.496
Subtotal: Global Distributed Command and Control			-	-	-	-	-	0.000	-	-	0.000	-	-	2.327	-	-	-	-	-	2.327
Total			-	-	-	-	-	0.000	-	-	0.000	-	-	2.327	-	-	-	-	-	2.327

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

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 7: Organization and Base **P-1 Line Item Number / Title:** 837100 / Tactical C-E Equipment

ID Code (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0207422F, 0207444F, 0503133F

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>)	-	124.281	177.560	143.757	0.306	144.063	154.837	173.646	127.680	118.427	-	1,020.494
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	124.281	177.560	143.757	0.306	144.063	154.837	173.646	127.680	118.427	-	1,020.494
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	124.281	177.560	143.757	0.306	144.063	154.837	173.646	127.680	118.427	-	1,020.494

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

Description:

Tactical Airborne Control Systems PE 0207418F - P-5
PE 0207418F TACTICAL AIRBORNE CONTROL SYSTEM EQUIPMENT

Tactical airborne control system equipment encompass three types of simulators that provide scenario based training for Joint Terminal Attack Controllers (JTACs), Combat Control Teams (CCTs), Tactical Air Control Party (TACPs), Air Support Operations Centers (ASOCs) and various Close Air Support (CAS) Platforms.

Joint Terminal Control Training and Rehearsal System (JTC TRS): TACP Fixed and Portable Simulators comprise JTC TRS. This simulator project trains personnel controlling air support for combat operations by providing both a stand-alone and Distributed Mission Operations (DMO)-capable high-fidelity JTAC, and Combat Control Team (CCT) simulation system. The JTC TRS will be able to connect to DMO networks to allow geographically separated high-fidelity close air support platforms, JTACs and CCTs to train together in a risk-free environment. The Fixed simulator enables operators to conduct Joint Close Air Support (JCAS) training/mission rehearsal using tailored, dynamic scenarios that are relevant to mission tasking. Furthermore, the simulator will be capable of providing tactical air traffic control training for CCT using tactical application of austere airbase operations. The JTAC simulators provide DMO capability to network with aircrew full mission trainers, mission training centers, and Air Support Operations Centers (ASOC). Its primary focus is to provide an air-ground virtual training environment for networked air ground training and mission rehearsal capability that will develop both JTAC and CCT skills and train aircrew to accomplish complex JCAS missions in close proximity to friendly ground forces. JTAC simulators will be fully interoperable with joint/sister Service air ground simulation using industry standards. Training with simulators has the potential to reduce civilian casualties, collateral damage and fratricide by improving coordination skills between air and ground personnel, and increasing JTAC and aircrew proficiency. The acquisition strategy for production of the fixed configuration of the JTC TRS will be executed as an evolutionary acquisition approach using incremental development. Until the production system is ready for fielding, interim simulators will be fielded to support JTAC qualification training and readiness for deployable JTACs. DMS efforts to include removal of end-of-life software/hardware within simulators systems and move to a modular, common open system architecture that is sustainable and cyber-resilient. Implement requirements and standards defined under the Simulator Common Architecture Requirements and Standards (SCARS) initiative. Funds may be used to address emerging and short-notice Diminishing Manufacturing and Material Shortage (DMSMS) issues.

TACP C2 Simulator: The Joint Theater Air-Ground Simulation System (JTAGSS) is the TACP C2 Simulator. The simulator is for training ASOC and Special Operations Forces (SOF) personnel to perform command and control (C2) battlestaff operations. The C2 simulator will operate in either a stand-alone mode, or connected to other DMO-capable high-fidelity simulation facilities to allow geographically-separated Theater Air Control System C2 elements, CAS platforms, and JTAC and CCT personnel to train in an integrated virtual environment. The simulator will enable operators to conduct C2 training and mission rehearsal of JCAS assets using tailored, dynamic scenarios that are relevant to current real-world mission taskings. Scenarios will cover the full range of military operations. Training with the simulator

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 7: Organization and Base		P-1 Line Item Number / Title: 837100 / Tactical C-E Equipment
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0207422F, 0207444F, 0503133F
Line Item MDAP/MAIS Code: N/A		
<p>will improve mission effectiveness by reducing the risk of civilian casualties, collateral damage, and fratricide by improving C2 skills in rapidly changing and uncertain combat environments. The JTAGSS program will enable procurement of an estimated three JTAGSS for air support operations training. The acquisition strategy for the TACP C2 simulator will be to field advance technology demonstration units in two increments. Increment 1 will field initial capability to perform proof of concept and technology validation of mission simulations for all ASOC crew positions including detailed communications planning, asset deconfliction, integration of joint fires, and other critical mission areas required for integrated TACP/ASOC C2 mission success. At the completion of the technology validation, a contract will be competitively awarded to complete simulator development, deployment and integration.</p> <p>Funding for this exhibit is contained in PE 0207418F.</p> <p>Security Forces (SF)Tactical Communication Radios - 0207588F - P40A</p> <p>Deployable C3 Systems PE 0207422F - P-40A</p> <p>PE 0207422F DEPLOYABLE COMMAND, CONTROL, and COMMUNICATIONS (C3) SYSTEMS</p> <p>THEATER-DEPLOYABLE COMMUNICATIONS (TDC) PROGRAM: TDC is used to extend network data, voice and video services to expeditionary and battlefield forces. The TDC system provides stand-alone communications support for the full range of military operations and communications capability for Command and Control (C2) reach back at and above the tactical level for a variety of Air Force missions. TDC provides a rapidly deployable communication infrastructure package, which provides deployed users with secure and non-secure voice service, internet access, local area network, network management, information assurance, e-mail services (NIPR/SIPRNET), and intra/inter-base connectivity services similar to those established on a fixed base. The TDC packages: Small Communication Package (SCP), Medium Communication Package(MCP), Large Communication Package(LCP)use commercial-off-the-shelf (COTS) components to support a wide scope of expeditionary missions ranging from a small C2 and airfield mission, supporting 1 to 150 users, and up to the stand-up of an Air Expeditionary Wing supporting 3,000 users. The TDC packages also support Special Missions, to include noncombatant evacuation and disaster relief efforts, US Secret Service support, and Homeland Defense Operations. The LCP and MCP mission packages are being restructured into a more scalable package, the Flexible Communications Package (FCP), which will provide a range of support for most all missions. The Air Force's new adaptive basing concept requires an increase in the number of packages needed to meet the mission. The quantity of FCPs is significantly more than the MCP and LCP quantities. The FCP consists of SATCOM, Integrated Communications Package (ICAP) and Network Control Center- Deployed (NCC-D) components.</p> <p>The TDC program reached full operational capability in 2008. TDC procures replacements for end of life equipment to maintain full operational capability. Recapitalization addresses Diminishing Manufacturing Sources (DMS) issues associated with COTS components and ensures TDC maintains compliance with security mandates/directives and cryptographic standards.</p> <p>THEATER-DEPLOYABLE COMMUNICATIONS (TDC) procurements consist of ICAP, SATCOM, and NCCD components. Recapitalization cost is based on the quantity of equipment, number of users they support, and the configurations of the three components. Size of recapitalization packages vary from year to year.</p> <p>a. SATCOM (formerly HUB AND SPOKE SATELLITE TERMINALS): Satellite terminals provide two-way communications connectivity between expeditionary bases and reach back, through Defense Information System Agency (DISA) gateways/teleports, to the global information grid. These terminals provide DOD X and Ka Band (Super High Frequency) resources and provide access to Ku band commercial satellite services. TDC's Small and Medium Satellite terminals improve the expeditionary workforce's bandwidth throughput for high-speed voice, data, video, and imagery transmissions. Small aperture SATCOM terminals supporting direct internet protocol connection capable of supporting multi-commercial and military transmission bands significantly reduce airlift requirements and provide flexibility during expeditionary operations.</p> <p>b. INTEGRATED COMMUNICATIONS ACCESS PACKAGE (ICAP): ICAP provides the distributed base backbone which includes: hubs/routers, switches, multiplexers, secure/non-secure telephones, secure conferencing, cryptographic and timing equipment, and intra-base connectivity using fiber and/or point-to-point radios. ICAP packages include accessories and configuration kits to tailor the capability of voice and data modules (i.e. cards to interface to the host nation postal telegraph and telephone). ICAP packages are modular which allows assets to be deployed incrementally and provides the capability to expand the network as the base population increases.</p>		

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Line Item MDAP/MAIS Code: N/A		
<p>c. NETWORK CONTROL CENTER-DEPLOYED (NCC-D): NCC-D provides deployed network management, information protection, and network planning capabilities similar to those at fixed bases. Specific functions include data management, intrusion detection, and firewall capabilities for both the classified and unclassified networks. The services provided through NCC-D are the core services to the communication hub and these Flexible Core Services will be the focus of the Flexible Communications Package (FCP).</p> <p>DEPLOYABLE AIR FORCE LEAD Joint Task Force (JTF) Communications Equipment: PAD D-18-01 directed the establishment of a standing capacity to provide Combatant Commanders and Air Force, unit-based capability to command and lead the core functions of any JTF. The JTF capable HQ aligned against the Global Response Force must be a deployable communications equipment system that enables the HQ to an adaptive, agile, scale-able, and responsive force. The JTF HQ communication package is to deliver the ability to operate with a relatively small footprint, to provide globally-oriented C2 capabilities, to flexibly aggregate and disaggregate forces quickly and efficiently, to integrate multi-domain effects across the spectrum of conflict and afford the service an opportunity to develop solutions that are informed from a unique perspective.</p> <p>In accordance with Section 1815 of the FY 2008 National Defense Authorization Act (P.L. 110-181), this item is necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities.</p> <p>Funding for this exhibit contained in PE 0207422F.</p> <p>Advanced Communications Systems PE 0207423F - P-5 PE 0207423F Mobile User Objective System (MUOS) and TACTICAL RADIO SYSTEMS (TRS)</p> <p>Tactical Radio System (TRS) are commercial off the shelf software programmable tactical radios that provide voice, data, and video communications for military users in the air, on the ground, and at sea. Common radio architecture and programmable software waveforms will provide joint interoperability between the services. The TRS program is built around an open system software communications architecture (SCA), a critical set of rules that make software programmable radios function properly and ensure interoperability. Funding for this exhibit is contained in PE 0207423F.</p> <p>Tactical Air Control Party-Mod PE 0207444F - P-5 TACTICAL AIR CONTROL PARTY-MODERNIZATION (TACP-M): TACPs are Air Force units manned by airmen who advise Army Ground Commanders and plan, request and control air power in support of army ground maneuver operations. These capabilities are employed at all echelons of Army organizations by: Air Support Operation Center (ASOC) TACPs, Division TACPs, Brigade TACPs, Battalion TACPs, and dismounted Joint Terminal Attack Controllers (JTACs) deployed with Army companies or scout teams on the front lines. TACPs coordinate, request, and control airlift support and intelligence, surveillance, and reconnaissance (ISR) support for Army combat operations, and they provide ground communications support for federal disaster response and Homeland Defense operations. TACPs deploy with their aligned Army units and operate in a variety of environments including fixed operations from Tactical Operations Centers (TOCs), mobile operations in tactical vehicles, and dismounted (on foot) operations with Army infantry patrols.</p> <p>The purpose of the Tactical Air Control Party - Modernization (TACP-M) program is to provide TACPs voice, data and video communications, targeting and battlefield awareness capabilities. Improved targeting and data communications capabilities provide more accurate target coordinates, reduce close air support (CAS) response times, and reduce the probability of fratricide or collateral damage through the use of networked data communications.</p> <p>The TACP-M program provides and modernizes capabilities in the following four major areas: (1) ASOC/TOC systems (used in fixed operations centers), (2) Vehicle Mounted Systems (used in TACP tactical vehicles), (3) Dismounted Systems (used by JTACs during dismounted infantry operations), and (4) Close Air Support System (CASS) software. The TACP-M program support includes addressing frequent TACP combat deployments that sometimes lead users to change equipment procurement priorities to support urgent operational needs and respond to evolving threat environments.</p> <p>The TACP-M program works closely with the Battlefield Airmen Office (BAO) program to procure dismounted equipment. This teaming arrangement helps standardize battlefield airmen equipment, improve efficiency by consolidating acquisition efforts, and often reduces unit costs by increasing procurement quantities.</p>		

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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: 0207422F, 0207444F, 0503133F
Line Item MDAP/MAIS Code: N/A		
<p>CASS software will provide advanced communication, advanced targeting capability, and significant interoperability improvements for mobile computing devices used by Dismounted JTACs, for vehicle-mounted systems, and for stationary systems used in operations centers. TACP CASS software enables digital data communications with joint Command and Control (C2) nodes, other TACPs, attack aircraft, and Army C2 and Fire Support systems. It includes interfaces with TOC, ASOC, and JTAC radios, and targeting devices. It also provides battlespace awareness capabilities needed to plan, request, coordinate, and control CAS in support of ground maneuver forces. The CASS software interfaces with all TACP-M components and provides interoperability with joint strike aircraft (F-35, A-10, F-16, F-15, F/A-18, AV-8B, B-52, etc.), remotely piloted aircraft (RPA), artillery fire support systems, network-enabled weapons, and C2 nodes. To enable data communications with those systems / nodes, CASS incorporates several communications protocols including Variable Message Format (VMF), Link 16, Situational Awareness Data Link (SADL), Marine Tactical System (MTS), and U.S. Message Text Format (USMTF).</p> <p>The software is in two versions (1) ASOC/TOC/Mounted (ATM) and (2) Dismounted to support a wide variety of radio systems (including but not limited to AN/PRC-117F, AN/PRC-117G, AN/ PRC-148, AN/ PRC-152A, AN/PRC-154, AN/PRC-158, AN/PRC-161, AN/PRC-163, Harris RF-335M-HH, AN/PRC-150C, AN/PRC-160 and other emerging systems that are expected to be employed by TACPs in the future). Future upgrades are necessary to maintain interoperability with strike aircraft, joint fire support systems, and emerging data networking waveforms. CASS upgrades provide a modular architecture for digital communications, messaging, data handling, hardware management, and targeting, and battle space awareness capabilities. The key characteristic of the software will be the Open System, Modular architecture that will enable rapid integration with new external devices (such as laser range finders and radios) and rapid development, testing and fielding of new mission capability modules to meet future requirements.</p> <p>In accordance with Section 1815 of the FY 2008 National Defense Authorization Act (P.L. 110-181), this item is necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities.</p> <p>Funding for this exhibit contained in PE 0207444F.</p> <p>Special Tactics / Combat Control PE 0408011F - P-5 PE 0408011F SPECIAL TACTICS / COMBAT CONTROL</p> <p>BATTLEFIELD AIRMEN OPERATIONS KIT (BAO Kit): BAO Kit will deliver a Family of Systems (FoS) that provides a state-of-the-art Command, Control, Communications, Computer, Intelligence, Surveillance and Reconnaissance (C4ISR) and also provides a family of systems for all Air Force Specialty Codes supporting the Special Tactics (ST) community within the Air Force Special Operations Command's (AFSOC's) Battlefield Airmen Program. This program will procure and enhance technologies for battlefield airmen ST operators that are inter-operable with US and coalition special operations dismounted forces. BAO Kit allows the ability to recognize, identify, range, nominate, and designate targets during both day and night. BAO Kit will also significantly reduce the time required to find, fix, track, target, and engage the enemy by providing highly accurate target grid coordinates in three dimensions, generating target imagery both pre- and post-strike, and transmitting target data to command and control centers. BAO Kit systems are light, compact, and portable for use by dismounted Battlefield Airmen. Modernization efforts focus on reducing the weight of the equipment carried by the dismounted operator. The core capabilities include but are not restricted to: Human Machine Interface (HMI), Operational Control System (OCS), Line of Sight (LOS) targeting device, Non Line of Sight (XLOS) targeting device, and Machine-to-Machine C4ISR System. BAO also supports AFSOC Tactical Command and Control (TAC C2) program purchases enhanced communication systems and equipment essential for ST combat controllers, pararescue, combat weather operators, and tactical air control parties to perform their mission and communicate Beyond Line of Site (BLOS) with rear echelon C2, in order to provide a joint operating picture. The ST operators use this equipment to gather and transmit assault zone suitability and weather data and to perform tactical airfield/assault landing/drop zone operations. Items include but not limited to training, initial spares, repairs and returns, and other equipment.</p> <p>Program changes in progress. This applies to both PE 27227F and 48011F.</p> <p>Funding for this exhibit contained in PE 0408011F. Special Tactics / Combat Control</p> <p>Combat Rescue - Pararescue (AFR) PE 0503133F - P-40A PE 0503133F: COMBAT RESCUE - PARARESCUE (AFR)</p> <p>Tactical communications and electrical equipment in support of special operations forces. FY16 funding includes \$4.065M for Overseas Contingency Operations.</p>		

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 7: Organization and Base	P-1 Line Item Number / Title: 837100 / Tactical C-E 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: 0207422F, 0207444F, 0503133F
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Line Item MDAP/MAIS Code: N/A

As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.

	Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
AF	Quantity	1,311	2,942	2,404	1	2,405	-	-	-	-
	Total Obligation Authority	102.053	154.481	115.362	0.306	115.668	-	-	-	-
AFNG	Quantity	237	68	59	0	59	-	-	-	-
	Total Obligation Authority	20.032	19.299	23.580	0.000	23.580	-	-	-	-
AFR	Quantity	12	15	12	0	12	-	-	-	-
	Total Obligation Authority	2.196	3.780	4.815	0.000	4.815	-	-	-	-
Total: Secondary Distribution	Quantity	1,560	3,025	2,475	1	2,476	-	-	-	-
	Total Obligation Authority	124.281	177.560	143.757	0.306	144.063	-	-	-	-

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications **P-1 Line Item Number / Title:** 837100 / Tactical C-E Equipment
Equip / BSA 7: Organization and Base

ID Code (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0207422F, 0207444F, 0503133F

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	Tactical Airborne Control Systems		A		- / -	- / 1.192	- / 6.845	- / 3.870	- / -	- / 3.870
P-40a	Deployable C3 Systems				- / -	- / 57.996	- / 60.567	- / 45.529	- / 0.306	- / 45.835
P-40a	Advanced Communications Systems				- / -	- / 6.485	- / 5.913	- / 6.297	- / -	- / 6.297
P-5	Tactical Air Control Party-Mod		A		- / -	693 / 43.084	- / 42.846	- / 35.967	- / -	- / 35.967
P-5	Special Tactics / Combat Control	P-5a	A		- / -	657 / 15.524	2,819 / 61.389	2,392 / 52.094	- / 0.000	2,392 / 52.094
P-40	Total Gross/Weapon System Cost				- / -	- / 124.281	- / 177.560	- / 143.757	- / 0.306	- / 144.063

*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. Title represents the P-40a Title when only the P-40a Summary/Total is shown.

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

Justification:

Tactical Airborne Control Systems PE 0207418F - P-5
 TACTICAL AIRBORNE CONTROL SYSTEM EQUIPMENT: FY20 funding provides for JTC TRS program management activities to include cyber security, facilities and integration, and subject matter expertise. Funds may be used to address emerging and short-notice Diminishing Manufacturing and Material Shortage (DMSMS) issues.

Deployable C3 Systems PE 0207422F - P-40A
 PE 0207422F DEPLOYABLE COMMAND, CONTROL, and COMMUNICATIONS (C3) SYSTEMS

SATCOM (formerly HUB AND SPOKE SATELLITE TERMINALS): FY20 funds will procure the technical solution based on user functional requirements for Medium SATCOM terminal replacements for end of life/end of support terminals.

INTEGRATED COMMUNICATIONS ACCESS PACKAGE (ICAP): FY20 funds will procure new Flexible Communications Package (FCP) site distribution components and replacement of End of life components which may be part of kits and modules such as laptop kits, switches, IP phones and routers. Replace hardware and software that loses cyber security vulnerability mitigations and original equipment manufacturer support as needed.

NETWORK CONTROL CENTER-DEPLOYED (NCC-D): FY20 funds will procure the technical solution for the Flexible Core Services for the Flexible Communications Package (FCP). Procure mandated upgrades as required. Replace hardware and software that loses cyber security vulnerability mitigations and original equipment manufacturer support as needed.

DEPLOYABLE AIR FORCE LEAD JTF EQUIPMENT:

This is an emerging requirement based on decisions from CORONA South, March 2017, with PAD D18-01 defining the programmatic for the requirement signed by CSAF and the Sec of the Air Force on July 1st 2018. The ACC PPlan 18-12, under coordination within ACC, will further define the functional requirement. ACC will dedicated funds to procure JTF Deployable Communications packages to support the deployable joint-capable AF-led JTF.

PE 020588F: Security Forces (SF) Tactical Communication Radios - P40A

No FY20 funds requested

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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: 0207422F, 0207444F, 0503133F
Line Item MDAP/MAIS Code: N/A		
<p>Advanced Communications Systems PE 0207423F - P-5 PE 0207423F Mobile User Objective System (MUOS) and TACTICAL RADIO SYSTEM (TRS):</p> <p>FY20 Funds will be used to purchase but not limited to, Mobile User Objective System (MUOS) satellite kits (includes MUOS waveform, associated antennas, cables and diplexers) and training, as well as single channel and multi-channel manpack radios. Other items to be purchased are advanced single-channel handheld radios, base stations, vehicle adapters, repeaters and non-COMSEC Controlled Item (CCI) handheld radios. FY 20 Funds will also be used to purchase any components to these radios and ancillary items, as well as training and vendor field support.</p> <p>Tactical Air Control Party-Mod PE 0207444F - P-5 PE 0207444F TACTICAL AIR CONTROL PARTY-MOD TACTICAL AIR CONTROL PARTY-MODERNIZATION (TACP-M) ACQUISITION CATEGORIES: (1) Tactical Operation Center (TOC) Systems (used in fixed operations centers), (2) Vehicle Mounted Systems (used in TACP tactical vehicles), (3) Dismounted Systems (used by JTACs during dismounted infantry operations), and (4) Close Air Support System (CASS) software. TACP-Mod procurements will also include any peripheral equipment required to conduct operations, and generally include training, documentation, initial spares, Interim Contractor support, and other fielding and sustainment activities as required. TACP-M efforts focus on modernizing technologically obsolete and end of life cycle systems with COTS components. FY20 funding will procure the following:</p> <ol style="list-style-type: none"> 1. TACP ASOC/TOC Systems: components consist of fielded ASOC Gateway (GW) and Gateway Light (GWL) systems, the transit case mounted, transportable Dismounted Communication Package (DCP), Tactical Transportable Gateway (TTG), and TOC computer systems. TTG will replace the currently fielded GWs and GWLs. The TTG will provide the capability to receive and transmit digital messages on data link networks at the ASOC and Brigade TOCs. This will provide TACPs with battlespace awareness capabilities and line-of-sight, near real time data communications with aircraft for digitally-aided close air support operations. The TTG will include a multi-band radio for Beyond-Line-Of-Sight (BLOS) or Line-Of-Sight (LOS) networked TACP data communications, and include a Link 16 radio for data communications with strike aircraft. TTG will use generator and/or commercial power, include a computer to host data link control software, and include all necessary masts, antennas, cables and ancillary equipment. The DCP is due to be revamped and upgraded and will include VHF/UHF radios, a Full Motion Video Receiver, amplifiers, an intercom system, antennas, and associated cabling. This upgrade is planned to be fielded by FY20. The Interim Transportable Gateway (ITG) will be an off-the-shelf solution projected to to compliment the TTG and relieve the aging ASOC Gateway systems sooner. The ITG will be Link-16 capable and consist of a single transit case, LOS & BLOS communications, antennas, cables, and software. 2. TACP VEHICLE-MOUNTED SYSTEMS: TACP vehicle systems include the GRC-259 system mounted in Stryker armored vehicles, interim 2-channel mobile Voice Communications Packages (VCPs) mounted in M1165 High Mobility Multi-Wheeled Vehicles (HMMWVs), and the AN/GRC-263 Mobile Communications Systems (MCS) for TACP M1145 HMMWVs. In FY16, the TACP program awarded a contract to procure the MCS Block 1, a modular, Internet Protocol (IP)-based system which provides robust 4-channel, voice, data, and video communications capabilities mounted in TACP M1145 armored HMMWVs to support battlefield communications on emerging networking waveforms. These systems use software-defined multi-band radios, tactical video receivers, computers, and ancillary equipment required to conduct CAS voice, video, and data communications. In FY17, the MCS Block 1 production option was exercised including spares. <p>In FY18, the TACP program awarded a contract for integration (First Article Acceptance Test) of an MCS Block 2 capability for M1165 HMMWVs. In FY18, FY19, & FY20, procurement for the MCS Block 2 capability includes early procurement of long lead items and other required MCS Block 2 components. MCS Block 2 will execute initial production quantities in FY20 as required and based on funding availability.</p> <p>Future MCS efforts will upgrade or procure capabilities for M113 armored personnel carriers (used by TACPs supporting Army armored or mechanized Brigades), Armored Multi-Purpose Vehicles (AMPV) including early integration of a limited TACP C2 capability into Army AMPV's in support of the European Deterrence initiative, and Joint Light Tactical Vehicles (JLTV). The AMPV and JLTV are new armored vehicles in development by the Army to replace the aging M113 and HMMWV vehicles and will also be adopted by Air Force TACPs.</p> <ol style="list-style-type: none"> 3. TACP DISMOUNTED EQUIPMENT: Consists of a suite of equipment which provides communications, targeting and situational awareness capabilities for JTACs during dismounted infantry operations. Dismounted acquisition efforts include, but are not limited to: Operational Control System (OCS) - lightweight, ruggedized, dismounted JTAC Computer Kits (including a man-portable computer, smart hub, integrated battery, cabling, etc) which in conjunction with ancillary equipment, support LOS and BLOS data communications with C2 nodes, other TACPs, and support aircraft. Full Motion Video devices and accessories - small light weight ruggedized off-the-shelf units that provide TACP's Type 1 encrypted transmit and receive capabilities to communicate with multiple ISR platforms; Short Wave Infrared (SWIR) 		

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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: 0207422F, 0207444F, 0503133F
Line Item MDAP/MAIS Code: N/A		
<p>Laser Spot Detector / Tracker - TACPs require a small, light laser spot detector/tracker to detect and track laser spots from ground laser designators and airborne laser targeting pods and Multi-Spectral Thermal Marking Device / Beacon which is a small, lightweight, covert, and positive identification capability that can be seen or detected with CAS aircraft targeting pods or other sensors. Dismounted TACPs also require ancillary equipment which includes, but is not limited to, handheld & man pack radios, headsets, batteries, cables, antennas, GPS receivers, storage devices, protective/storage/ transit cases & covers, laser range finders, laser target designators, miscellaneous hardware remedies, and other components that facilitate the operation and/or human factor impacts of the dismounted TACP. In addition, ICS may be required to sustain some Dismounted equipment until a long-term sustainment strategy is in place. The TACP-M program will use FY19 funding to support any Interim Contractor Support (ICS) for Dismounted equipment prior to transitioning to long-term sustainment.</p> <p>4. TACP CLOSE AIR SUPPORT SYSTEM (CASS) SOFTWARE INTEGRATION: Funding will provide software maintenance updates for fielded versions, provide new Human Machine Interface (HMI) interfaces for a dismounted version of the software, incorporate new joint Digitally-aided CAS standards, and provide contract technical and help desk support to operators employing the software. ICS for fielded CASS software to include training, technical, help-desk and cyber security support. This funding request supports potential DMS and obsolescence solutions, to include if optimal, life of type buys or bridge buys limited to the program of record quantity.</p> <p>Special Tactics / Combat Control PE 0408011F - P-5 PE 0408011F BATTLEFIELD AIRMEN OPERATIONS (BAO) Kit</p> <p>BATTLEFIELD AIRMEN OPERATIONS KIT (BAO Kit): BAO Kit delivers a Family of Systems (FoS) that provides a state-of-the-art Command, Control, Communications, Computer, Intelligence, Surveillance and Reconnaissance (C4ISR) and also provides a family of systems for all Air Force Specialty Codes supporting the Special Tactics (ST) community within the Air Force Special Operations Command's (AFSOC's) Battlefield Airmen Program. This program procures and enhances technologies for battlefield airmen ST operators that are inter-operable with US and coalition special operations dismounted forces. BAO Kit allows the ability to recognize, identify, determine range, nominate, and designate targets during both day and night. BAO Kit will also significantly reduce the time required to find, fix, track, target, and engage the enemy by providing highly accurate target grid coordinates in three dimensions, generating target imagery both pre- and post-strike, and transmitting target data to command and control centers. BAO Kit systems are light, compact, and portable for use by dismounted Battlefield Airmen. Modernization efforts focus on reducing the weight of the equipment carried by the dismounted operator. The core capabilities include but are not restricted to: Human Machine Interface (HMI), Operational Control System (OCS), Line of Sight (LOS) targeting device, Non Line of Sight (XLOS) targeting device, and Machine-to-Machine C4ISR System. BAO also supports AFSOC TAC C2 program purchases enhanced communication systems and equipment essential for ST combat controllers, pararescue, combat weather operators, and tactical air control parties to perform their mission and communicate Beyond Line of Site (BLOS) with rear echelon C2, in order to provide a joint operating picture. The ST operators use this equipment to gather and transmit assault zone suitability and weather data and to perform tactical airfield/assault landing/drop zone operations. Items include but not limited to training, initial spares, repairs and returns, and other equipment.</p> <p>PE 0408011F BATTLEFIELD AIRMEN OPERATIONS (BAO) Kit</p> <p>BATTLEFIELD AIRMEN OPERATIONS (BAO) Kit: FY20 funding will procure, test, support, and repair BAO Kit system of system components to optimize user information intake. Funding will be used to ensure interoperability to reduce the risk of fratricide, reduce the weight carried by individual airmen, and reduce the time required to find, fix, track, target, and engage the enemy. The core capabilities included are but not restricted to: Human Machine Interface (HMI), Operational Control System (OCS), Line-of-Sight (LOS) targeting device, Non-Line of-Sight (XLOS) targeting device, and Machine-to-Machine C4ISR system. Also, items included but not limited to training, initial spares, repairs and returns, and other equipment.</p> <p>a. HUMAN MACHINE INTERFACE (HMI): This FY20 funding will procure HMI components that will provide integrated operator interface between all the machine components by using unified visual and auditory displays and controls, such as head-mounted displays and tactical earplug connectivity with communications. This system provides optimized user information portrayal and control of peripheral devices, to include modernization of communications, computing devices, portable electrical power generation and management, targeting and situational awareness software (machine-to-machine) designed to reduce risk of fratricide and reduce the time required to employ precision effects on the battlefield to single-digit minutes.</p> <p>b. OPERATIONAL CONTROL SYSTEM (BAO KIT): FY20 funding will procure OCS units which is an integrated communication/display system comprised of a small wearable end user device, power and data management system, including integrated cabling and wireless data transmission that can readily connect and integrate all Battlefield Airmen Operations (BAO) Kit peripherals and portable power sources. The OCS system is a light weight, modular, plate carrier adaptable, integrated, easily configurable system that provides precise situational awareness, moving maps, and the ability to perform digitally-aided Close Air</p>		

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 7: Organization and Base		P-1 Line Item Number / Title: 837100 / Tactical C-E Equipment
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0207422F, 0207444F, 0503133F
Line Item MDAP/MAIS Code: N/A		
<p>Support (CAS) targeting for all Battlefield Airmen and Special Operations Forces. The OCS is consumable with a lifespan of approximately two years. OCS is refreshed approximately every two years providing more durable hardware, reduced size and weight, and additional capability to the operator.</p> <p>c. LINE OF SIGHT (LOS): FY20 funding will procure LOS systems. LOS integrates target designators and sensors to enhance targeting effectiveness at ranges less than 3km. The equipment provides battlefield airmen with the ability to geo-locate targets in both eye-safe and non-eye safe spectrums. The modernization of this equipment will significantly reduce the weight carried by the operator. Funding will also support AFSOC TAC C2 program purchases of XLOS targeting devices that are essential for combat weather operators. Such equipment will allow operators to gather and transmit assault zone suitability and weather data and to perform tactical airfield/assault landing drop zone operations.</p> <p>Items requested in FY20 as identified on the P-5 Exhibit are representative but not limited to the items to be procured. Items procured during execution may change based on critical equipment needed to support current Air Force mission requirements. Due to the rapidly changing threat environment, the acquisition program manager has the authority to redirect funding as necessary to meet current slated and emerging requirements.</p> <p>Combat Rescue - Pararescue (AFR) PE 0503133F - P-40A PE 0503133F: COMBAT RESCUE - PARARESCUE (AFR)</p> <p>No FY20 funding requested.</p>		

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Exhibit P-5, Cost Analysis: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 7	P-1 Line Item Number / Title: 837100 / Tactical C-E Equipment	Item Number / Title [DODIC]: Tactical Airborne Control Systems

ID Code (A=Service Ready, B=Not Service Ready) : A	MDAP/MAIS Code:
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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)	-	1.192	6.845	3.870	-	3.870
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	-	1.192	6.845	3.870	-	3.870
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	-	1.192	6.845	3.870	-	3.870

(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 Millions)	-	-	-	-	-	-

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 (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Hardware - TACP Fixed Simulator - JTC TRS Cost																		
Recurring Cost																		
TACP Fixed Simulators - JTC TRS	-	-	-	-	-	-	-	-	0.000	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	0.000	-	-	-	-	-	-	-	-	-
<i>Subtotal: Hardware - TACP Fixed Simulator - JTC TRS Cost</i>	-	-	-	-	-	-	-	-	0.000	-	-	-	-	-	-	-	-	-
Software - Tactical Airborne Control Systems Cost																		
Recurring Cost																		
Digitally Aided CAS	-	-	-	-	-	-	0.342	20	6.845	1.290	3	3.870	-	-	-	1.290	3	3.870
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	6.845	-	-	3.870	-	-	-	-	-	3.870
<i>Subtotal: Software - Tactical Airborne Control Systems Cost</i>	-	-	-	-	-	-	-	-	6.845	-	-	3.870	-	-	-	-	-	3.870
Support - TACP SIM Support Cost																		
PMA - Contractor Services and other Government Costs	-	-	-	-	-	1.192	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - TACP SIM Support Cost</i>	-	-	-	-	-	1.192	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost	-	-	-	-	-	1.192	-	-	6.845	-	-	3.870	-	-	-	-	-	3.870

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Exhibit P-5, Cost Analysis: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 7	P-1 Line Item Number / Title: 837100 / Tactical C-E Equipment	Item Number / Title [DODIC]: Tactical Airborne Control Systems
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ID Code (A=Service Ready, B=Not Service Ready) : A **MDAP/MAIS Code:**

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
AF					
Quantity	-	-	-	-	-
Total Obligation Authority	1.192	6.845	3.870	-	3.870
Total: Secondary Distribution					
Quantity	-	-	-	-	-
Total Obligation Authority	1.192	6.845	3.870	-	3.870

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 7 **P-1 Line Item Number / Title:** 837100 / Tactical C-E Equipment **Aggregated Items Title:** Deployable C3 Systems

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Hardware, Recurring																				
TDC - Integrated Communications Access Package	A		-	-	-	0.644	11	7.084	0.345	42	14.490	0.345	19	6.555	0.306	1	0.306	0.343	20	6.861
<i>Secondary Distribution</i>																				
AF			-	-	-		9	5.796		35	12.075		-	0.000		1	0.306		1	0.306
AFNG			-	-	-		2	1.288		7	2.415		16	5.520		-	-		16	5.520
AFR			-	-	-		-	0.000		-	0.000		3	1.035		-	-		3	1.035
TDC - Network Control Center - Deployed	A		-	-	-	0.183	150	27.450	0.252	151	38.052	-	-	-	-	-	-	-	-	-
<i>Secondary Distribution</i>																				
AF			-	-	-		72	13.176		84	21.168		-	-		-	-		-	-
AFNG			-	-	-		66	12.078		52	13.104		-	-		-	-		-	-
AFR			-	-	-		12	2.196		15	3.780		-	-		-	-		-	-
TDC - SATCOM (formerly Hub and Spoke Satellite Terminals)	A		-	-	-	0.420	47	19.740	0.420	10	4.200	0.420	61	25.620	-	-	-	0.420	61	25.620
<i>Secondary Distribution</i>																				
AF			-	-	-		40	16.800		1	0.420		9	3.780		-	-		9	3.780
AFNG			-	-	-		7	2.940		9	3.780		43	18.060		-	-		43	18.060
AFR			-	-	-		-	0.000		-	-		9	3.780		-	-		9	3.780
Deployable Air Force Lead JTF Equipment	A		-	-	-	-	-	-	0.500	1	0.500	9.900	1	9.900	-	-	-	9.900	1	9.900
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	-		1	0.500		1	9.900		-	-		1	9.900
Subtotal: Hardware, Recurring			-	-	-	-	-	54.274	-	-	57.242	-	-	42.075	-	-	0.306	-	-	42.381
Services																				
TDC - PMA Contractor Services	A		-	-	-	-	-	2.555	-	-	2.432	-	-	2.294	-	-	-	-	-	2.294
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	2.555		-	2.432		-	2.294		-	-		-	2.294
TDC - PMA Other Government Costs	A		-	-	-	-	-	1.167	-	-	0.893	-	-	1.160	-	-	-	-	-	1.160
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	1.167		-	0.893		-	1.160		-	-		-	1.160
Subtotal: Services			-	-	-	-	-	3.722	-	-	3.325	-	-	3.454	-	-	-	-	-	3.454
Total			-	-	-	-	-	57.996	-	-	60.567	-	-	45.529	-	-	0.306	-	-	45.835

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

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 7	P-1 Line Item Number / Title: 837100 / Tactical C-E Equipment	Aggregated Items Title: Deployable C3 Systems
Remarks: a. CONTROLLED ITEM will be funded with investment funds to purchase military communications equipment classified as critical protection items. b. PROGRAM SUPPORT COSTS (PSC): PSC for Theater Deployable Communications supports the operation of the program office in its management and oversight role, to include engineering and technical support, as well as support activities for the program. c. DIRECT MISSION SUPPORT (DMS): DMS for TDC includes all support associated with equipment installation, engineering, technical support orders, sustainment engineering, and implementation. This includes the initial bed down and operability testing, technical interchange meetings, and events associated with fielding both hardware and software products, and maintaining configuration control of fielded products. d. FY20 DEPLOYABLE AIR FORCE LEAD JTF EQUIPMENT: Technical solution for the JTF capable deployable unit based on the functional requirements in PAD 18-01 e. FY20 Overseas Contingency Operations funding for Flexible Communications Package (FCP) infrastructure and/or ancillary equipment		

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force															Date: February 2019				
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 7						P-1 Line Item Number / Title: 837100 / Tactical C-E Equipment						Aggregated Items Title: Advanced Communications Systems							

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Contracts																				
MUOS Contracts	A		-	-	-	6.285	1	6.285	5.713	1	5.713	6.097	1	6.097	-	-	-	6.097	1	6.097
<i>Secondary Distribution</i>																				
AF			-	-	-	-	1	6.285	-	1	5.713	-	1	6.097	-	-	-	-	1	6.097
Subtotal: Contracts			-	-	-	-	-	6.285	-	-	5.713	-	-	6.097	-	-	-	-	-	6.097
Program Support																				
Program Support	A		-	-	-	0.200	1	0.200	0.200	1	0.200	0.200	1	0.200	-	-	-	0.200	1	0.200
<i>Secondary Distribution</i>																				
AF			-	-	-	-	1	0.200	-	1	0.200	-	1	0.200	-	-	-	-	1	0.200
Subtotal: Program Support			-	-	-	-	-	0.200	-	-	0.200	-	-	0.200	-	-	-	-	-	0.200
Total			-	-	-	-	-	6.485	-	-	5.913	-	-	6.297	-	-	-	-	-	6.297

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

Remarks:

Advanced Communications Systems PE 0207423F
 PE 0207423F Mobile User Objective System (MUOS) and TACTICAL RADIO SYSTEMS (TRS)
 Tactical Radio System (TRS) are commercial off the shelf software programmable tactical radios that provide voice, data, and video communications for military users in the air, on the ground, and at sea.

Common radio architecture and programmable software waveforms will provide joint interoperability between the services. The TRS program is built around an open system software communications architecture (SCA), a critical set of rules that make software programmable radios function properly and ensure interoperability. Funding for this exhibit is contained in PE 0207423F.

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Exhibit P-5, Cost Analysis: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 7	P-1 Line Item Number / Title: 837100 / Tactical C-E Equipment	Item Number / Title [DODIC]: Tactical Air Control Party-Mod

ID Code (A=Service Ready, B=Not Service Ready) : A	MDAP/MAIS Code:
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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)	-	693	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	-	43.084	42.846	35.967	-	35.967
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	-	43.084	42.846	35.967	-	35.967
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	-	43.084	42.846	35.967	-	35.967

(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 Millions)	-	0.062	-	-	-	-

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 (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Hardware - Hardware End Item Cost																		
Recurring Cost																		
TACP TRANSPORTABLE GATEWAY (TTG)	-	-	-	-	-	0.000	1.074	3	3.222	0.301	14	4.214	-	-	-	0.301	14	4.214
MOBILE COMMUNICATIONS SYSTEMS (MCS) Block 1	-	-	-	1.594	1	1.594	-	-	-	-	-	-	-	-	-	-	-	-
MOBILE COMMUNICATIONS SYSTEMS (MCS) Block 2	-	-	-	0.362	52	18.805	0.363	71	25.785	0.317	24	7.608	-	-	-	0.317	24	7.608
ARMORED MULTI-PURPOSE VEHICLE (AMPV)	-	-	-	0.172	10	1.723	0.040	1	0.040	0.170	3	0.510	-	-	-	0.170	3	0.510
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	22.122	-	-	29.047	-	-	12.332	-	-	-	-	-	12.332
<i>Subtotal: Hardware - Hardware End Item Cost</i>	-	-	-	-	-	22.122	-	-	29.047	-	-	12.332	-	-	-	-	-	12.332
Hardware - 0207444F Cost																		
Non Recurring Cost																		
MOBILE COMMUNICATIONS SYSTEMS (MCS) Block 1	-	-	-	0.371	1	0.371	0.378	1	0.378	-	-	-	-	-	-	-	-	-

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Exhibit P-5, Cost Analysis: PB 2020 Air Force													Date: February 2019					
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 7							P-1 Line Item Number / Title: 837100 / Tactical C-E Equipment						Item Number / Title [DODIC]: Tactical Air Control Party-Mod					
ID Code (A=Service Ready, B=Not Service Ready) : A										MDAP/MAIS Code:								

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
TACTICAL TRANSPORTABLE GATEWAY (TTG)	-	-	-	2.428	1	2.428	1.960	1	1.960	-	-	-	-	-	-	-	-	-
MOBILE COMMUNICATIONS SYSTEMS (MCS) Block 2	-	-	-	5.047	1	5.047	-	-	-	-	-	-	-	-	-	-	-	-
ARMORED MULTI-PURPOSE VEHICLE (AMPV)	-	-	-	0.409	2	0.817	0.145	1	0.145	-	-	-	-	-	-	-	-	-
TACTICAL TRANSPORTABLE GATEWAY (TTG) (GFE)	-	-	-	-	-	-	0.145	12	1.740	0.141	106	14.946	-	-	-	0.141	106	14.946
CASS 145 (Service Packs)	-	-	-	1.465	1	1.465	1.558	1	1.558	1.109	1	1.109	-	-	-	1.109	1	1.109
<i>Subtotal: Non Recurring Cost</i>	-	-	-	-	-	10.128	-	-	5.781	-	-	16.055	-	-	-	-	-	16.055
<i>Subtotal: Hardware - 0207444F Cost</i>	-	-	-	-	-	10.128	-	-	5.781	-	-	16.055	-	-	-	-	-	16.055
Support - 0207444F Cost																		
CRANE SUPPORT	-	-	-	7.179	1	7.179	3.223	1	3.223	3.907	1	3.907	-	-	-	3.907	1	3.907
PMA CONTRACTOR SERVICES	-	-	-	2.457	1	2.457	2.531	1	2.531	2.605	1	2.605	-	-	-	2.605	1	2.605
PMA OTHER GOV'T COSTS	-	-	-	0.465	1	0.465	0.479	1	0.479	0.493	1	0.493	-	-	-	0.493	1	0.493
TEST SUPPORT	-	-	-	0.733	1	0.733	1.785	1	1.785	0.575	1	0.575	-	-	-	0.575	1	0.575
<i>Subtotal: Support - 0207444F Cost</i>	-	-	-	-	-	10.834	-	-	8.018	-	-	7.580	-	-	-	-	-	7.580
Gross/Weapon System Cost	-	-	-	0.062	693	43.084	-	-	42.846	-	-	35.967	-	-	-	-	-	35.967

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
AF	Quantity	531	-	-	-	-
	Total Obligation Authority	39.358	42.846	35.967	-	35.967
AFNG	Quantity	162	-	-	-	-
	Total Obligation Authority	3.726	-	-	-	-
Total:	Quantity	693	-	-	-	-

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Exhibit P-5, Cost Analysis: PB 2020 Air Force				Date: February 2019		
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 7		P-1 Line Item Number / Title: 837100 / Tactical C-E Equipment		Item Number / Title [DODIC]: Tactical Air Control Party-Mod		
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
Secondary Distribution	Total Obligation Authority	43.084	42.846	35.967	-	35.967

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Exhibit P-5, Cost Analysis: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 7	P-1 Line Item Number / Title: 837100 / Tactical C-E Equipment	Item Number / Title [DODIC]: Special Tactics / Combat Control

ID Code (A=Service Ready, B=Not Service Ready) : A	MDAP/MAIS Code:
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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)	-	657	2,819	2,392	-	2,392
Gross/Weapon System Cost (\$ in Millions)	-	15.524	61.389	52.094	0.000	52.094
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	-	15.524	61.389	52.094	0.000	52.094
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	-	15.524	61.389	52.094	0.000	52.094

(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 Millions)	-	0.024	0.022	0.022	-	0.022

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 (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Hardware - Hardware End Item Cost																		
Recurring Cost																		
HUMAN MACHINE INTERFACE ^(†)	-	-	-	0.021	351	7.379	0.021	1,970	41.370	0.021	1,370	28.762	-	-	0.000	0.021	1,370	28.762
OPERATIONAL CONTROL SYSTEM (BAO KIT) ^(†)	-	-	-	0.020	294	5.880	0.020	800	16.000	0.020	987	19.732	-	-	-	0.020	987	19.732
LINE OF SIGHT	-	-	-	0.040	10	0.395	0.040	47	1.880	0.040	37	1.468	-	-	-	0.040	37	1.468
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	13.654	-	-	59.250	-	-	49.962	-	-	0.000	-	-	49.962
<i>Subtotal: Hardware - Hardware End Item Cost</i>	-	-	-	-	-	13.654	-	-	59.250	-	-	49.962	-	-	0.000	-	-	49.962
Support - Support End Item Cost																		
PMA CONTRACTOR SERVICES	-	-	-	1.100	1	1.100	1.149	1	1.149	1.122	1	1.122	-	-	-	1.122	1	1.122
PMA OTHER GOVERNMENT COSTS	-	-	-	0.770	1	0.770	0.990	1	0.990	1.010	1	1.010	-	-	-	1.010	1	1.010
<i>Subtotal: Support - Support End Item Cost</i>	-	-	-	-	-	1.870	-	-	2.139	-	-	2.132	-	-	-	-	-	2.132
Gross/Weapon System Cost	-	-	-	0.024	657	15.524	0.022	2,819	61.389	0.022	2,392	52.094	-	-	0.000	0.022	2,392	52.094

Remarks:

- a. Controlled Item will be funded with investment funds to purchase military communications equipment classified as critical protection items.
- b. Program Management Administration (PMA): Cost support management with engineering and technical implementation. PMA supports Program TDC with Engineering, and technical support activities.

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Exhibit P-5, Cost Analysis: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 7	P-1 Line Item Number / Title: 837100 / Tactical C-E Equipment	Item Number / Title [DODIC]: Special Tactics / Combat Control
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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
AF	Quantity 657	2,819	2,392	-	2,392
	Total Obligation Authority 15.524	61.389	52.094	0.000	52.094
Total: Secondary Distribution	Quantity 657	2,819	2,392	-	2,392
	Total Obligation Authority 15.524	61.389	52.094	0.000	52.094

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

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Exhibit P-5a, Procurement History and Planning: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 7	P-1 Line Item Number / Title: 837100 / Tactical C-E Equipment	Item Number / Title [DODIC]: Special Tactics / Combat Control
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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>(\$ M)</i>	Specs Avail Now?	Date Revision Available	RFP Issue Date
HUMAN MACHINE INTERFACE		2018	Multiple / Multiple	Various	AFLCMC Wright Patterson AFB	Oct 2017	Jan 2018	351	0.021	Y		
HUMAN MACHINE INTERFACE		2019	Multiple / Multiple	Various	AFLCMC Wright Patterson AFB	Oct 2018	Jan 2019	1,970	0.021	Y		
HUMAN MACHINE INTERFACE		2020	Multiple / Multiple	Various	AFLCMC Wright Patterson AFB	Oct 2019	Jan 2020	1,370	0.021	Y		
OPERATIONAL CONTROL SYSTEM (BAO KIT)		2018	Black Diamond, LLC. / AZ	SS / FFP	AFLCMC Wright Patterson AFB	Feb 2018	Mar 2018	294	0.020	Y		
OPERATIONAL CONTROL SYSTEM (BAO KIT)		2019	Black Diamond, LLC. / AZ	SS / FFP	AFLCMC Wright Patterson AFB	Feb 2019	Mar 2019	800	0.020	Y		
OPERATIONAL CONTROL SYSTEM (BAO KIT)		2020	Black Diamond, LLC / AZ	SS / FFP	AFLCMC Wright Patterson AFB	Feb 2020	Mar 2020	987	0.020	Y		

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 7: Organization and Base **P-1 Line Item Number / Title:** 837170 / Combat Survivor Evader Locator

ID Code (A=Service Ready, B=Not Service Ready): B **Program Elements for Code B Items:** 1203176F **Other Related Program Elements:** 0305176F

Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	-	3.004	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	-	3.004
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	3.004	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	-	3.004
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	3.004	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	-	3.004

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

Description:

The Combat Survivor Evader Locator (CSEL) System provides aircrews with end-to-end global satellite secure emergency communication capability during combat and peace-time flying operations. A hand held rescue radio is required as part of the mandatory aircrew survival gear. CSEL is the Joint Program of Record with the US Air Force as lead service. CSEL supports four of five Personnel Recovery Mission Phases; Report, Locate, Support, and Recover. Funding for this exhibit contained in PE 1203176F.

As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.

Justification:

No FY 2020 funding requested.

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 7: Organization and Base **P-1 Line Item Number / Title:** 837190 / Radio Equipment

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

Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	-	15.736	11.961	15.402	-	15.402	15.285	14.790	15.052	15.323	-	103.549
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	15.736	11.961	15.402	-	15.402	15.285	14.790	15.052	15.323	-	103.549
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	15.736	11.961	15.402	-	15.402	15.285	14.790	15.052	15.323	-	103.549

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

Description:

This capital equipment replacement program procures, integrates, and fields High Frequency Global Communications System (HFGCS) high frequency (HF) radio equipment, network infrastructure, and transmit /receive antennas for 13 strategically located ground stations worldwide. All hardware and software, including radios and antennas, is commercial-off-the-shelf (COTS) with the exception of the integrating software. The integrating software is a COTS-based product that has been configured for the Department of Defense (DOD) to provide the unique capabilities required to function as a strategic HF system. The need for modern, robust, and dependable radio stations with beyond line of sight radio coverage has been identified to ensure HF radio communications is available in areas of interest to the United States.

HFGCS is the DoD's single global, strategic, high-power HF Nuclear Command, Control and Communication (NC3) and non-nuclear Command and Control (C2) network serving the DOD. HFGCS consists of the two major components: the radio /network infrastructure (Scope Command) and the antenna infrastructure (Antenna Program Support) which communicate with mobile assets (aircraft, ships, and land-based platforms). HFGCS is USSTRATCOM's primary strategic HF pre-attack NC3 dependency system providing broadcasts to the US Air Force bomber and US Navy TACAMO fleets. HFGCS supports aircrews, ground forces, naval operations (USN and USCG), and control stations, and is the primary C2 resource for Air Mobility Command cargo and tanker aircraft. Additional customers include White House Communications Agency (WHCA), Defense Communications System HF Entry, and other US government agencies. HFGCS supports war plan dissemination and daily operational requirements for USSTRATCOM, WHCA, Joint Chiefs of Staff (JCS), National Military Command Center's Emergency Action Message distribution, Special Air Mission communications, Major Air Force Commands and Combatant Commanders. HFGCS provides radio connectivity to other governmental organizations such as the Department of Homeland Security, Federal Emergency Management Agency, Transportation Security Administration, State Department and Civil Air Patrol. The HFGCS network supports Overseas Contingency Operations with secure, robust, physically diverse terrestrial and airborne transmission paths providing information services between fixed and deployed operating locations. HFGCS has also been identified as a key communications component in supporting operations in an anti-access area-denial (A2AD) environment.

The HFGCS program continues to update system consoles and routers to replace unsupportable end-of-life components and to provide increased mandated information assurance system security compliance requirements. This requires replacement of the obsolete switches and communications infrastructure supporting NC3 /C2 operations. Included is also Direct Mission Support /Program Management Administration (DMS /PMA), System Engineering, Joint Interoperability Test Center (JITC) installation testing and shipping costs for these procurement efforts.

Funding for this exhibit contained in PE 0303133F.

Military Necessity: Controlled Item will be funded with investment funds to purchase military communications equipment classified as critical protection items.

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 7: Organization and Base		P-1 Line Item Number / Title: 837190 / Radio Equipment
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A		

As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 7: Organization and Base **P-1 Line Item Number / Title:** 837190 / Radio Equipment

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

Line Item MDAP/MAIS Code: N/A

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	Radio Equipment				- / -	- / 15.736	- / 11.961	- / 15.402	- / -	- / 15.402
P-40	Total Gross/Weapon System Cost				- / -	- / 15.736	- / 11.961	- / 15.402	- / -	- / 15.402

*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. Title represents the P-40a Title when only the P-40a Summary/Total is shown.

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

Justification:

- SCOPE COMMAND RADIO/NETWORK INFRASTRUCTURE:** The Scope Command Radio/Network Infrastructure projects continue the implementation of replacement COTS radio and console capabilities into the HFGCS network. The FY20 HFGCS Network Infrastructure program includes, but is not limited to, the Unified Capabilities/Audio Communications Functionality (UC/ACF) switch modernization, continued Receive Matrix Replacement Fielding, and Scope Command Server Replacement/Integration. This funding request will support potential DMS and obsolescence solutions, to include if optimal, life of type buys or bridge buys limited to the program of record quantity. Funds will be utilized for hardware updates and spares that do not qualify for Centralized Asset Management (CAM) funding to include, but not limited to updating existing site configurations to support modified network baselines and mandated cyber security compliance requirements.
 - FY20 funding continues the Unified Capabilities/Audio Communications Functionality audio switch modernization to replace the obsolete and unsupported 1990s era audio switch. This replaces the obsolete Digital Electronic Switch (DES), as neither the an IDPX-1000 nor Liberty Star-3 (LS-3) switch is on the Defense Information Systems Agency (DISA) Approved Product List (APL) and have become logistically unsupportable.
 - FY20 continues funding the global replacement of the new 15 Receive Matrices at the 13 radio stations, system integration lab, and spares. Funding updates existing interfacing software to control the new Receive Matrix. The existing receive matrices have become obsolete with no spare parts being manufactured to maintain the capability to interface between the radios and antennas. Installation purchase and fielding is estimated to finish in FY21.
- HIGH FREQUENCY GLOBAL ANTENNA REPLACEMENT:** A majority of the HFGCS system antennas have been in operation for up to 45 years and have been subjected to degradation due to exposure to severe environmental conditions such as salt water and hurricane force winds. FY20 funds continue the replacement of critical antennas at HFGCS sites; actual locations and antenna selections will be based on technical assessment of the antenna condition and the operational requirements of the weapon system during execution. FY20 efforts include, but not limited to, replacements at Yokota, Sigonella, Lajes, and Elmendorf. Site surveys will be conducted at, but not limited to, Yokota, Lajes, and Elmendorf (current plan, but not limited to, replacing 5 antennas). This funding request will support potential DMS and obsolescence solutions, to include if optimal, life of type buys or bridge buys limited to the program of record quantity. Funds will be utilized for hardware updates and spares that do not qualify for Centralized Asset Management (CAM) funding to include, but not limited to updating existing site configurations, compliance with local site installation restrictions, and mitigation of potential local environmental considerations.
- FY20 funds for program management administration costs will provide travel, financial management, engineering and technical support for the program office. FY20 also funds Direct Mission Support, including support associated with engineering, sustainment engineering, shipping, and implementation. This includes operational acceptance testing and technical interchange meetings.

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 7 **P-1 Line Item Number / Title:** 837190 / Radio Equipment **Aggregated Items Title:** Radio Equipment

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Scope Command Radio/Network Infrastructure																				
Ethernet Switch Replacement	A		-	-	-	-	-	-	0.660	1	0.660	-	-	-	-	-	-	-	-	-
Unified Capabilities/Audio Communications Functionality (UC/ACF)	A		-	-	-	6.753	1	6.753	2.500	1	2.500	5.000	1	5.000	-	-	-	5.000	1	5.000
Receive Matrix Replacement	A		-	-	-	-	-	-	3.315	1	3.315	2.173	1	2.173	-	-	-	2.173	1	2.173
Server Replacement	A		-	-	-	-	-	-	3.500	1	3.500	-	-	-	-	-	-	-	-	-
Subtotal: Scope Command Radio/Network Infrastructure			-	-	-	-	-	6.753	-	-	9.975	-	-	7.173	-	-	-	-	-	7.173
Antenna Replacement																				
HFGCS Station Antenna Replacements	A		-	-	-	0.900	8	7.200	-	-	0.000	1.330	5	6.651	-	-	-	1.330	5	6.651
Antenna Site Support	A		-	-	-	0.733	1	0.733	0.808	1	0.808	0.300	1	0.300	-	-	-	0.300	1	0.300
Subtotal: Antenna Replacement			-	-	-	-	-	7.933	-	-	0.808	-	-	6.951	-	-	-	-	-	6.951
DMS/PMA																				
Direct Mission Support (DMS) [Systems Engineering, Testing, Shipping]	A		-	-	-	-	-	0.300	-	-	0.650	-	-	0.750	-	-	-	-	-	0.750
PMA Contractor Services	A		-	-	-	-	-	0.350	-	-	0.403	-	-	0.403	-	-	-	-	-	0.403
PMA Other Government Costs	A		-	-	-	-	-	0.400	-	-	0.125	-	-	0.125	-	-	-	-	-	0.125
Subtotal: DMS/PMA			-	-	-	-	-	1.050	-	-	1.178	-	-	1.278	-	-	-	-	-	1.278
Total			-	-	-	-	-	15.736	-	-	11.961	-	-	15.402	-	-	-	-	-	15.402

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

Remarks:

- 1). Due to different levels of complexity, differences in equipment to be updated and length of required time necessary for modification total cost will fluctuate between fiscal years.
- 2). Differences in site specific setup (due to variations between mission specific needs and differences in site type will drive differences in site specific requirements (e.g., time required, hardware required and software required). This makes quantification impossible, as there is no single baseline to produce a quantity against.
- 3). UC/ACF contracts combined into single effort for technical and fielding efficiencies

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 7: Organization and Base	P-1 Line Item Number / Title: 837240 / CCTV/Audiovisual 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>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	-	3.480	3.005	3.211	-	3.211	3.013	2.570	2.617	2.664	-	20.560
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	3.480	3.005	3.211	-	3.211	3.013	2.570	2.617	2.664	-	20.560
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	3.480	3.005	3.211	-	3.211	3.013	2.570	2.617	2.664	-	20.560

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

Description:

Visual Information Activities - Strategic PE 0102890F - P-40A

Imagery Acquisition and Audiovisual (AV) systems and their products are used throughout the Air Force to inform and train warfighters and to document combat operations and other events of historical significance. Combat video documentation is used for operational reporting and analysis, situational awareness, battle damage assessment, intelligence and operational analysis, casualty identification, and the historical record. In addition, video and multimedia based products are developed for warfighter operations, readiness training, medical videography, public and internal information, testing and evaluation, and corporate communications. Commanders recognize that imagery quickly conveys very accurate and unbiased information, and are requiring greater amounts of video imagery to help meet the challenges of a very active warfighting force. The Air Force is meeting this challenge by dedicating funding to procure and sustain this important capability by replacing older video studio systems with newer and more capable equipment and systems for both Air Force video production and combat/contingency documentation teams. Imagery acquisition systems are centrally managed to establish and maintain standardization of systems, as well as to ensure full interoperability with all other electronic image acquisition, transmission system formats, and presentation systems used in the Air Force.

WESTERN TEST RANGE DIGITAL IMAGING SYSTEMS: This program replaces obsolete, 35+ year-old high-speed engineering film cameras with high-speed digital imaging systems and also upgrades Optical Tracking Mounts to accommodate the new digital imaging systems. This capital equipment replacement procures items to maintain current capability. These cameras are mounted on mobile optical tracking systems and on camera towers next to the launch pad to provide detailed slow motion photography of the launch events. The cameras support satellite, ballistic, missile defense, and aeronautical missions on the Western Test Range and at Kodiak Island, Alaska. The optical data acquired by these engineering camera systems is a vital part of post flight performance analysis of all space and ballistic launch operations and is critical for Test and Evaluation programs now being conducted by the Missile Defense Agency (MDA) at Vandenberg AFB. Optical tracking provides detailed engineering sequential photography for anomaly resolution and accident reconstruction at distances up to 60 kilometers, and is required for all current and future MDA tests and Delta IV, Atlas IV, Delta II, Peacekeeper, Minuteman, Airborne Laser, Kinetic Kill Vehicle, and commercial space launches. These digital systems replace film camera systems that are no longer logistically supportable.

PRESIDENTIAL AIRCRAFT RECAPITALIZATION (PAR) - One-time upgrade to PAR audio visual equipment.

As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.

Justification:

UNCLASSIFIED

Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 7: Organization and Base		P-1 Line Item Number / Title: 837240 / CCTV/Audiovisual Equipment
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A		
<p>WESTERN TEST RANGE DIGITAL IMAGING SYSTEMS: FY20 funding continues the multiyear replacement/refurbishment of our aging fleet of mobile optics tracking mounts. Funding also provides life cycle replacement of obsolete equipment with modern high-speed, high-definition (HD) cameras and recorders to meet expanding launch customer requirements, to include: mid-wave infrared (IR) sensors to aid in engine performance evaluations and accident investigations, and near-IR cameras that operate below the range of visible sensors to track objects longer into flight. The secondary focus will be to install and configure mobile optics to transmit HD video supplied from the mobile tracking systems in near-real-time to Western Range users and customers via video collection point and distribution.</p> <p>PRESIDENTIAL AIRCRAFT RECAPITALIZATION (PAR) - FY20 funding upgrades PAR audio visual equipment.</p>		

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications
P-1 Line Item Number / Title: 837300 / Base Comm Infrastructure
 Equip / BSA 7: Organization and Base

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>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	-	186.098	153.656	43.123	4.300	47.423	137.362	137.024	159.958	48.067	-	869.588
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	186.098	153.656	43.123	4.300	47.423	137.362	137.024	159.958	48.067	-	869.588
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	186.098	153.656	43.123	4.300	47.423	137.362	137.024	159.958	48.067	-	869.588
<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 Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

PE 0102325F Atmospheric Early Warning System - P-40A
 Atmospheric Early Warning System (PE 0102325F)
 (New Start)

PE 0207500F IT Services- AFIMSC- Operating Forces Spt - P-40A

Funds will support the replacement of a degraded Air Force communication infrastructure. Procure information technology infrastructure to meet industry standards and reduce future year maintenance cost and improved reliability to deliver enterprise IT services. Modernize Air Force Telephone Voice Switching Systems and infrastructure is required to avoid further mission delays and stoppage. (New Start)

PE 0208059F Service Support to Other Core Missions - STRATCOM (CYBERCOM Activities) - P-40A

US Cyber Command (USCYBERCOM)Communications Infrastructure: USCYBERCOM Joint Operations Center (JOC)Fit-Up project provides adequate work space for personnel and the acquisition and installation of special Communications and Information Technology (IT) equipment (e.g., communication equipment, computers, and security systems) supporting approximately 750 seats.

PE 0208087F AF Offensive Cyberspace Operations - P-40A

The Distributed Cyber Warfare Operations PE includes manpower authorizations, peculiar, and support equipment, necessary facilities, research, development and testing and the associated costs specifically identified and measureable to the following: Development, Testing, Fielding, Operation, maintenance and logistical support of Distributed Cyber Warfare Operations capabilities and systems; Also includes but is not limited to activities that through the use of cyberspace, actively gather information from computers, information systems, or networks, or manipulate, disrupt, deny, degrade, or destroy targeted computers, information systems or networks; Cyber Operational Preparation of the Environment, Offensive Counter-Cyber, cyber attack, and related electronic attack and space control negation

PE 0208535F Collateral Equipment - Tactical Air Forces - P-40A

Collateral Equipment - Tactical Air Forces PE 0208535F/EIC FP15:
 (New Start)

This program procures equipment to support the European Infrastructure Consolidation (EIC), providing equipment to fit-out the Joint Intelligence Analytic Center/NATO Intelligence Fusion Center (JIAC/NIFC)complex at RAF Molesworth. The JIAC/NIFC operational facilities at RAF Molesworth will consolidate European intelligence functions critical to the USEUCOM warfighting mission.

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 7: Organization and Base		P-1 Line Item Number / Title: 837300 / Base Comm Infrastructure
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		
<p>PE 0308611F Communications and Information Technology - P-40A AFSPC Communications Infrastructure Equipment: Funds enable timely and assured delivery of data and voice communications supporting a wide range Air Force organizations and decision makers. This program provides AFSPC with effective C2 of information systems by procuring robust enterprise communications infrastructure that every worker, office, and organization depends on to perform their mission. This funding supports life cycle management of network servers, routers, ductwork, cables, LANs, voice and data switches, Land Mobile Radio (LMR) systems, and end building node hardware in order to maintain consistent, compatible, and interoperable infrastructure and architecture. Funds are also needed to provide communications infrastructure to meet evolving mission requirements, support military construction projects and handle the multitude of smaller, individual communications, computer, air traffic control and weather instrumentation connectivity needs. This funding will be executed by one or all of the following: Air Force Network Integration Center, Air Force Spectrum Management Office, AFSPC Cyber Support Squadron or HQ AFSPC.</p> <p>PE 0401319F VC-25B - P-40A VC-25B PE 0401319F - P40A (New Start) The VC-25B Program, formerly known as the Presidential Aircraft Recapitalization (PAR) Program, will replace the Presidential VC-25A fleet which faces capability gaps, rising maintenance costs, and parts obsolescence as it reaches the end of its planned 30-year life-cycle. The VC-25B Program Office will deliver a new fleet of aircraft to meet the requirements for the President to execute the duties of Head of State, Chief Executive, and Commander-in-Chief. FY20 funds will be used to provide data, voice, and video equipment required to support new PAR Complex military construction project and enable operations of Presidential Airlift Group within the facility.</p> <p>PE 0205219F MQ-9 UAV - P-40A MQ-9 Reaper Squadron Operations Centers (SOCs) enable Remote Split Operations (RSO), provide critical mission data and tasking information to the aircrew and disseminate and/or exchange mission data with decision-makers and the intelligence community.</p> <p>PE 0207138F F-22A Squadrons - P-40A F-22A Communications Infrastructure Equipment: This equipment provides communications equipment in support of F-22 Raptor wing headquarters, operational, and maintenance squadrons. Base communications infrastructure is essential to meet evolving Warfighter mission requirements.</p> <p>PE 0207436F Engineering and Installation - Air Force - P-40A Air Force Space Command (AFSPC) Lead Command Base Communications Infrastructure: E&I supports enterprise network capability and life cycle replacement of common user communications systems, AF Network Defensive capabilities, as well as Installation Emergency Management (IEM) infrastructure. E&I funds support communications availability and reliability, providing consistent, compatible, and interoperable capability through advanced technology and architecture. Installations include network communications infrastructure, fiber optic and copper cabling, and associated manhole duct systems for cable projects.</p> <p>PE 0208550F Information Technology Services Management - Tactical Air Forces - P-40A a. Air Force Special Operations Command (AFSOC) Base Communications Infrastructure Equipment: This equipment supports more than 18,000 AFSOC active-duty, Air Force Reserve, Air National Guard and civilian personnel and allow AFSOC to meet the mission of presenting combat ready forces to conduct and support global special operations missions. Funds end of life IT connect infrastructure to provide dial tone and Internet access across the AFSOC enterprise. This is a continuing requirement, where aging legacy components are no longer funded through other cyber portfolios and each MAJCOM must replace these critical components. b. Pacific Air Forces (PACAF) Base Communications Infrastructure Equipment: PACAF network equipment and life cycle replacement of base information technology systems supports base operations, command-wide connectivity, and transformation efforts. The large geographic separation between PACAF units significantly raises the importance of a robust communications infrastructure to ensure war fighter access to secure voice, data, and video systems. c. Air Combat Command (ACC) Base Communications Infrastructure Equipment: ACC base communications funds support life cycle management of network servers, routers, ductwork, cables, LANs, voice and data switches, Land Mobile Radio (LMR) systems, and end building node hardware. This infrastructure meets the requirements of ACC's 143,000 active-duty, Air Force Reserve, Air National Guard and civilian personnel at 11 major bases and 7 associated units throughout the United States.</p>		

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 7: Organization and Base		P-1 Line Item Number / Title: 837300 / Base Comm Infrastructure
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		
<p>d. USAFE-AFAFRICA Base Communications Infrastructure Equipment: USAFE-AFAFRICA base communications funding supports the acquisition, and installation of base network infrastructures, especially C2 communications, located at USAFE-AFAFRICA Main Operating Bases (MOBs) and Geographically Separated Units (GSUs) consisting of a HQ, one numbered Air Force, seven MOBs and 137 GSUs. Specific critical base communications infrastructure provide support for Headquarters, Warfighting Numbered Air Force and Operational wings, flight support, emergency actions, and the operational planning, delivering, sustaining, integrating, and managing of USAF communications capabilities, networks, and applications in the USEUCOM and USAFRICOM theaters based on geographical combatant command orders and plans. Base communications infrastructure is required to support the European Infrastructure Consolidation (EIC) which is an OSD-directed process to restructure basing of forces within the European Command (EUCOM) Area of Responsibility (AOR). Base communications infrastructure is also required to support the European Deterrence Initiative (EDI). EDI supports increased rotational presence of air, ground and sea forces throughout Europe, increased and added bilateral and multilateral exercises and training events with U.S. allies and partners in Europe, improved infrastructure to allow for greater responsiveness across Europe, enhanced prepositioning of U.S. equipment across Europe, and intensified our efforts to build partner capacity for newer NATO members and partners.</p> <p>PE 0303126F Long-Haul Communications - DCS - P-40A Includes manpower authorizations, peculiar and support equipment, necessary facilities and the associated costs specifically identified and measurable to the following: All long-haul, point-to-point, leased and Government-owned communications facilities, material, and associated manpower and costs identifiable and measurable to the Defense Communications System (DCS).</p> <p>PE 0305155F Theater Nuclear Weapon Storage & Security System - P-40A Theater Nuclear Weapon Storage and Security System (WS3) Communications Infrastructure Equipment: Funds support the procurement, integration, and installation of commercial off-the-shelf (COTS) communications equipment and alarm processing equipment and software associated with the Alarm Communications and Display (AC&D) system, security assessment enhancements, and fiber optic cable purchase and installation at multiple OCONUS nuclear capable WS3 locations. These efforts directly impact sustainment efforts for the aging WS3 system and NATO's nuclear deterrence mission.</p> <p>PE 0305550F Information Technology Services Management - Other - P-40A a. Air Force District Washington (AFDW) Base Communications Network Equipment: FY18 funds procure wide and local area network hardware (i.e., servers, routers, hubs and network systems) at Joint Base Anacostia-Bolling, Joint Base Andrews, and Headquarters Air Force. This program invests in office automation systems and computer networks in order to procure high-quality, high-speed connections to both public and classified network, and equipment required to react to emerging and emergency mission requirements in the National Capital Region (NCR). b. AFSPC Base Communications Infrastructure Equipment: FY18 funding supports AFSPC-wide network communications hardware and software purchases.</p> <p>PE 0408550F Information Technology Services Management - Mobility Air Forces - P-40A Air Force District Washington (AFDW) Base Communications Infrastructure Equipment: Funds support network infrastructure replacements and AFDW's classified and unclassified networks. These efforts directly support strategic decision making, execution of operations, and support to US senior leadership including the POTUS, SECDEF, CJCS, and the CSAF. This is a continuing requirement.</p> <p>PE 0505550F Information Technology Services Management - AFR - P-40A Air Force Reserve Command (AFRC) Base Communications Infrastructure Equipment: Funds provide for recapitalization, and support of AFRC base communications infrastructure. AFRC is an AF MAJCOM consisting of a HQ, three Numbered Air Forces (NAFs), 45 flying wings/groups and more than 40 GSUs; Air Reserve Personnel Center (ARPC) and the Major Command Coordinating Center (MCCC). Funding supports AFR-wide programs providing base communications infrastructure consistency. Funding provides AFR-wide hardware and software purchases, thus ensuring the deployment of consistent, compatible, and interoperable technology and architecture. This is a continuing requirement.</p> <p>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.</p> <p>PE 0508550F Information Technology Services Management - ANG - P-40A Air National Guard (ANG) Base Communications Infrastructure Equipment: Funding supports the operations, maintenance, and sustainment of IT components, infrastructure, and processes enabling effective operations and defense of the ANG enterprise portion of the Air Force Network (AFNet). Funds provide for IT life cycle support for 90 ANG Main Operating Bases (MOB), 153 GSUs, and the 299th Cyber Security Control (CSCS) weapon system. Funds support ANG-wide base communications infrastructure projects consistent with AF IT standards and for compatibility of the ANG enterprise with the AF and Department of Defense (DoD) centralized networks. A major component of this funding is to support the procurement and implementation of a robust Installation Notification and Warning System (INWS) that</p>		

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity:
3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications
Equip / BSA 7: Organization and Base

P-1 Line Item Number / Title:
837300 / Base Comm Infrastructure

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

provides Giant Voice, Indoor Alerts, Telephone call/text alerts, software for computer alerts, and other alerting methods to meet DOD and Federal warning requirements for all ANG bases. This is a continuing requirement.

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.

PE 0708550F Information Technology Services Management - Logistics - P-40A
Air Force Materiel Command (AFMC) Base Communications infrastructure Equipment: Funding allows AFMC to support AF operations by sustaining critical cyber systems that provide timely and assured delivery of data and voice communications for organizations at nine AFMC installations with 100,000 personnel. Funding directly supports the warfighter on a 24/7 operational basis by providing AFMC the ability to deliver cyber capabilities to sustain aircraft sortie generation rates, weapon systems availability, system operational testing, and timely acquisition of equipment parts. This program is vital for AFMC's life cycle management of network servers, service desk, repair of critical communications infrastructure, routers, ductwork, cables, Land Area Networks (LANs), voice and data switches, and Mass Notifications and Land Mobile Radio (LMR) systems. Funding allows for end-of-life replacement of end building node network, data and voice hardware that complies with AF cyber architecture enterprise standards.

PE 0808550F Information Technology Services Management - Training - P-40A
Air Education and Training Command (AETC) Base Communications Infrastructure Equipment: Funds support base-approved and MAJCOM-validated communications requirements as identified in base communications blueprints. These requirements include flying and technical training, education, recruiting, and accession mission, command and control, as well as first responder services at all 11 AETC bases. This is a continuing requirement.

As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
AF	Quantity	0	0	0	0	0	-	-	-	-
	Total Obligation Authority	170.113	150.025	38.853	4.300	43.153	-	-	-	-
AFNG	Quantity	0	0	0	0	0	-	-	-	-
	Total Obligation Authority	10.648	3.291	3.924	0.000	3.924	-	-	-	-
AFR	Quantity	0	0	0	0	0	-	-	-	-
	Total Obligation Authority	5.337	0.340	0.346	0.000	0.346	-	-	-	-
Total:	Quantity	0	0	0	0	0	-	-	-	-
Secondary Distribution	Total Obligation Authority	186.098	153.656	43.123	4.300	47.423	-	-	-	-

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 7: Organization and Base **P-1 Line Item Number / Title:** 837300 / Base Comm Infrastructure

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-40a	IT Services- AFIMSC- Operating Forces Spt				- / -	- / 0.000	- / 5.958	- / 0.000	- / -	- / 0.000
P-40a	Collateral Equipment - Tactical Air Forces				- / -	- / 0.000	- / 0.000	- / 5.966	- / -	- / 5.966
P-40a	Communications and Information Technology				- / -	- / 5.956	- / 4.450	- / 5.439	- / -	- / 5.439
P-40a	VC-25B				- / -	- / 0.000	- / 0.000	- / 4.010	- / -	- / 4.010
P-40a	MQ-9 UAV				- / -	- / 17.529	- / 87.378	- / 7.898	- / -	- / 7.898
P-40a	Engineering and Installation - Air Force				- / -	- / 17.568	- / 36.627	- / 3.020	- / -	- / 3.020
P-40a	Information Technology Services Management - Tactical Air Forces				- / -	- / 106.651	- / 9.715	- / 5.364	- / 4.300	- / 9.664
P-40a	Theater Nuclear Weapon Storage & Security System				- / -	- / 24.957	- / 0.000	- / 0.000	- / -	- / 0.000
P-40a	Information Technology Services Management - Other				- / -	- / 3.166	- / 3.200	- / 3.254	- / -	- / 3.254
P-40a	Information Technology Services Management - Mobility Air Forces				- / -	- / 0.758	- / 0.768	- / 0.780	- / -	- / 0.780
P-40a	Information Technology Services Management - AFR				- / -	- / 5.337	- / 0.340	- / 0.346	- / -	- / 0.346
P-40a	Information Technology Services Management - ANG				- / -	- / 10.648	- / 3.291	- / 3.924	- / -	- / 3.924
P-40a	Information Technology Services Management - Logistics				- / -	- / 2.394	- / 1.647	- / 2.011	- / -	- / 2.011
P-40a	Information Technology Services Management - Training				- / -	- / 1.134	- / 0.282	- / 1.111	- / -	- / 1.111
P-40	Total Gross/Weapon System Cost				- / -	- / 186.098	- / 153.656	- / 43.123	- / 4.300	- / 47.423

*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. Title represents the P-40a Title when only the P-40a Summary/Total is shown.
 Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.

Justification:
 This program, Base Comm Infrastructure P-40A Category AFMC Item VC-25B PAR, is a new start.

PE 0102325F Atmospheric Early Warning System - P-40A
 Atmospheric Early Working System (PE 0102325F)
 (New Start)

PE 0207500F IT Services- AFIMSC- Operating Forces Spt - P-40A
 Base Communications Infrastructure Equipment: FY 2020 funds will procure IP based switches and telecommunications equipment required to bring infrastructure to industry standards to implement an IP based infrastructure for Air Force MAJCOMs (ACC, AFSPC, AETC, etc..) Current TDM switches and infrastructure are past life expectancy and parts are no longer manufactured or supported by commercial vendors. Industry is cannibalizing old systems for possible repairs. Voice telecommunication industry is rapidly moving to Internet Protocol (IP) based switches.

PE 0208059F Service Support to Other Core Missions - STRATCOM (CYBERCOM Activities) - P-40A
 US Cyber Command (USCYBERCOM)Communications Infrastructure: No FY18 funding requested.

PE 0208087F AF Offensive Cyberspace Operations - P-40A

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 7: Organization and Base		P-1 Line Item Number / Title: 837300 / Base Comm Infrastructure
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		
<p>Provides communications infrastructure for the Distributed Cyber Warfare Operations. Supports activities that through the use of cyberspace, actively gather information from computers, information systems, or networks, or manipulate, disrupt, deny, degrade, or destroy targeted computers, information systems or networks; Cyber Operational Preparation of the Environment, Offensive Counter-Cyber, cyber attack, and related electronic attack and space control negation</p> <p>PE 0208535F Collateral Equipment - Tactical Air Forces - P-40A Collateral Equipment - Tactical Air Forces PE 0208535f/EIC - FP15: (New Start) European Infrastructure Consolidation (EIC): FY20 funds will procure IT and communications equipment to fit-out the Molesworth JIAC facility, supporting 1,750 Joint Intelligence and NATO Intelligence Fusion personnel</p> <p>PE 0308611F Communications and Information Technology - P-40A AFSPC Communications Infrastructure Equipment: FY 2020 funds ensure AF enterprise and base-level network access for more than 615,000 Total Force professionals including military, civilians and contractors. Funding supports enterprise and base operations by providing required AF and AFSPC-wide hardware and software purchases, ensuring the deployment of consistent, compatible, and interoperable communications technology to support Joint Information Enterprise efforts across the AF. Hardware and software purchases may include routers, switches, and other network systems to support unified capabilities and the joint enterprise.</p> <p>PE 0401319F VC-25B - P-40A VC-25B PE 0401319F - P40A (New Start) Funding needed to support PAR Complex military construction project outfitting requirements including: desktop hardware, servers, software, routers, handsets, data switches, network infrastructure and secure voice, data, and video systems.</p> <p>PE 0205219F MQ-9 UAV - P-40A FY 2020 funds are required for the procurement and installation of hardware and software at MQ-9 Squadron Operations Centers (SOCs) to enable mission communications and exchange of mission data necessary for the employment of Remote Split Operations for MQ-9 Reaper missions.</p> <p>PE 0207138F F-22A Squadrons - P-40A F-22 Communications Infrastructure Equipment: No FY18 funding is requested.</p> <p>PE 0207436F Engineering and Installation - Air Force - P-40A Air Force Space Command (AFSPC) Lead Command Base Communications Infrastructure: FY 2020 E&I funds ensure life cycle support to keep base communications infrastructure on pace with current technological developments. In addition funds provide base communications infrastructure support to include LMR system replacement, communications cable reutilization and redistribution, and base telephone switch replacement.</p> <p>PE 0208550F Information Technology Services Management - Tactical Air Forces - P-40A a. Air Force Special Operations Command (AFSOC) Base Communications Infrastructure Equipment: FY 2020 funds will be used by AFSOC to recapitalize data, voice, and video equipment supporting AFSOC forces organized under three active-duty wings, one reserve wing, one National Guard wing, two overseas groups, and several direct reporting units. b. Pacific Air Forces (PACAF) Base Communications Infrastructure Equipment: FY 2020 funding supports PACAF's acquisition and installation of Unified Capabilities (UC) and communications infrastructure at remote and Geographically Separated Unit (GSU) locations. Procurements include VoIP solutions to replace the obsolete telephone switches and communications infrastructure supporting C2 for deploying squadrons at these (flex base) locations. This capability directly supports COMPACAF's flexible basing strategy for the Pacific region. c. Air Combat Command (ACC) Base Communications Infrastructure Equipment: FY 2020 funds continue life cycle support of base communications infrastructure at ACC bases and replaces outdated network voice and data equipment hardware to meet mission requirements of ACC's C2 and mission support users.</p>		

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 7: Organization and Base		P-1 Line Item Number / Title: 837300 / Base Comm Infrastructure
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		
<p>d. USAFE-AFAFRICA Base Communications Infrastructure Equipment: FY 2020 funds replace USAFE's outdated Land Mobile Radio distribution systems between intrabase communication networks/nodes thereby eliminating bottlenecks in trunking systems across USAFE-AFAFRICA Main Operating Bases (MOBs) and GSUs. Base network infrastructure procurements meet network communications requirements for USAFE-AFAFRICA users at MOBS and GSUs. Additionally, FY 2020 funds procure communications infrastructure in support of the EIC and procure equipment to support the European Deterrence Initiative (EDI). EDI requires additional long haul communication support to support increased rotational presence of air, ground and sea forces throughout Europe.</p> <p>PE 0303126F Long-Haul Communications - DCS - P-40A Provides communications infrastructure support for long-haul, point-to-point, leased and Government-owned communications facilities, material, and associated manpower and costs identifiable and measurable to the Defense Communications System (DCS).</p> <p>PE 0305155F Theater Nuclear Weapon Storage & Security System - P-40A Theater Nuclear Weapon Storage and Security System (WS3) Communications Infrastructure Equipment: FY18 funding supports the procurement and installation of communications and alarm equipment, buried fiber optic cable, encryption modernization, and increased security assessment capabilities for multiple OCONUS locations in support of the NATO nuclear deterrence mission in Europe. No FY19 funding requested.</p> <p>PE 0305550F Information Technology Services Management - Other - P-40A a. Air Force District Washington (AFDW) Base Communications Network Equipment: FY 2020 funds procure wide and local area network hardware (i.e., servers, routers, hubs and network systems) at Joint Base Anacostia-Bolling, Joint Base Andrews, and Headquarters Air Force. This program invests in office automation systems and computer networks in order to procure high-quality, high-speed connections to both public and classified network, and equipment required to react to emerging and emergency mission requirements in the National Capital Region (NCR). b. AFSPC Base Communications Infrastructure Equipment: FY18 funding supports AFSPC-wide network communications hardware and software purchases.</p> <p>PE 0408550F Information Technology Services Management - Mobility Air Forces - P-40A Air Force District Washington (AFDW) Base Communications Infrastructure Equipment: FY 2020 funds procure wide and local area network at Joint Base Anacostia-Bolling, Joint Base Andrews, and Headquarters Air Force. This program invests in office automation systems and computer networks to support high-quality, high-speed connections to public and classified networks in support of National Capitol Region (NCR) mission requirements.</p> <p>PE 0505550F Information Technology Services Management - AFR - P-40A Air Force Reserve Command (AFRC) Base Communications Infrastructure Equipment: FY 2020 funds support data, voice, and video projects to promote compatibility with the AF "Active" component architectures. In addition to funding AFR-wide programs. Funds also acquire equipment for life cycle support of critical base-level communications infrastructure requirements.</p> <p>PE 0508550F Information Technology Services Management - ANG - P-40A Air National Guard (ANG) Base Communications Infrastructure Equipment: FY 2020 funds continue to support installation of command purchased information technology and software to maintain a consistent, compatible, and interoperable infrastructure and architecture. This functionality ensures compatibility of ANG networks with the AF Enterprise.</p> <p>PE 0708550F Information Technology Services Management - Logistics - P-40A Air Force Materiel Command (AFMC) Communications Infrastructure Equipment: FY 2020 funds support command wide and base approved, MAJCOM validated communications requirements. These provide base life cycle management of AFMC's classified and unclassified network server consolidation, Land Mobile Radio (LMR) systems, routers, voice and data switches, ductwork, cabling, and end building node hardware that support UC and communications infrastructure. Procurements include VoIP solutions to replace the obsolete telephone switches and communications infrastructure.</p> <p>PE 0808550F Information Technology Services Management - Training - P-40A Air Education and Training Command (AETC) Base Communications Infrastructure Equipment: FY 2020 funds will be used to continue the process of replacing AETC legacy base LAN infrastructure originally designed to carry data only in order to comply with the increased reliability required under Assured Service LAN (ASLAN) as other services (e.g., voice, enterprise LMR) are transitioned to the LAN.</p>		

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force															Date: February 2019				
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 7						P-1 Line Item Number / Title: 837300 / Base Comm Infrastructure						Aggregated Items Title: IT Services- AFIMSC- Operating Forces Spt							

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
AF Installation & Msn Spt Ctr																				
Info Tech Svcs Mgt (ITSM)	A		-	-	-	-	-	0.000	-	-	5.958	-	-	0.000	-	-	-	-	-	0.000
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	0.000	-	-	5.958	-	-	0.000	-	-	-	-	-	0.000
Subtotal: AF Installation & Msn Spt Ctr			-	-	-	-	-	0.000	-	-	5.958	-	-	0.000	-	-	-	-	-	0.000
Total			-	-	-	-	-	0.000	-	-	5.958	-	-	0.000	-	-	-	-	-	0.000

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

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 7 **P-1 Line Item Number / Title:** 837300 / Base Comm Infrastructure **Aggregated Items Title:** Collateral Equipment - Tactical Air Forces

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Collateral Equipment - Tactical Air Force																				
EIC-FP15	A		-	-	-	-	-	0.000	-	-	0.000	-	-	5.966	-	-	-	-	-	5.966
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	0.000	-	-	0.000	-	-	5.966	-	-	-	-	-	5.966
Subtotal: Collateral Equipment - Tactical Air Force			-	-	-	-	-	0.000	-	-	0.000	-	-	5.966	-	-	-	-	-	5.966
Total			-	-	-	-	-	0.000	-	-	0.000	-	-	5.966	-	-	-	-	-	5.966

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force														Date: February 2019					
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 7							P-1 Line Item Number / Title: 837300 / Base Comm Infrastructure							Aggregated Items Title: Communications and Information Technology					

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
AFSPC																				
AFSPC Communications Infrastructure Equipment	A		-	-	-	-	-	5.956	-	-	4.450	-	-	5.439	-	-	-	-	-	5.439
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	5.956	-	-	4.450	-	-	5.439	-	-	-	-	-	5.439
Subtotal: AFSPC			-	-	-	-	-	5.956	-	-	4.450	-	-	5.439	-	-	-	-	-	5.439
Total			-	-	-	-	-	5.956	-	-	4.450	-	-	5.439	-	-	-	-	-	5.439

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 7	P-1 Line Item Number / Title: 837300 / Base Comm Infrastructure	Aggregated Items Title: VC-25B
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Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
AFMC																				
VC-25B PAR	A		-	-	-	-	-	0.000	-	-	0.000	-	-	4.010	-	-	-	-	-	4.010
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	0.000	-	-	0.000	-	-	4.010	-	-	-	-	-	4.010
Subtotal: AFMC			-	-	-	-	-	0.000	-	-	0.000	-	-	4.010	-	-	-	-	-	4.010
Total			-	-	-	-	-	0.000	-	-	0.000	-	-	4.010	-	-	-	-	-	4.010

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 7	P-1 Line Item Number / Title: 837300 / Base Comm Infrastructure	Aggregated Items Title: MQ-9 UAV
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Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Uncategorized																				
PMA Other Government Costs	A		-	-	-	-	-	2.232	-	-	3.032	-	-	3.679	-	-	-	-	-	3.679
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	2.232	-	-	3.032	-	-	3.679	-	-	-	-	-	3.679
Equipment	A		-	-	-	-	-	5.297	-	-	42.248	-	-	4.219	-	-	-	-	-	4.219
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	5.297	-	-	42.248	-	-	4.219	-	-	-	-	-	4.219
ACC Equipment	A		-	-	-	-	-	-	-	-	42.098	-	-	-	-	-	-	-	-	-
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	-	-	-	42.098	-	-	-	-	-	-	-	-	-
Subtotal: Uncategorized			-	-	-	-	-	7.529	-	-	87.378	-	-	7.898	-	-	-	-	-	7.898
Total			-	-	-	-	-	7.529	-	-	87.378	-	-	7.898	-	-	-	-	-	7.898

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 7	P-1 Line Item Number / Title: 837300 / Base Comm Infrastructure	Aggregated Items Title: Engineering and Installation - Air Force
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Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
ACC E&I																				
ACC Lead Command Base Communications Infrastructure	A		-	-	-	-	-	17.568	-	-	36.627	-	-	3.020	-	-	-	-	-	3.020
<i>Secondary Distribution</i>																				
AF				-	-		-	17.568		-	36.627		-	3.020		-	-		-	3.020
Subtotal: ACC E&I			-	-	-	-	-	17.568	-	-	36.627	-	-	3.020	-	-	-	-	-	3.020
Total			-	-	-	-	-	17.568	-	-	36.627	-	-	3.020	-	-	-	-	-	3.020

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Remarks:

*Lead Command responsibility for the E&I program transferred from AFSPC to ACC.

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force															Date: February 2019				
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 7							P-1 Line Item Number / Title: 837300 / Base Comm Infrastructure								Aggregated Items Title: Information Technology Services Management - Tactical Air Forces				

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
ITSM - Tactical AF's																				
AFSOC Base Communications Infrastructure Equipment	A		-	-	-	-	-	2.435	-	-	0.604	-	-	0.704	-	-	-	-	-	0.704
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	2.435	-	-	0.604	-	-	0.704	-	-	-	-	-	0.704
PACAF Base Communications Infrastructure Equipment	A		-	-	-	-	-	0.652	-	-	0.659	-	-	0.669	-	-	-	-	-	0.669
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	0.652	-	-	0.659	-	-	0.669	-	-	-	-	-	0.669
ACC Base Communications Infrastructure Equipment	A		-	-	-	-	-	0.490	-	-	0.496	-	-	0.506	-	-	-	-	-	0.506
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	0.490	-	-	0.496	-	-	0.506	-	-	-	-	-	0.506
USAFE-AFAFRICA Base Communications Infrastructure Equipment	A		-	-	-	-	-	103.074	-	-	7.956	-	-	3.485	-	-	4.300	-	-	7.785
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	103.074	-	-	7.956	-	-	3.485	-	-	4.300	-	-	7.785
Subtotal: ITSM - Tactical AF's			-	-	-	-	-	106.651	-	-	9.715	-	-	5.364	-	-	4.300	-	-	9.664
Total			-	-	-	-	-	106.651	-	-	9.715	-	-	5.364	-	-	4.300	-	-	9.664

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

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force														Date: February 2019					
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 7							P-1 Line Item Number / Title: 837300 / Base Comm Infrastructure							Aggregated Items Title: Theater Nuclear Weapon Storage & Security System					

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Theater Nuclear WS3																				
Theater Nuclear Weapon Storage and Security System (WS3) Communications Infrastructure Equipment	A		-		-	-		24.957			0.000	-		0.000	-		-		-	0.000
<i>Secondary Distribution</i>																				
AF				-	-		-	24.957		-	0.000		-	0.000		-	-		-	0.000
Subtotal: Theater Nuclear WS3			-		-	-	-	24.957		-	0.000	-		0.000	-		-		-	0.000
Total			-		-	-	-	24.957		-	0.000	-		0.000	-		-		-	0.000

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

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force													Date: February 2019						
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 7						P-1 Line Item Number / Title: 837300 / Base Comm Infrastructure						Aggregated Items Title: Information Technology Services Management - Other							

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
ITSM - Other																				
AFDW Base Communications Network Equipment	A		-	-	-	-	-	3.166	-	-	3.200	-	-	3.254	-	-	-	-	-	3.254
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	3.166	-	-	3.200	-	-	3.254	-	-	-	-	-	3.254
AFSPC Base Communications Infrastructure Equipment	A		-	-	-	-	-	0.000	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	0.000	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
Subtotal: ITSM - Other			-	-	-	-	-	3.166	-	-	3.200	-	-	3.254	-	-	-	-	-	3.254
Total			-	-	-	-	-	3.166	-	-	3.200	-	-	3.254	-	-	-	-	-	3.254

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force															Date: February 2019				
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 7							P-1 Line Item Number / Title: 837300 / Base Comm Infrastructure								Aggregated Items Title: Information Technology Services Management - Mobility Air Forces				

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
ITSM - Mobility AF's																				
AFDW Base Communications Infrastructure Equipment	A		-	-	-	-	-	0.758	-	-	0.768	-	-	0.780	-	-	-	-	-	0.780
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	0.758	-	-	0.768	-	-	0.780	-	-	-	-	-	0.780
Subtotal: ITSM - Mobility AF's			-	-	-	-	-	0.758	-	-	0.768	-	-	0.780	-	-	-	-	-	0.780
Total			-	-	-	-	-	0.758	-	-	0.768	-	-	0.780	-	-	-	-	-	0.780

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

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 7	P-1 Line Item Number / Title: 837300 / Base Comm Infrastructure	Aggregated Items Title: Information Technology Services Management - AFR
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Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
ITSM - AFR																				
AFRC Base Communications Infrastructure Equipment	A		-	-	-	-	-	5.337	-	-	0.340	-	-	0.346	-	-	-	-	-	0.346
<i>Secondary Distribution</i>																				
AFR			-	-	-	-	-	5.337	-	-	0.340	-	-	0.346	-	-	-	-	-	0.346
Subtotal: ITSM - AFR			-	-	-	-	-	5.337	-	-	0.340	-	-	0.346	-	-	-	-	-	0.346
Total			-	-	-	-	-	5.337	-	-	0.340	-	-	0.346	-	-	-	-	-	0.346

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

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force														Date: February 2019					
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 7							P-1 Line Item Number / Title: 837300 / Base Comm Infrastructure							Aggregated Items Title: Information Technology Services Management - ANG					

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
ITSM - ANG																				
ANG Base Communications Infrastructure Equipment	A		-	-	-	-	-	10.648	-	-	3.291	-	-	3.924	-	-	-	-	-	3.924
<i>Secondary Distribution</i>																				
AFNG			-	-	-	-	-	10.648	-	-	3.291	-	-	3.924	-	-	-	-	-	3.924
Subtotal: ITSM - ANG			-	-	-	-	-	10.648	-	-	3.291	-	-	3.924	-	-	-	-	-	3.924
Total			-	-	-	-	-	10.648	-	-	3.291	-	-	3.924	-	-	-	-	-	3.924

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

Remarks:
ANG FY17 Emergency Supplemental Rescission -- \$48M.

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force														Date: February 2019					
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 7							P-1 Line Item Number / Title: 837300 / Base Comm Infrastructure							Aggregated Items Title: Information Technology Services Management - Logistics					

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
ITSM - Logistics																				
AFMC Base Communications Infrastructure Equipment	A		-	-	-	-	-	2.394	-	-	1.647	-	-	2.011	-	-	-	-	-	2.011
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	2.394	-	-	1.647	-	-	2.011	-	-	-	-	-	2.011
Subtotal: ITSM - Logistics			-	-	-	-	-	2.394	-	-	1.647	-	-	2.011	-	-	-	-	-	2.011
Total			-	-	-	-	-	2.394	-	-	1.647	-	-	2.011	-	-	-	-	-	2.011

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

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force														Date: February 2019					
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 7							P-1 Line Item Number / Title: 837300 / Base Comm Infrastructure							Aggregated Items Title: Information Technology Services Management - Training					

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
ITSM - Training																				
AETC Base Communications Infrastructure Equipment	A		-	-	-	-	-	1.134	-	-	0.282	-	-	1.111	-	-	-	-	-	1.111
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	1.134	-	-	0.282	-	-	1.111	-	-	-	-	-	1.111
Subtotal: ITSM - Training			-	-	-	-	-	1.134	-	-	0.282	-	-	1.111	-	-	-	-	-	1.111
Total			-	-	-	-	-	1.134	-	-	0.282	-	-	1.111	-	-	-	-	-	1.111

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

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 8: Modifications **P-1 Line Item Number / Title:** 838010 / Comm Elect Mods

ID Code (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** 0305111F, 0305909F, 0305912F, 1203699F **Other Related Program Elements:** 0305111F, 0305114F, 0305137F, 0305909F

Line Item MDAP/MAIS Code: None

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>)	192.086	68.248	10.654	14.500	-	14.500	13.500	12.329	4.468	4.550	-	320.335
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	192.086	68.248	10.654	14.500	-	14.500	13.500	12.329	4.468	4.550	-	320.335
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	192.086	68.248	10.654	14.500	-	14.500	13.500	12.329	4.468	4.550	-	320.335

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

Initial Spares (<i>\$ in Millions</i>)	-	1.786	1.013	-	-	-	-	-	-	-	-	2.799
Flyaway Unit Cost (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

PE 0604281F Tactical Data Networks Enterprise - P-40A

Tactical Data Links (TDL), as a subset of the broader airborne network, are used in a combat environment to exchange information such as messages, data, radar tracks, target information, platform status, imagery, and command assignments. TDLs provide interoperability, local and global connectivity, and situational awareness to the user when operating under rapidly changing operational conditions. TDLs provide a jam-resistant; secure digital data transfer network capability with new and standardized waveforms and data formats allowing Line-of-Sight (LOS) and Beyond-Line- of-Sight (BLOS) intra- and inter-flight communications. TDLs increase mission effectiveness, provide positive identification of aircraft in the network, correlate on and off-board sensor data sharing, target, and threat information, and provide the data link to accomplish time critical targeting and other mission update functions. TDLs are used by all service theater Command and Control (C2) elements, weapons platforms, and sensors.

TDLs include, but are not limited to: Link 16, Link 11, Link 22, Situational Awareness Data Link (SADL), Multifunction Advanced Data Link (MADL) Variable Message Format (VMF), Integrated Broadcast Service (IBS), Intra-Flight Data Link (IFDL), and Tactical Targeting Network Technology (TTNT). TDL efforts include incorporating changes and additions to the Link-16 message standard (MIL-STD-6016E) and applicable Interface Change Proposals (ICPs), assisting with Air Force and joint interoperability certification testing with the Air Combat Command (ACC) and Joint Interoperability Test Center (JITC); future development, integration, and verification of Operational Flight Program (OFP) upgrades due to TDL integration; support of data gathering processes; studying and incorporating data link technologies to ensure effectiveness and efficiency of the Global Strike and Global Persistent Attack CONOPS.

Funds will be used to procure Tactical Data Link Planning, Analysis and Monitoring (TDL PAM) tool for various locations and applications.

PE 1203873F BALLISTIC MISSILE DEFENSE RADARS - Cobra Dane Radar

Due to obsolescence of unsupportable mission and capital equipment and Initial spares, coupled with the lack of vendors, COBRA DANE faces a critical parts shortage. Procurement of these parts are critical to maintain operational access and sustainment of the COBRA DANE radar residing on Shemya Island,AK.

PE 1203909F Ballistic Missile Early Warning System (BMEWS) - P-40A

PE 1203909F The Ballistic Missile Early Warning System (BMEWS) is a ground based radar system with missions to support the Missile Correlation, Space Surveillance, and Missile Defense Centers. The BMEWS radars provide United States Strategic Command (USSTRATCOM) with credible Integrated Tactical Warning/Attack Assessment (ITW/AA) data on all Inter-Continental Ballistic Missiles (ICBMs) and Sea-Launched Ballistic Missiles (SLBMs) penetrating the coverage area including Launch and predicted impact (L&PI) data for attack assessment and response determination. BMEWS also supports the Space Situational Awareness (SSA) network providing near-earth satellite surveillance and tracking, reporting observational (metric), SOI on man-made satellites and maintenance of the space catalog as required by the Joint Space Operations Center, Alternate Space Operations Center, and the National Air and Space Intelligence Center mitigating the significantly increasing potential for collisions with national

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 8: Modifications	P-1 Line Item Number / Title: 838010 / Comm Elect Mods
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ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: 0305111F, 0305909F, 0305912F, 1203699F	Other Related Program Elements: 0305111F, 0305114F, 0305137F, 0305909F
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Line Item MDAP/MAIS Code: None

assets, including manned space platforms. The BMEWS shares a common baseline and mission with the PAVE Phased Array Warning System (PAVE PAWS) while deploying more array elements on its faces. The Upgraded Early Warning Radar (UEWR) sites at Thule and Fylingdales also have a Missile Defense (MD) mission supporting the Missile Defense Agency. These radars are located at Thule Air Base, Greenland; Clear Air Force Station, AK; and Royal Air Force (RAF) Fylingdales, UK. Additionally there is a site for testing (System Program Agency) located in the Centralized Integration Support Facility (CISF) at Peterson AFB, CO.

PE 1203912F Submarine-Launched Ballistic Missile (SLBM) Radar Warning System - P-40A
PE 1203912F

The PAVE PHASED ARRAY WARNING SYSTEM (PAVE PAWS) is a ground based radar system with missions to support the Missile Correlation, Space Surveillance, and Missile Defense Centers. The PAVE PAWS radars provide United States Strategic Command (USSTRATCOM) with credible Integrated Tactical Warning/Attack Assessment (ITW/AA) data on all Sea-Launched Ballistic Missiles (SLBMs) and Inter-Continental Ballistic Missiles (ICBMs) penetrating the coverage area including Launch and predicted impact (L&PI) data for attack assessment and response determination. PAVE PAWS also supports the Space Situational Awareness (SSA) network providing near-earth satellite surveillance and tracking, reporting observational (metric), SOI on man-made satellites and maintenance of the space catalog as required by the Joint Space Operations Center, Alternate Space Operations Center, and the National Air and Space Intelligence Center mitigating the significantly increasing potential for collisions with national assets, including manned space platforms. The Upgraded Early Warning Radar (UEWR) site at Beale AFB also has a Missile Defense (MD) mission supporting the Missile Defense Agency. The PAVE PAWS shares a common baseline and mission with the Ballistic Missile Early Warning System (BMEWS) while deploying fewer array elements on its faces. These radars are located at Beale AFB, CA and Cape Cod AFS, MA. Additionally there is a site for testing (System Program Agency) located in the Centralized Integration Support Facility (CISF) at Peterson AFB, CO.

As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
AF	Quantity	0	0	27	0	27	-	-	-	-
	Total Obligation Authority	68.248	10.654	14.500	0.000	14.500	5.558	4.389	4.468	4.550
AFNG	Quantity	0	0	0	0	0	-	-	-	-
	Total Obligation Authority	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-	-
AFR	Quantity	0	0	0	0	0	-	-	-	-
	Total Obligation Authority	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-	-
Total: Secondary Distribution	Quantity	0	0	27	0	27	-	-	-	-
	Total Obligation Authority	68.248	10.654	14.500	0.000	14.500	5.558	4.389	4.468	4.550

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 8: Modifications **P-1 Line Item Number / Title:** 838010 / Comm Elect Mods

ID Code (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** 0305111F, 0305909F, 0305912F, 1203699F **Other Related Program Elements:** 0305111F, 0305114F, 0305137F, 0305909F

Line Item MDAP/MAIS Code: None

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	Weather Service				- / 16.832	- / 9.155	- / 0.000	- / 0.000	- / 0.000	- / 0.000
P-5	Weather Service		B		- / -	- / 1.000	- / -	- / -	- / -	- / -
P-40a	Air Traffic Control, Approach, and Landing System (ATCALs)				- / 51.425	- / 2.646	- / 1.850	- / 1.858	- / 0.000	- / 1.858
P-40a	National Airspace System (NAS) Plan				- / 1.519	- / 10.203	- / 8.804	- / 5.694	- / 0.000	- / 5.694
P-40a	Ballistic Missile Early Warning System (BMEWS) 0305909F				- / 111.707	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000
P-40a	SLBM Radar Warning System 0305912F				- / 9.980	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000
P-40a	Shared Early Warning (SEW)				- / 0.623	- / 0.392	- / 0.000	- / 0.000	- / 0.000	- / 0.000
P-40a	Tactical Data Networks Enterprise				- / -	- / 0.000	- / 0.000	- / 6.948	- / -	- / 6.948
P-40a	Ballistic Missile Early Warning System (BMEWS)				- / -	- / 13.127	- / -	- / -	- / -	- / -
P-40a	Ballistic Missile Early Warning System (BMEWS)				- / 0.000	- / 12.517	- / 0.000	- / 0.000	- / 0.000	- / 0.000
P-40a	Submarine-Launched Ballistic Missile (SLBM) Radar Warning System				- / -	- / 6.873	- / -	- / -	- / -	- / -
P-40a	Submarine-Launched Ballistic Missile (SLBM) Radar Warning System				- / 0.000	- / 12.335	- / 0.000	- / 0.000	- / 0.000	- / 0.000
P-40	Total Gross/Weapon System Cost				- / 192.086	- / 68.248	- / 10.654	- / 14.500	- / -	- / 14.500

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-40a	Weather Service				- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 25.987
P-5	Weather Service		B		- / -	- / -	- / -	- / -	- / -	- / -
P-40a	Air Traffic Control, Approach, and Landing System (ATCALs)				- / 1.884	- / 1.912	- / 1.947	- / 1.983	- / 0.000	- / 65.505
P-40a	National Airspace System (NAS) Plan				- / 3.674	- / 2.477	- / 2.521	- / 2.567	- / 0.000	- / 37.459
P-40a	Ballistic Missile Early Warning System (BMEWS) 0305909F				- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 111.707
P-40a	SLBM Radar Warning System 0305912F				- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 9.980
P-40a	Shared Early Warning (SEW)				- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 1.015
P-40a	Tactical Data Networks Enterprise				- / -	- / -	- / -	- / -	- / -	- / -
P-40a	Ballistic Missile Early Warning System (BMEWS)				- / -	- / -	- / -	- / -	- / -	- / -
P-40a	Ballistic Missile Early Warning System (BMEWS)				- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 12.517
P-40a	Submarine-Launched Ballistic Missile (SLBM) Radar Warning System				- / -	- / -	- / -	- / -	- / -	- / -
P-40a	Submarine-Launched Ballistic Missile (SLBM) Radar Warning System				- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 12.335
P-40	Total Gross/Weapon System Cost				- / 13.500	- / 12.329	- / 4.468	- / 4.550	- / -	- / 120.335

*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. Title represents the P-40a Title when only the P-40a Summary/Total is shown.

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

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 03: Electronics and Telecommunications Equip / BSA 8: Modifications		P-1 Line Item Number / Title: 838010 / Comm Elect Mods
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: 0305111F, 0305909F, 0305912F, 1203699F	Other Related Program Elements: 0305111F, 0305114F, 0305137F, 0305909F
Line Item MDAP/MAIS Code: None		
<p>Justification: This program, Comm Elect Mods P-40A Category Tactical Data Network Enterprise PE 64281F Item Tactical Data Link Planning Analysis and Monitoring Tool, is a new start.</p> <p>PE 0604281F Tactical Data Networks Enterprise - P-40A This effort provides critical capability and enhancements to the airborne network by creating common development, integration and interoperability among ground and C2 platforms and responds to quick reaction capability integration and demonstration including, but not limited to, Airborne Warning and Control System (AWACS), Joint Surveillance Target Attack Radar System (JSTARS), the Air and Space Operations Center (AOC), the Control and Reporting Center (CRC), Global Hawk, Predator, Reaper, Rivet Joint, Combat Sent, and Cobra Ball. TDLs keep all Command and Control Intelligence, Surveillance, and Reconnaissance (C2ISR) platforms and data linked weapons current/interoperable in the airborne network to enable Global Strike, Global Persistent Attack, Offensive and Defensive Counterair (OCA / DCA) and Suppression of Enemy Air Defenses (SEAD) missions. Due to new/evolving Link 16 User identified Interface Changes Proposals (ICPs), studies and analysis will be performed to identify impacts to current and future systems, and to identify the required changes and impacts of implementing these new capabilities. The activities will include studies and analysis to support both current program planning and execution, as well as future program planning. FY20 procurement of Tactical Data Link Planning, Analysis and Monitoring (TDL PAM) tool will support the requirement to have such capability in the AOCs and CRCs.</p> <p>PE 1203873F BALLISTIC MISSILE DEFENSE RADARS - Cobra Dane Radar The COBRA DANE Radar improves mid-course Ballistic Missile Defense System (BMDS) sensor coverage to provide tracking of threat ballistic missiles to commit the launch of interceptors and to update the target tracks while the interceptor is in flight.FY19 will fund program management administrative costs supporting Cobra Dane Capital Equipment Replacement of unsupportable mission and support equipment and initial spares to include, but not limited to, Transmitter Groups, (TGR), Time Delay Units (TDU) and associated components. Due to the limited spares demand rates, and indefinite system lifespan, Life of Type buys may be required to support this weapon system.</p> <p>PE 1203909F Ballistic Missile Early Warning System (BMEWS) - P-40A FY19 funding continues support for the BMEWS system.</p> <p>PE 1203912F Submarine-Launched Ballistic Missile (SLBM) Radar Warning System - P-40A FY19 funding provides for continued support of the PAVE PAWS system.</p> <p>Efforts with funding starting in FY 2021 through FY 2024 are summarized on the P-40. Not all details of this funding are included in this P-40 exhibit set. A summary of the excepted details is as follows:</p> <p align="right">(a) FY 2021 Cost Delta: 7.942 million (b) FY 2022 Cost Delta: 7.940 million (c) FY Total Cost Delta: 43.830 million</p>		

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Exhibit P-40a, Budget Item Justification For Aggregated Modification Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 8 **P-1 Line Item Number / Title:** 838010 / Comm Elect Mods **Aggregated Modification Items Title:** Weather Service

Item Number / Title	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
08-001 / AN/FMQ-7 Solar Optical Observing Network (SOON)			-	-	1.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
09-001 / AN/UMQ-13 MARK IV-B			-	-	5.500	-	-	1.500	-	-	0.000	-	-	0.000	-	-	-	-	0.000	
<i>Secondary Distribution</i>																				
AF				-	-	-	-	1.500	-	-	0.000	-	-	0.000	-	-	-	-	0.000	
14-001 / Next Generation Radar (NEXRAD) WSR-88D IT Refresh			-	-	5.768	-	-	5.800	-	-	0.000	-	-	0.000	-	-	-	-	0.000	
<i>Secondary Distribution</i>																				
AF				-	-	-	-	5.800	-	-	0.000	-	-	0.000	-	-	-	-	0.000	
14-007 / Radio Solar Telescope Network Service Life Extension Program (RSTN SLEP)			-	-	3.100	-	-	0.800	-	-	-	-	-	-	-	-	-	-	-	
<i>Secondary Distribution</i>																				
AF				-	-	-	-	0.800	-	-	-	-	-	-	-	-	-	-	-	
16-001 / Joint Environmental Toolkit (JET) Refresh			-	-	1.464	-	-	1.055	-	-	0.000	-	-	0.000	-	-	-	-	0.000	
<i>Secondary Distribution</i>																				
AF				-	-	-	-	1.055	-	-	0.000	-	-	0.000	-	-	-	-	0.000	
Total			-	-	16.832	-	-	9.155	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
Item Number / Title	ID CD	MDAP/MAIS Code	FY 2021			FY 2022			FY 2023			FY 2024			To Complete			Total Cost		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
08-001 / AN/FMQ-7 Solar Optical Observing Network (SOON)			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.000	
09-001 / AN/UMQ-13 MARK IV-B			-	-	0.000	-	-	0.000	-	-	-	-	-	-	-	-	-	-	7.000	
<i>Secondary Distribution</i>																				
AF				-	0.000	-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	
14-001 / Next Generation Radar (NEXRAD) WSR-88D IT Refresh			-	-	0.000	-	-	0.000	-	-	-	-	-	-	-	-	-	-	11.568	
<i>Secondary Distribution</i>																				
AF				-	0.000	-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	
14-007 / Radio Solar Telescope Network			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.900	

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Exhibit P-40a, Budget Item Justification For Aggregated Modification Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 8 **P-1 Line Item Number / Title:** 838010 / Comm Elect Mods **Aggregated Modification Items Title:** Weather Service

Item Number / Title	ID CD	MDAP/MAIS Code	FY 2021			FY 2022			FY 2023			FY 2024			To Complete			Total Cost		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Service Life Extension Program (RSTN SLEP)																				
<i>Secondary Distribution</i>																				
AF				-	-		-	-		-	-		-	-		-	-		-	-
16-001 / Joint Environmental Toolkit (JET) Refresh			-	-	0.000	-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	2.519
<i>Secondary Distribution</i>																				
AF				-	0.000		-	0.000		-	-		-	-		-	-		-	-
Total			-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	25.987

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

Modification Information:

Item Number / Title	Models of Systems Affected	Modification Type
08-001 / AN/FMQ-7 Solar Optical Observing Network (SOON)	ANFMQ7	Capability Improvement
09-001 / AN/UMQ-13 MARK IV-B	ANUMQ13	Capability Improvement
14-001 / Next Generation Radar (NEXRAD) WSR-88D IT Refresh	WSR-88D	Capability Improvement
14-007 / Radio Solar Telescope Network Service Life Extension Program (RSTN SLEP)	ANFRR95, AF24U1	Capability Improvement
16-001 / Joint Environmental Toolkit (JET) Refresh	JET	Capability Improvement

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Exhibit P-5, Cost Analysis: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 8	P-1 Line Item Number / Title: 838010 / Comm Elect Mods	Item Number / Title [DODIC]: Weather Service

ID Code (A=Service Ready, B=Not Service Ready) : B	MDAP/MAIS Code:
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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)	-	1.000	-	-	-	-
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	-	1.000	-	-	-	-
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	-	1.000	-	-	-	-

(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 Millions)	-	-	-	-	-	-

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 (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Hardware - Weather Service Cost																		
Non Recurring Cost																		
Weather Data Analysis	-	-	-	-	-	0.810	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Non Recurring Cost</i>	-	-	-	-	-	0.810	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Hardware - Weather Service Cost</i>	-	-	-	-	-	0.810	-	-	-	-	-	-	-	-	-	-	-	-
Support - Weather Service Cost																		
PROGRAM MANAGEMENT ADMINISTRATION OTHER GOVERNMENT SERVICES	-	-	-	-	-	0.190	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - Weather Service Cost</i>	-	-	-	-	-	0.190	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost	-	-	-	-	-	1.000	-	-	-	-	-	-	-	-	-	-	-	-

Remarks:

In FY 2019, PE 0305111F, (WEATHER SERVICE), BPAC 838010 (COMM ELECTRIC MODS) efforts were transferred to PE 0305111F, (WEATHER SERVICE), BPAC 833070 (WEATHER OBSERVATION FORECAST), in order to enhance transparency of Weather Service programs execution.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
AF Quantity	-	-	-	-	-

UNCLASSIFIED

Exhibit P-5, Cost Analysis: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 8	P-1 Line Item Number / Title: 838010 / Comm Elect Mods	Item Number / Title [DODIC]: Weather Service
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ID Code (A=Service Ready, B=Not Service Ready) : B **MDAP/MAIS Code:**

		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Secondary Distribution						
	Total Obligation Authority	1.000	-	-	-	-
Total:	Quantity	-	-	-	-	-
Secondary Distribution	Total Obligation Authority	1.000	-	-	-	-

UNCLASSIFIED

Exhibit P-40a, Budget Item Justification For Aggregated Modification Items: PB 2020 Air Force															Date: February 2019				
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 8					P-1 Line Item Number / Title: 838010 / Comm Elect Mods										Aggregated Modification Items Title: Air Traffic Control, Approach, and Landing System (ATCALs)				

Item Number / Title	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
AN/GRN-29 Instrument Landing System / ATCALs AN/GRN-29 Instrument Landing System (PE 0305114F)			-	-	43.588	-	-	1.006	-	-	0.000	-	-	-	-	-	-	-	-	
<i>Secondary Distribution</i>																				
AF				-	-		-	1.006		-	0.000		-	-		-	-		-	
ATCALs / Deployable TACAN Retrofit/ Refurbishment			-	-	3.800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
P-3A Low Cost Mods / ATCALs Low Cost Mods (PE 0305114F)			-	-	4.037	-	-	1.640	-	-	1.850	-	-	1.858	-	-	-	-	1.858	
<i>Secondary Distribution</i>																				
AF				-	-		-	1.640		-	1.850		-	1.858		-	-		-	
Total			-	-	51.425	-	-	2.646	-	-	1.850	-	-	1.858	-	-	0.000	-	1.858	
Item Number / Title	ID CD	MDAP/MAIS Code	FY 2021			FY 2022			FY 2023			FY 2024			To Complete			Total Cost		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
AN/GRN-29 Instrument Landing System / ATCALs AN/GRN-29 Instrument Landing System (PE 0305114F)			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	44.594	
<i>Secondary Distribution</i>																				
AF				-	-		-	-		-	-		-	-		-	-		-	
ATCALs / Deployable TACAN Retrofit/ Refurbishment			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.800	
P-3A Low Cost Mods / ATCALs Low Cost Mods (PE 0305114F)			-	-	1.884	-	-	1.912	-	-	1.947	-	-	1.983	-	-	-	-	17.111	
<i>Secondary Distribution</i>																				
AF				-	1.884		-	1.912		-	1.947		-	1.983		-	-		-	
Total			-	-	1.884	-	-	1.912	-	-	1.947	-	-	1.983	-	-	0.000	-	65.505	

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

Modification Information:

UNCLASSIFIED

Exhibit P-40a, Budget Item Justification For Aggregated Modification Items: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 8	P-1 Line Item Number / Title: 838010 / Comm Elect Mods	Aggregated Modification Items Title: Air Traffic Control, Approach, and Landing System (ATCALs)

Item Number / Title	Models of Systems Affected	Modification Type
AN/GRN-29 Instrument Landing System / ATCALs AN/GRN-29 Instrument Landing System (PE 0305114F)	GRN-29	Capability Improvement
ATCALs / Deployable TACAN Retrofit/ Refurbishment	TRN-48	Reliability & Maintainability
P-3A Low Cost Mods / ATCALs Low Cost Mods (PE 0305114F)	ATCALs	Reliability & Maintainability

UNCLASSIFIED

Exhibit P-40a, Budget Item Justification For Aggregated Modification Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 8 **P-1 Line Item Number / Title:** 838010 / Comm Elect Mods **Aggregated Modification Items Title:** National Airspace System (NAS) Plan

Item Number / Title	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
NAS Mod 1 / NAS Gen4 MOD			-	-	1.519	-	-	10.203	-	-	8.804	-	-	-	-	-	-	-	-	
<i>Secondary Distribution</i>																				
AF				-	-		-	10.203		-	8.804		-	-		-	-		-	
AFNG				-	-		-	-		-	0.000		-	-		-	-		-	
AFR				-	-		-	-		-	0.000		-	-		-	-		-	
NAS Mod 2 / NAS Low Cost Mods			-	-	-	-	-	-	-	-	-	-	-	1.854	-	-	-	-	1.854	
<i>Secondary Distribution</i>																				
AF				-	-		-	-		-	-		-	1.854		-	-		1.854	
NAS Mod 3 / DASR Site Control Data Interface (SCDI)			-	-	-	-	-	-	-	-	-	-	-	3.840	-	-	-	-	3.840	
<i>Secondary Distribution</i>																				
AF				-	-		-	-		-	-		-	3.840		-	-		3.840	
AFNG				-	-		-	-		-	-		-	0.000		-	-		0.000	
AFR				-	-		-	-		-	-		-	0.000		-	-		0.000	
Total			-	-	1.519	-	-	10.203	-	-	8.804	-	-	5.694	-	-	0.000	-	-	5.694

Item Number / Title	ID CD	MDAP/MAIS Code	FY 2021			FY 2022			FY 2023			FY 2024			To Complete			Total Cost		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
NAS Mod 1 / NAS Gen4 MOD			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20.526	
<i>Secondary Distribution</i>																				
AF				-	-		-	-		-	-		-	-		-	-		-	
AFNG				-	-		-	-		-	-		-	-		-	-		-	
AFR				-	-		-	-		-	-		-	-		-	-		-	
NAS Mod 2 / NAS Low Cost Mods			-	-	1.895	-	-	1.872	-	-	1.905	-	-	1.940	-	-	-	-	9.466	
<i>Secondary Distribution</i>																				
AF				-	1.895		-	1.872		-	1.905		-	1.940		-	-		-	
NAS Mod 3 / DASR Site Control Data Interface (SCDI)			-	-	1.779	-	-	0.605	-	-	0.616	-	-	0.627	-	-	-	-	7.467	
<i>Secondary Distribution</i>																				
AF				-	1.779		-	0.605		-	0.616		-	0.627		-	-		-	
AFNG				-	0.000		-	0.000		-	-		-	-		-	-		-	
AFR				-	0.000		-	0.000		-	-		-	-		-	-		-	

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Exhibit P-40a, Budget Item Justification For Aggregated Modification Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 8 **P-1 Line Item Number / Title:** 838010 / Comm Elect Mods **Aggregated Modification Items Title:** National Airspace System (NAS) Plan

Item Number / Title	ID CD	MDAP/MAIS Code	FY 2021			FY 2022			FY 2023			FY 2024			To Complete			Total Cost		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Total			-	-	3.674	-	-	2.477	-	-	2.521	-	-	2.567	-	-	0.000	-	-	37.459

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

Modification Information:

Item Number / Title	Models of Systems Affected	Modification Type
NAS Mod 1 / NAS Gen4 MOD	NASMod-1	Capability Improvement
NAS Mod 2 / NAS Low Cost Mods	NAS	Reliability & Maintainability
NAS Mod 3 / DASR Site Control Data Interface (SCDI)	NAS	Reliability & Maintainability

UNCLASSIFIED

Exhibit P-40a, Budget Item Justification For Aggregated Modification Items: PB 2020 Air Force														Date: February 2019					
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 8							P-1 Line Item Number / Title: 838010 / Comm Elect Mods							Aggregated Modification Items Title: Ballistic Missile Early Warning System (BMEWS) 0305909F					

Item Number / Title	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
COBRA DANE Radar Mod / COBRA DANE Radar Mod			-	-	0.150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Mod HEMP / Mod HEMP			-	-	49.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
P-3A BMEWS DP/SP Suite Replacement / BMEWS DP/SP Suite Replacement			-	-	58.892	-	-	-	-	0.000	-	-	-	-	-	-	-	-	-	
<i>Secondary Distribution</i>																				
AF				-	-		-	-	-	0.000		-	-		-	-		-	-	
P-3A BMEWS Modification / BMEWS Modification			-	-	3.665	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total			-	-	111.707	-	-	0.000	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	

Item Number / Title	ID CD	MDAP/MAIS Code	FY 2021			FY 2022			FY 2023			FY 2024			To Complete			Total Cost		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
COBRA DANE Radar Mod / COBRA DANE Radar Mod			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.150	
Mod HEMP / Mod HEMP			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	49.000	
P-3A BMEWS DP/SP Suite Replacement / BMEWS DP/SP Suite Replacement			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	58.892	
<i>Secondary Distribution</i>																				
AF				-	-		-	-	-	-		-	-		-	-		-	-	
P-3A BMEWS Modification / BMEWS Modification			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.665	
Total			-	-	0.000	-	-	0.000	-	0.000	-	-	0.000	-	-	0.000	-	-	111.707	

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

Modification Information:

Item Number / Title	Models of Systems Affected	Modification Type
COBRA DANE Radar Mod / COBRA DANE Radar Mod	NA	Reliability & Maintainability
Mod HEMP / Mod HEMP	NA	Reliability & Maintainability

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Exhibit P-40a, Budget Item Justification For Aggregated Modification Items: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 8	P-1 Line Item Number / Title: 838010 / Comm Elect Mods	Aggregated Modification Items Title: Ballistic Missile Early Warning System (BMEWS) 0305909F

Item Number / Title	Models of Systems Affected	Modification Type
P-3A BMEWS DP/SP Suite Replacement / BMEWS DP/SP Suite Replacement	Raytheon	Reliability & Maintainability
P-3A BMEWS Modification / BMEWS Modification	NA	Reliability & Maintainability

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Exhibit P-40a, Budget Item Justification For Aggregated Modification Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 8 **P-1 Line Item Number / Title:** 838010 / Comm Elect Mods **Aggregated Modification Items Title:** SLBM Radar Warning System 0305912F

Item Number / Title	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
P-3A PARCS Modifications / P-3A PARCS Modification (formerly PARCS PARSS)			-	-	0.750	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
P-3A PAVE PAWS Modifications / P-3A PAVE PAWS Modification (formerly PAVE PAWS Front End)			-	-	1.553	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
PARCS Block 00 Update / PARCS Block 00 Update			-	-	3.240	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
PAVE PAWS Block 00 Update / BPP Block 00 SAPS ES			-	-	4.437	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total			-	-	9.980	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000

Item Number / Title	ID CD	MDAP/MAIS Code	FY 2021			FY 2022			FY 2023			FY 2024			To Complete			Total Cost		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
P-3A PARCS Modifications / P-3A PARCS Modification (formerly PARCS PARSS)			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.750	
P-3A PAVE PAWS Modifications / P-3A PAVE PAWS Modification (formerly PAVE PAWS Front End)			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.553	
PARCS Block 00 Update / PARCS Block 00 Update			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.240	
PAVE PAWS Block 00 Update / BPP Block 00 SAPS ES			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.437	
Total			-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	9.980

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

Modification Information:

Item Number / Title	Models of Systems Affected	Modification Type
P-3A PARCS Modifications / P-3A PARCS Modification (formerly PARCS PARSS)	Exelis	Reliability & Maintainability

UNCLASSIFIED

Exhibit P-40a, Budget Item Justification For Aggregated Modification Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 8	P-1 Line Item Number / Title: 838010 / Comm Elect Mods	Aggregated Modification Items Title: SLBM Radar Warning System 0305912F
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Item Number / Title	Models of Systems Affected	Modification Type
P-3A PAVE PAWS Modifications / P-3A PAVE PAWS Modification (formerly PAVE PAWS Front End)	NA	Reliability & Maintainability
PARCS Block 00 Update / PARCS Block 00 Update	Exelis	Reliability & Maintainability
PAVE PAWS Block 00 Update / BPP Block 00 SAPS ES	NA	Reliability & Maintainability

UNCLASSIFIED

Exhibit P-40a, Budget Item Justification For Aggregated Modification Items: PB 2020 Air Force															Date: February 2019				
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 8					P-1 Line Item Number / Title: 838010 / Comm Elect Mods										Aggregated Modification Items Title: Shared Early Warning (SEW)				

Item Number / Title	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
SEWS1 / Shared Early Warning System (SEWS) Low Cost Mods			-	-	0.623	-	-	0.392	-	-	-	-	-	-	-	-	-	-	-	
<i>Secondary Distribution</i>																				
AF				-	-	-	-	0.392												
Total			-	-	0.623	-	-	0.392	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000

Item Number / Title	ID CD	MDAP/MAIS Code	FY 2021			FY 2022			FY 2023			FY 2024			To Complete			Total Cost		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
SEWS1 / Shared Early Warning System (SEWS) Low Cost Mods			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.015	
<i>Secondary Distribution</i>																				
AF				-	-		-	-		-	-		-	-		-	-		-	
Total			-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	1.015

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

Modification Information:

Item Number / Title	Models of Systems Affected	Modification Type
SEWS1 / Shared Early Warning System (SEWS) Low Cost Mods	SEWS	Reliability & Maintainability

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 8	P-1 Line Item Number / Title: 838010 / Comm Elect Mods	Aggregated Items Title: Tactical Data Networks Enterprise
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Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Tactical Data Network Enterprise PE 64281F																				
Tactical Data Link Planning Analysis and Monitoring Tool	A		-	-	-	-	-	0.000	-	-	0.000	0.257	27	6.948	-	-	-	0.257	27	6.948
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	0.000	-	-	0.000		27	6.948		-	-		27	6.948
Subtotal: Tactical Data Network Enterprise PE 64281F			-	-	-	-	-	0.000	-	-	0.000	-	-	6.948	-	-	-	-	-	6.948
Total			-	-	-	-	-	0.000	-	-	0.000	-	-	6.948	-	-	-	-	-	6.948

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

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force															Date: February 2019				
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 8							P-1 Line Item Number / Title: 838010 / Comm Elect Mods							Aggregated Items Title: Ballistic Missile Early Warning System (BMEWS)					

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
BMEWS BLOCK 00																				
BMEWS BLOCK 00	A		-	-	-	-	-	5.927	-	-	-	-	-	-	-	-	-	-	-	-
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	5.927	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: BMEWS BLOCK 00			-	-	-	-	-	5.927	-	-	-	-	-	-	-	-	-	-	-	-
BMEWS BLOCK 01																				
BMEWS BLOCK 01	A		-	-	-	-	-	7.200	-	-	-	-	-	-	-	-	-	-	-	-
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	7.200	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: BMEWS BLOCK 01			-	-	-	-	-	7.200	-	-	-	-	-	-	-	-	-	-	-	-
Total			-	-	-	-	-	13.127	-	-	-	-	-	-	-	-	-	-	-	-

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

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Exhibit P-40a, Budget Item Justification For Aggregated Modification Items: PB 2020 Air Force														Date: February 2019					
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 8						P-1 Line Item Number / Title: 838010 / Comm Elect Mods						Aggregated Modification Items Title: Ballistic Missile Early Warning System (BMEWS)							

Item Number / Title	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
BMEWS / BMEWS DP SP			-	-	-	-	-	0.500	-	-	-	-	-	-	-	-	-	-	-	
<i>Secondary Distribution</i>																				
AF				-	-	-	-	0.500												
BMEWS2 / BMEWS Block 02			-	-	-	-	-	12.017	-	-	-	-	-	0.000	-	-	-	-	-	0.000
<i>Secondary Distribution</i>																				
AF				-	-	-	-	12.017												
Total			-	-	0.000	-	-	12.517	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000

Item Number / Title	ID CD	MDAP/MAIS Code	FY 2021			FY 2022			FY 2023			FY 2024			To Complete			Total Cost		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
BMEWS / BMEWS DP SP			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.500
<i>Secondary Distribution</i>																				
AF				-	-		-	-		-	-		-	-		-	-		-	
BMEWS2 / BMEWS Block 02			-	-	0.000	-	-	0.000	-	-	0.000	-	-	-	-	-	-	-	-	12.017
<i>Secondary Distribution</i>																				
AF				-	-		-	-		-	-		-	-		-	-		-	
Total			-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	12.517

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

Modification Information:

Item Number / Title	Models of Systems Affected	Modification Type
BMEWS / BMEWS DP SP	NA	Reliability & Maintainability
BMEWS2 / BMEWS Block 02	NA	Reliability & Maintainability

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force															Date: February 2019				
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 8							P-1 Line Item Number / Title: 838010 / Comm Elect Mods							Aggregated Items Title: Submarine-Launched Ballistic Missile (SLBM) Radar Warning System					

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
PAVE PAWS BLOCK 00																				
PAVE PAWS BLOCK 00	A		-	-	-	-	-	2.073	-	-	-	-	-	-	-	-	-	-	-	-
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	2.073	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: PAVE PAWS BLOCK 00			-	-	-	-	-	2.073	-	-	-	-	-	-	-	-	-	-	-	-
PAVE PAWS BLOCK 01																				
PAVE PAWS BLOCK 01	A		-	-	-	-	-	4.800	-	-	-	-	-	-	-	-	-	-	-	-
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	4.800	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: PAVE PAWS BLOCK 01			-	-	-	-	-	4.800	-	-	-	-	-	-	-	-	-	-	-	-
Total			-	-	-	-	-	6.873	-	-	-	-	-	-	-	-	-	-	-	-

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

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Exhibit P-40a, Budget Item Justification For Aggregated Modification Items: PB 2020 Air Force														Date: February 2019					
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 8							P-1 Line Item Number / Title: 838010 / Comm Elect Mods							Aggregated Modification Items Title: Submarine-Launched Ballistic Missile (SLBM) Radar Warning System					

Item Number / Title	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
PARCSB0 / PARCS Block 00			-	-	-	-	-	9.104	-	-	-	-	-	-	-	-	-	-	-	
<i>Secondary Distribution</i>																				
AF				-	-		-	9.104		-	-		-	-		-	-		-	-
PARCSB1 / PARCS Block 01			-	-	-	-	-	0.500	-	-	-	-	-	-	-	-	-	-	-	
<i>Secondary Distribution</i>																				
AF				-	-		-	0.500		-	-		-	-		-	-		-	-
PPB02 / Pave Paws Block 02			-	-	-	-	-	2.731	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
<i>Secondary Distribution</i>																				
AF				-	-		-	2.731		-	-		-	-		-	-		-	-
Total			-	-	0.000	-	-	12.335	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000

Item Number / Title	ID CD	MDAP/MAIS Code	FY 2021			FY 2022			FY 2023			FY 2024			To Complete			Total Cost		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
PARCSB0 / PARCS Block 00			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.104
<i>Secondary Distribution</i>																				
AF				-	-		-	-		-	-		-	-		-	-		-	-
PARCSB1 / PARCS Block 01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.500
<i>Secondary Distribution</i>																				
AF				-	-		-	-		-	-		-	-		-	-		-	-
PPB02 / Pave Paws Block 02			-	-	0.000	-	-	0.000	-	-	0.000	-	-	-	-	-	-	-	-	2.731
<i>Secondary Distribution</i>																				
AF				-	-		-	-		-	-		-	-		-	-		-	-
Total			-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	12.335

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

Modification Information:

Item Number / Title	Models of Systems Affected	Modification Type
PARCSB0 / PARCS Block 00	NA	Reliability & Maintainability
PARCSB1 / PARCS Block 01	NA	Reliability & Maintainability

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Exhibit P-40a, Budget Item Justification For Aggregated Modification Items: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 03 / 8	P-1 Line Item Number / Title: 838010 / Comm Elect Mods	Aggregated Modification Items Title: Submarine-Launched Ballistic Missile (SLBM) Radar Warning System

Item Number / Title	Models of Systems Affected	Modification Type
PPB02 / Pave Paws Block 02	NA	Reliability & Maintainability

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 04: Other Base Maintenance and Support Equip / BSA 2: Personal Safety & Rescue Equip	P-1 Line Item Number / Title: 842990 / Personal Safety and Rescue 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: 0207227F, 0604706F
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Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	-	61.953	65.506	50.634	22.200	72.834	69.851	139.588	162.781	78.311	-	650.824
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	61.953	65.506	50.634	22.200	72.834	69.851	139.588	162.781	78.311	-	650.824
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	61.953	65.506	50.634	22.200	72.834	69.851	139.588	162.781	78.311	-	650.824

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

Description:

This program provides a wide variety of base support and safety of flight items for warfighters with worldwide application.

Guardian Angel Family of Systems (GA FoS):

Guardian Angel is an Air Force non-aircraft weapon system within the overarching Battlefield Airman Modernization Program. Guardian Angel is a family of systems based on human and equipment capabilities formulated to execute Air Force Combat Search and Rescue and personnel recovery across a full spectrum of military operations. GA FoS is employed by three distinct Air Force Specialties: Pararescuemen (PJ), Survival, Evasion, Resistance, and Escape (SERE) and Combat Rescue Officer (CRO). GA FoS is comprised of nine critical mission areas: Precision Aerial Insertion, Information Management, Force Application, Visual Augmentation, Maritime Recovery, Ground Mobility, Technical Rescue, Medical and SERE. Representative items include but are not limited to parachute equipment, technical recovery equipment, information management systems (including Preservation of the Force and Family), enhanced night vision systems, support equipment vehicles and ground transportation, rescue watercraft and a Live Virtual Constructive (LVC) Training Simulator (simulator, maintenance & mobile shelter costs) to supplement, augment, and optimize current training events, independent of aircraft availability to align with strategic plans of the Next Generation LVC for training within the DoD. The enhanced night vision systems will include continued Procurement of Night Vision solutions that improve personnel recovery night visions systems with wider field of view, lower SWAP, and/or enhanced vision in at least one spectral band other than Near-IR. Procurement is required to meet mission needs until the next generation of multi-spectral NVGs are developed and available for ground crew operators. Items procured during execution may change based on critical equipment needed to support current Air Force mission requirements. This includes applicable training, spares, and repairs. Starting FY17 and thereafter, all funding and tasks for BPAC 842140 Night Vision Goggles have been moved to BPAC 842990 Personal Safety and Rescue Equipment. This funding request will support potential DMS and obsolescence solutions, to include if optimal, life of type buys or bridge buys limited to the program of record quantity. Due to rapidly changing threat environment, the acquisition program manager has the authority to redirect funding as necessary to meet current slated and emerging requirements. Funding for GA FoS is in Program Element 0207227F.

Special Tactics/Combat Control Battlefield Airmen program funds Air Force standardized equipment within the overarching Battlefield Airmen Modernization program for Special Tactics combat controllers, pararescue personnel, combat weather operators, and tactical air control parties to perform their Air Force Special Operations Command Mission. Funding for this effort is in program element 0408011F. Representative items include but are not limited to training and simulators, assault zone, airfield marking tools, approach landing capability, weather data collection and analysis, personnel and technical recovery equipment, visual augmentation, unmanned capabilities, aerial insertion, ground transportation and vehicular support equipment, and maritime. Items procured during execution may change based on critical equipment needed to support current Air Force mission requirements. This includes applicable training, spares, and repairs to manage, execute, and deliver Special Tactics weapon system capability. This funding request will support potential DMS and obsolescence solutions, to include if optimal, life of type buys or bridge buys limited to the program of record quantity. Due to the rapidly changing threat environment, the acquisition program manager has the authority to redirect funding as necessary to meet current slated and emerging requirements. .

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 04: Other Base Maintenance and Support Equip / BSA 2: Personal Safety & Rescue Equip		P-1 Line Item Number / Title: 842990 / Personal Safety and Rescue Equipment
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0207227F, 0604706F
Line Item MDAP/MAIS Code: N/A		
<p>Modern warfare resulted in an increase in airborne combat under the cover of darkness. Night missions include ground operations, preparation of the aircraft for take-off and landings in complete darkness, lights-off air refueling, and visual identification of enemy targets hidden under the night sky. Consequently, ground personnel and aircrew require the capability to see in very low visibility conditions at night and high ambient light conditions such as full moon or heavily lighted residential areas. The use of Night Vision Goggles (NVG) is critical for combat rescue, special operations, and homeland security missions.</p> <p>A lack of night vision capability would significantly decrease combat effectiveness in night operations, risk flight safety, and increase the probability of fratricide. Aircraft such as HH-60 helicopters, HC-130s, F-16s, and special mission C-130s primarily operate in low altitude environments during covert night operations. Hence, NVGs are vital to the success of these missions, providing a dramatic increase in safety, situational awareness, and survivability during the execution of near daytime tactics, including visual formation criteria. Furthermore, the proliferation of NVG-equipped adversaries underscores the urgent need to supply ground and air forces with night vision equipment.</p> <p>Program changes in progress. This applies to both PEC 48011F and PEC 27227F.</p> <p>Human Systems Program Office Items Less than \$5M: This program saves Airmen's lives and improves aircrew performance through better aircrew flight equipment and airman combat systems. Procures safety and rescue equipment for increased protection of aircrew personnel operating manned, non-space aircraft to optimize weapon system effectiveness and capability throughout the full spectrum of military operations. In general, the purpose of the PE is to expand the combat capabilities of a weapon system an airman supports while balancing functionality, comfort, and safety. Representative items include flight helmets, oxygen breathing equipment, flame resistant/retardant and blast/ballistic protective gear, laser eye protection, personnel locator beacons, nuclear flash blindness devices, personnel parachutes, ejection seats/equipment, night vision goggles, survival radios, associated test sets, life rafts, life preservers, anti-exposure coveralls, aircrew flight ensembles, physiological monitoring devices and other air/ground crew equipment. Items procured during execution may change based on critical equipment needed to support current Air Force mission requirements.</p> <p>AN/PVS-14 Ground crew Goggle: This monocular night vision device is a hand-held, head-mounted, helmet-mounted, or weapon-mounted night vision system, which enables walking, weapon firing, short-range surveillance, map reading, vehicle maintenance, and first-aid administration during moonlight and starlight conditions. The AN/PVS-14 supports a vast spectrum of ground and air operations to include aircraft maintenance, civil engineering, emergency response, security, and other missions.</p> <p>AN/PVS-15 Ground crew Goggle: This binocular NVG is a helmet-mounted or hand-held night vision system, which is primarily used by Special Forces during night drop operations. The AN/PVS-15 can be used for all nighttime ground operations. An added benefit of this particular binocular goggle is the back-up capability in the event one of the two tubes fails.</p> <p>AN/PVS-31A Ground Crew Goggle: This binocular night vision device (BNVD) is a helmet-mounted or handheld, battery operated night vision goggle that allows for observation and target identification under adverse conditions including light rain, light snow, and low light. The system amplifies ambient light so that the viewed scene becomes clearly visible to the operator. The BNVD is a follow-on to our legacy, battle proven AN/PVS-15, but offers more features for increased survivability. Rotating binocular design allows low profile against helmet when in stowed position and ability to use as a single monocular.</p> <p>AN/AVS-9 (F4949G-TG) Aircrew Goggle: This night vision goggle provides aircraft and ground personnel with the capability to see the horizon, terrain features and enemy ground fire, thereby reducing the potential for air-to-ground fratricide and mid-air collisions during night operations. The AN/AVS-9 (F4949-TG) is a light-weight, helmet-mounted goggle equipped with pinnacle tube technology that mitigates effects of sudden bright light exposure.</p> <p>ANV-20/20 Test Set, Infinity Focus: The ANV-20/20 is a portable instrument, which allows quick and accurate evaluation and adjustment of all goggle parameters. All NVGs require operational checkout.</p> <p>ANV-126A Test Set, Infrared Viewer: The ANV-126A is a commercial upgrade to the ANV-126, which is suitable for field operational checks and depot level NVG maintenance. This test set provides accurate checks for NVG resolution, gain, power drain, binocular goggle collimation, image quality, and image distortion. The ANV-126A uses state of the art technology and provides enhanced capabilities to the user.</p> <p>ANV-126A-UGF Test Set, Time Compliance Technical Order (TCTO) Kit: The ANV-126A-UGF is a commercial TCTO kit that converts the ANV-126 to the ANV-126A Test Set.</p>		

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 04: Other Base Maintenance and Support Equip / BSA 2: Personal Safety & Rescue Equip	P-1 Line Item Number / Title: 842990 / Personal Safety and Rescue 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: 0207227F, 0604706F
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Line Item MDAP/MAIS Code: N/A

In accordance with Section 1815 of the FY 2008 National Defense Authorization Act (P.L. 110-181), capabilities under this line item are necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and military support to civil authorities. Projected allocations for reserve component requirements are subject to total force demand priorities.

Funding for this exhibit contained in PEs 0207227F, 0207433F, 0408011F, 0503113F and 0702833F.

Projected allocations for component requirements are subject to total force demands and priorities. Funds may be used to address associated program management activities, emerging requirements, and short-notice Diminishing Manufacturing and Material Shortage (DMSMS) issues.

As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
AF	Quantity	7,653	383	4,288	3,000	7,288	-	-	-	-
	Total Obligation Authority	61.510	65.055	50.187	22.200	72.387	-	-	-	-
AFNG	Quantity	31	31	31	0	31	-	-	-	-
	Total Obligation Authority	0.329	0.335	0.331	0.000	0.331	-	-	-	-
AFR	Quantity	11	11	11	0	11	-	-	-	-
	Total Obligation Authority	0.114	0.116	0.116	0.000	0.116	-	-	-	-
Total:	Quantity	7,695	425	4,330	3,000	7,330	-	-	-	-
Secondary Distribution	Total Obligation Authority	61.953	65.506	50.634	22.200	72.834	-	-	-	-

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 04: Other Base Maintenance and Support Equip / BSA 2: Personal Safety & Rescue Equip	P-1 Line Item Number / Title: 842990 / Personal Safety and Rescue 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: 0207227F, 0604706F
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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	Guardian Angel		A		- / -	- / 25.880	- / 21.915	- / 22.295	- / -	- / 22.295
P-40a	Items Less Than \$5 Million				- / -	- / 36.073	- / 43.591	- / 28.339	- / 22.200	- / 50.539
P-40	Total Gross/Weapon System Cost				- / -	- / 61.953	- / 65.506	- / 50.634	- / 22.200	- / 72.834

*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. Title represents the P-40a Title when only the P-40a Summary/Total is shown.

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

Justification:
 FY20 procurement dollars procure Aircrew Flight Equipment, Life Support Systems, Ground Crew Equipment, and Guardian Angel equipment.

FY 2020 includes \$3.0M of OCO for Direct War Costs and FY 2020 includes \$19.2M for OCO for Enduring Requirements. The \$19.2M is for Night Vision Goggle Upgrade in support of Air Forces Central Command Urgent Operational Need (UON) and subsequent Capability Transition Decision (CTD) and the \$3.000M is to acquire Aircrew Laser Eye Protection Block 3 which is enhanced laser protection applied to large curved substrates, visors & blade-type spectacles; includes ballistic protection primarily for Air Force Special Operations Command warfighters. Items procured during execution may change based on critical equipment needed to support current Air Force mission requirements.

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Exhibit P-5, Cost Analysis: PB 2020 Air Force						Date: February 2019			
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 04 / 2				P-1 Line Item Number / Title: 842990 / Personal Safety and Rescue Equipment			Item Number / Title [DODIC]: Guardian Angel		
ID Code (A=Service Ready, B=Not Service Ready) : A						MDAP/MAIS Code:			
Resource Summary				Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity (Units in Each)				-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)				-	25.880	21.915	22.295	-	22.295
Less PY Advance Procurement (\$ in Millions)				-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)				-	25.880	21.915	22.295	-	22.295
Plus CY Advance Procurement (\$ in Millions)				-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)				-	25.880	21.915	22.295	-	22.295
<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 Millions)				-	-	-	-	-	-

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 (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Hardware - Guardian Angel Cost																		
Recurring Cost																		
Aerial Insertion Equipment	-	-	-	0.005	1,936	10.360	0.018	400	7.200	0.015	771	11.565	-	-	-	0.015	771	11.565
Technical Recovery Equipment	-	-	-	0.101	37	3.720	0.072	22	1.584	0.072	22	1.584	-	-	-	0.072	22	1.584
Medical Equipment	-	-	-	0.025	1	0.025	0.025	1	0.025	0.025	1	0.025	-	-	-	0.025	1	0.025
Maritime Rescue Equipment	-	-	-	0.002	180	0.410	0.002	180	0.360	0.025	1	0.025	-	-	-	0.025	1	0.025
Information Management Equipment	-	-	-	0.023	367	8.410	0.030	135	4.050	0.002	750	1.500	-	-	-	0.002	750	1.500
SERE	-	-	-	0.015	161	2.420	0.025	1	0.025	0.025	1	0.025	-	-	-	0.025	1	0.025
Guardian Angel Enhanced Night Vision Systems	-	-	-	0.030	1	0.030	0.004	1,680	6.720	0.018	278	5.004	-	-	-	0.018	278	5.004
PMA Contractor Services	-	-	-	0.505	1	0.505	1.951	1	1.951	2.567	1	2.567	-	-	-	2.567	1	2.567
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	25.880	-	-	21.915	-	-	22.295	-	-	-	-	-	22.295
<i>Subtotal: Hardware - Guardian Angel Cost</i>	-	-	-	-	-	25.880	-	-	21.915	-	-	22.295	-	-	-	-	-	22.295
Gross/Weapon System Cost	-	-	-	-	-	25.880	-	-	21.915	-	-	22.295	-	-	-	-	-	22.295

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Exhibit P-5, Cost Analysis: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 04 / 2	P-1 Line Item Number / Title: 842990 / Personal Safety and Rescue Equipment	Item Number / Title [DODIC]: Guardian Angel
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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
AF					
Quantity	-	-	-	-	-
Total Obligation Authority	25.880	21.915	22.295	-	22.295
Total: Secondary Distribution					
Quantity	-	-	-	-	-
Total Obligation Authority	25.880	21.915	22.295	-	22.295

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force																Date: February 2019				
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 04 / 2						P-1 Line Item Number / Title: 842990 / Personal Safety and Rescue Equipment						Aggregated Items Title: Items Less Than \$5 Million								
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Safety/Rescue/Aircrew Flight Equipment																				
PMA (Life Support) Other Government Cost/A&AS Support	A		-	-	-	-	-	0.552	-	-	0.987	-	-	1.050	-	-	-	-	-	1.050
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	0.552	-	-	0.987	-	-	1.050	-	-	-	-	-	1.050
Life Support Equipment	A		-	-	-	-	-	0.349	-	-	1.279	-	-	1.150	-	-	-	-	-	1.150
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	0.349	-	-	1.279	-	-	1.150	-	-	-	-	-	1.150
Aircrew Flight Equipment	A		-	-	-	-	-	0.517	-	-	1.462	-	-	0.943	-	-	-	-	-	0.943
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	0.517	-	-	1.462	-	-	0.943	-	-	-	-	-	0.943
Aircrew Laser Eye Protection (ALEP)	A		-	-	-	0.003	833	2.499	-	-	0.000	0.001	4,000	4.000	0.001	3,000	3.000	0.001	7,000	7.000
<i>Secondary Distribution</i>																				
AF			-	-	-	833	2.499	2.499	-	-	0.000	4,000	4.000	4.000	3,000	3.000	3.000	7,000	7.000	7.000
Personnel Locator Beacon	A		-	-	-	0.001	6,730	9.100	-	-	0.400	-	-	-	-	-	-	-	-	-
<i>Secondary Distribution</i>																				
AF			-	-	-	6,730	9.100	9.100	-	-	0.400	-	-	-	-	-	-	-	-	-
Night Vision Goggle	A		-	-	-	-	-	8.469	-	-	9.600	-	-	1.000	-	-	19.200	-	-	20.200
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	8.469	-	-	9.600	-	-	1.000	-	-	19.200	-	-	20.200
Integrated Aircrew Ensemble	A		-	-	-	-	-	1.030	0.061	296	18.032	0.061	198	12.100	-	-	-	0.061	198	12.100
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	1.030	296	18.032	18.032	198	12.100	-	-	-	-	198	12.100	12.100
Ejection Seat Safety/ Sustainability Improvement Program for Qualification of B-2 Seat Mod	A		-	-	-	-	-	1.550	-	-	0.300	-	-	0.350	-	-	-	-	-	0.350
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	1.550	-	-	0.300	-	-	0.350	-	-	-	-	-	0.350
Next Generation Ejection Seat	A		-	-	-	-	-	0.000	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	0.000	-	-	0.000	-	-	0.000	-	-	-	-	-	0.000

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 04 / 2 **P-1 Line Item Number / Title:** 842990 / Personal Safety and Rescue Equipment **Aggregated Items Title:** Items Less Than \$5 Million

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Air Force Reserve Equipment	A		-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Special Tactics/ Combat Control Equipment	A		-	-	-	-	-	10.596	-	-	10.118	-	-	6.299	-	-	-	-	-	6.299
<i>Secondary Distribution</i>																				
AF				-	-		-	10.596		-	10.118		-	6.299		-	-		-	6.299
Groundcrew Goggle (AN/PVS-14)	A		-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Groundcrew Goggle (AN/PVS-15)	A		-	-	-	0.011	82	0.904	0.011	79	0.875	0.011	82	0.902	-	-	-	0.011	82	0.902
<i>Secondary Distribution</i>																				
AF				-	-		55	0.606		52	0.572		55	0.605		-	-		55	0.605
AFNG				-	-		21	0.232		21	0.236		21	0.231		-	-		21	0.231
AFR				-	-		6	0.066		6	0.067		6	0.066		-	-		6	0.066
Fusion Goggle Enhanced	A		-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Aircrew Goggle (AN/AVS-9 (F4949G-TG))	A		-	-	-	0.010	50	0.483	0.010	50	0.493	0.010	50	0.500	-	-	-	0.010	50	0.500
<i>Secondary Distribution</i>																				
AF				-	-		35	0.338		35	0.345		35	0.350		-	-		35	0.350
AFNG				-	-		10	0.097		10	0.099		10	0.100		-	-		10	0.100
AFR				-	-		5	0.048		5	0.049		5	0.050		-	-		5	0.050
Test Set, TCTO Kit (ANV-126A-UGF)	A		-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Groundcrew Goggle (AN/PVS 31A)	A		-	-	-	-	-	0.000	-	-	0.025	-	-	0.025	-	-	-	-	-	0.025
<i>Secondary Distribution</i>																				
AF				-	-		-	0.000		-	0.025		-	0.025		-	-		-	0.025
PMA (NVG) Other Government Cost	A		-	-	-	-	-	0.024	-	-	0.020	-	-	0.020	-	-	-	-	-	0.020
<i>Secondary Distribution</i>																				
AF				-	-		-	0.024		-	0.020		-	0.020		-	-		-	0.020
Subtotal: Safety/Rescue/Aircrew Flight Equipment			-	-	-	-	-	36.073	-	-	43.591	-	-	28.339	-	-	22.200	-	-	50.539
Total			-	-	-	-	-	36.073	-	-	43.591	-	-	28.339	-	-	22.200	-	-	50.539

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

Remarks:
 The FY2020 OCO funding total of \$22.200 includes \$19.200M for Night Vision Goggle Enduring Capability upgrade and \$3.000M for Aircrew Laser Eye Protection Block 3 which is enhanced laser protection applied to large curved substrates, visors & blade-type spectacles; includes ballistic protection primarily for Air Force Special Operations Command warfighters. Items procured during execution may change based on critical equipment needed to support current Air Force mission requirements.

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force		Date: February 2019
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Appropriation / Budget Activity / Budget Sub Activity: 3080F / 04 / 2	P-1 Line Item Number / Title: 842990 / Personal Safety and Rescue Equipment	Aggregated Items Title: Items Less Than \$5 Million
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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 04: Other Base Maintenance and Support Equip / BSA 3: Depot Plant+Mtrls Handling Eq	P-1 Line Item Number / Title: 843040 / Power Conditioning 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>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	-	0.000	0.000	11.000	-	11.000	11.220	11.444	11.673	11.907	-	57.244
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	0.000	0.000	11.000	-	11.000	11.220	11.444	11.673	11.907	-	57.244
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	0.000	0.000	11.000	-	11.000	11.220	11.444	11.673	11.907	-	57.244

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

Description:

Description:
Power Conditioning & Continuation Interfacing Equipment (PCCIE):

The PCCIE program Office procures, replaces and modernizes uninterruptible power supply (UPS) systems to meet Air Force requirements. The Uninterruptible Power Supply (UPS) systems protect sensitive electronic equipment/systems such as command and control centers, intelligence missions, radars, etc. Many of these systems have exceeded the life expectancy of 12-15 years. PCCIE program is structured into small projects (from 3 - 125 kilovolt amps (kva)) and large projects (greater than 125 kva) and includes associated ancillary equipment.

As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 04: Other Base Maintenance and Support Equip / BSA 3: Depot Plant+Mtrls Handling Eq **P-1 Line Item Number / Title:** 843040 / Power Conditioning Equipment

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

Line Item MDAP/MAIS Code: N/A

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	Power Conditioning Equipment				- / -	- / 0.000	- / 0.000	- / 11.000	- / -	- / 11.000
P-40	Total Gross/Weapon System Cost				- / -	- / 0.000	- / 0.000	- / 11.000	- / -	- / 11.000

*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. Title represents the P-40a Title when only the P-40a Summary/Total is shown.

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

Justification:

This program, Category Equipment Item Power Conditioning Equipment, is a new start.

Justification:

Power Conditioning & Continuation Interfacing Equipment (PCCIE):

PCCIE requirements transferred from 845010 to 843040 beginning for FY20.

PE 27510F - FY 20 funds procure:

The new systems collectively satisfy critical user requirements and will:

1. Reduce overall footprint and weight by 50-60%.
2. Reduce operating and sustainment costs by 30%-50%.
3. Reduce acquisition costs as it applies to installation since many newer systems consist of more internal pre-wiring.
4. Lower parts count dramatically improves reliability by reducing the potential points of failure within the system.
5. Produce greater energy savings and higher operating efficiency in all configurations, typically between 92% and 93.5%; with all types of loads.

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 04 / 3	P-1 Line Item Number / Title: 843040 / Power Conditioning Equipment	Aggregated Items Title: Power Conditioning Equipment
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Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Equipment																				
Power Conditioning Equipment	A		-	-	-	-	-	0.000	-	-	0.000	-	-	11.000	-	-	-	-	-	11.000
Subtotal: Equipment			-	-	-	-	-	0.000	-	-	0.000	-	-	11.000	-	-	-	-	-	11.000
Total			-	-	-	-	-	0.000	-	-	0.000	-	-	11.000	-	-	-	-	-	11.000

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

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 04: Other Base Maintenance and Support Equip / BSA 3: Depot Plant+Mtrls Handling Eq	P-1 Line Item Number / Title: 843050 / Mechanized Material Handling 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>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	-	8.576	88.298	11.901	-	11.901	12.127	8.696	18.776	15.014	-	163.388
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	8.576	88.298	11.901	-	11.901	12.127	8.696	18.776	15.014	-	163.388
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	8.576	88.298	11.901	-	11.901	12.127	8.696	18.776	15.014	-	163.388

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

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

Description:

The Mechanized Materials Handling Equipment (MMHE) line provides funding for Mechanized Materials Handling Systems (MMHS) and Storage Aids Systems (SAS).

MMHS and SAS equipment provide bases worldwide with static and automated equipment to efficiently store, receive, and ship materiel. MMHS and SAS equipment involves the design and acquisition of mechanized and non-mechanized materials handling systems to modernize and enhance supply operations, aircraft maintenance, and air transportation.

Most MMHE is one of the following equipment types:

- Material Storage and Distribution Systems which are mechanized systems to receive, store, and ship material in a warehouse or aircraft hangar.
- Aerial Port Equipment for air transportation which includes heavy duty freight handling 463L pallet conveyors, pallet buildup/breakdown lift conveyor stations, cargo staging racks, and overhead bridge cranes for air freight terminal systems; roller conveyors and overhead cranes for aerial delivery facility systems; and inbound and outbound baggage conveyors and passenger boarding bridges for air passenger terminals.
- External Aircraft Fuel Tank Storage Systems which are used to store and access external aircraft fuel tanks.
- Storage Aids Systems which consist of non-mechanized equipment including racks, shelving, modular cabinets, mezzanines and mobile aisle systems.

Adequately equipped facilities are essential to the storage and handling of weapon system components and for rapid processing of personnel, freight, and baggage. Proper MMHE reduces pipeline time, reduces damage to weapon system components during handling and storage, and enhances personnel safety. MMHE provides enhanced Air Force capability to respond to crises and threats whenever they occur in the world.

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.

Funding for this exhibit is contained in PE 0207510F, 0207597F, 0502834F, and 0502844F. Beginning with FY20, four active duty PEs used previously have been combined into a new PE (0207510F).

As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force							Date: February 2019		
Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 04: Other Base Maintenance and Support Equip / BSA 3: Depot Plant+Mtrls Handling Eq					P-1 Line Item Number / Title: 843050 / Mechanized Material Handling 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									

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
AF	Quantity	20	33	21	0	21	-	-	-	-
	Total Obligation Authority	7.412	86.898	10.653	0.000	10.653	-	-	-	-
AFNG	Quantity	1	4	2	0	2	-	-	-	-
	Total Obligation Authority	0.388	1.400	0.488	0.000	0.488	-	-	-	-
AFR	Quantity	2	0	1	0	1	-	-	-	-
	Total Obligation Authority	0.776	0.000	0.760	0.000	0.760	-	-	-	-
Total:	Quantity	23	37	24	0	24	-	-	-	-
Secondary Distribution	Total Obligation Authority	8.576	88.298	11.901	0.000	11.901	-	-	-	-

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 04: Other Base Maintenance and Support Equip / BSA 3: Depot Plant+Mtrls Handling Eq **P-1 Line Item Number / Title:** 843050 / Mechanized Material Handling 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

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	Mechanized Material Handling Equip				- / -	- / 8.576	- / 88.298	- / 11.901	- / -	- / 11.901
P-40	Total Gross/Weapon System Cost				- / -	- / 8.576	- / 88.298	- / 11.901	- / -	- / 11.901

*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. Title represents the P-40a Title when only the P-40a Summary/Total is shown.

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

Justification:

FY20 procurement funds for MMHS/SAS equipment increases the productivity of Air Force operations, enhances management control of assets, reduces multiple handling of logistics materiel by consolidating assets, enhances safety, reduces losses due to damage of materiel during storage and transport, and reduces congestion and delays in the receiving, storage and issue operations in supply, base level aircraft maintenance, and transportation facilities. Aerial port MMHE is vital to maintain and enhance rapid deployment and sustainment capabilities.

There were two single-year special requirements that resulted in a sharp funding spike in FY19. MMHE program funding returns to the normal baseline level in FY20.

FY20 MMHE is to be purchased in the following quantities: 6 material storage and distribution systems, 14 storage aid systems, and 4 aerial port equipment systems.

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 04 / 3 **P-1 Line Item Number / Title:** 843050 / Mechanized Material Handling Equip **Aggregated Items Title:** Mechanized Material Handling Equip

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
MECHANIZED MATERIALS HANDLING EQUIPMENT																				
MATERIAL STORAGE AND DISTRIBUTION SYSTEMS	A		-	-	-	0.388	7	2.714	0.436	14	6.098	0.761	6	4.565	-	-	-	0.761	6	4.565
<i>Secondary Distribution</i>																				
AF			-	-	-		4	1.550		13	5.598		5	3.805		-	-		5	3.805
AFNG			-	-	-		1	0.388		1	0.500		-	-		-	-		-	-
AFR			-	-	-		2	0.776		-	-		1	0.760		-	-		1	0.760
STORAGE AIDS SYSTEMS	A		-	-	-	0.381	13	4.951	0.235	16	3.756	0.244	14	3.419	-	-	-	0.244	14	3.419
<i>Secondary Distribution</i>																				
AF			-	-	-		13	4.951		14	3.156		12	2.931		-	-		12	2.931
AFNG			-	-	-		-	-		2	0.600		2	0.488		-	-		2	0.488
AERIAL PORT EQUIPMENT	A		-	-	-	0.304	3	0.911	6.222	6	37.334	0.979	4	3.917	-	-	-	0.979	4	3.917
<i>Secondary Distribution</i>																				
AF			-	-	-		3	0.911		5	37.034		4	3.917		-	-		4	3.917
AFNG			-	-	-		-	-		1	0.300		-	-		-	-		-	-
EXTERNAL AIRCRAFT FUEL TANK STORAGE SYSTEMS	A		-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MATERIALS HANDLING EQUIPMENT FOR VC-25B MULTI-BAY HANGAR COMPLEX	A		-	-	-	-	-	-	41.110	1	41.110	-	-	-	-	-	-	-	-	-
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	-		1	41.110		-	-		-	-		-	-
NUCLEAR WEAPONS SUSTAINMENT	A		-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: MECHANIZED MATERIALS HANDLING EQUIPMENT			-	-	-	-	-	8.576	-	-	88.298	-	-	11.901	-	-	-	-	-	11.901
Total			-	-	-	-	-	8.576	-	-	88.298	-	-	11.901	-	-	-	-	-	11.901

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

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 04: Other Base Maintenance and Support Equip / BSA 5: Base Support Equipment	P-1 Line Item Number / Title: 845010 / Base Procured 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>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	-	22.618	45.831	23.963	0.000	23.963	17.315	14.926	9.759	9.060	-	143.472
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	22.618	45.831	23.963	0.000	23.963	17.315	14.926	9.759	9.060	-	143.472
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	22.618	45.831	23.963	0.000	23.963	17.315	14.926	9.759	9.060	-	143.472

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

Description:

Base Procured Equipment:

Organizations throughout the Air Force acquire authorized investment equipment from the General Services Administration, Defense Logistics Agency, and commercial sources when these items exceed \$250,000 in cost or are unavailable through Air Force central procurement. Examples of equipment in this P-1 line typically include equipment and/or specialized tools for road and ground maintenance; vehicle maintenance; vehicle corrosion control; civil engineering maintenance; electrical and carpentry shops; specialized laboratories; kitchen and dining facilities; printing plants; microfilm, graphics support facilities; training ranges; uninterruptible power supply systems, physiological trainers to include, but are not limited to Barney Chairs, Altitude Chambers, Spatial Disorientation Trainers, Hypoxia Familiarization Trainers and Part Task Trainers, Reduced Oxygen Breathing Devices, Terrain Boards, Parachuting Trainers, Aircrew Exercise Equipment.

PEs associated with this P-1 Line are: 0202834F, 0205219F, 0208534F, 0305534F, 0402834F, 0502834F, 0502844F, 0702834F, 0802834F, 0804721F, 0804731F, 0804743F, 0804752F, 0808534F, 0901212F

As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.

Secondary Distribution	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
AF	Quantity	1	1	0	0	0	-	-	-
	Total Obligation Authority	21.667	44.866	23.963	0.000	23.963	-	-	-
AFNG	Quantity	0	0	0	0	0	-	-	-
	Total Obligation Authority	0.847	0.860	0.000	0.000	0.000	-	-	-
AFR	Quantity	0	0	0	0	0	-	-	-
	Total Obligation Authority	0.104	0.105	0.000	0.000	0.000	-	-	-
Total:	Quantity	1	1	0	0	0	-	-	-

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 04: Other Base Maintenance and Support Equip / BSA 5: Base Support Equipment	P-1 Line Item Number / Title: 845010 / Base Procured 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

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	22.618	45.831	23.963	0.000	23.963	-	-	-	-

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity:
3080F: Other Procurement, Air Force / BA 04: Other Base Maintenance and Support Equip / BSA 5: Base Support Equipment

P-1 Line Item Number / Title:
845010 / Base Procured Equipment

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

Line Item MDAP/MAIS Code: N/A

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	Base Procured Equipment				- / -	- / 22.618	- / 45.831	- / 23.963	- / -	- / 23.963
P-40	Total Gross/Weapon System Cost				- / -	- / 22.618	- / 45.831	- / 23.963	- / 0.000	- / 23.963

*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. Title represents the P-40a Title when only the P-40a Summary/Total is shown.

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

Justification:

Base Procured Equipment:

Power Conditioning & Continuation Interfacing Equipment (PCCIE) requirements have transferred to 843040 beginning for FY20.

PE 27142F - FY20 funds procure sun shades for the F-35A beddown at Royal Air Force Lakenheath. These aircraft shelters will provide adverse weather (lightning) protection for the aircraft and crew on the parking ramp. This is a new start.

PE 28007F - Tactical Deception

Detailed information on the Tactical Deception program remains classified and will be provided on a need-to-know basis. For further information, please contact AF/A3TY, Mr. Phillip "Brad Snyder at (703) 697-7987. This is a new start.

PE 84731F (\$7,316K) - FY20 funds procure:

- a. Trainers for heavy aircraft flight deck systems - Randolph Trainer Fab to create suite of 10 trainers that emulate generic heavy aircraft flight deck systems using simulated components. Simulated components developed by USAF are upgradable for future changing requirements. This training suite will be able to perform functions of the current devices in addition to the new requirements of Enhanced Traffic Alert and Collision Avoidance System and LPCWR (ETCAS), Low Power Color Weather Radar (LPCWR), and Digital Interphone. The man machine interface will be through multifunction displays to emulate modern aircraft systems.
- b. Goodfellow Fire Rescue Trainer replacements - Includes Fire Cause and Determination Trainer; Petroleum, Oil, and Lubricant (POL) Fuel Large Frame Aircraft Burn Trainer; and the Rescue and Confined Space Trainer.
- c. Special Warfare investment equipment supporting the Pararescue/Combat Rescue Officer, Combat Controller/Special Tactics Officer, Tactical Air Command and Control/Air Liaison Officer, and Special Operations Weather career fields.

PE 84752F - FY20 funds procure: AFIT Lab Equipment for AFIT's accredited graduate engineering programs (to include graduate student thesis / dissertations research, and USAF/DoD research needs). Equipment requirements includes (both new / replacement): Satellite Communication Ground Stations, Cube Satellite Flight Hardware, Space Thruster Measurement System, UHF High Frequency Stages, Time Resolved Particle Image Velocimetry System, Digiscan CL3 System for the AFIT clean room, Space Chromotomography Equipment, Space Electronics Laboratory, Laser Steering Mirror System, CTE Phantom Camera, Low Temp Flow System for EPR, Microwave Cavity B-field Sensor, Sample Load Lock System, Point Probe with ITO Reference Sample, Micro Thermal Imaging System, Circuit Failure Analysis Digital Microscope System, Pioneer Power-Bot AGV Robot, GPS Receivers, IMU and accessories, Dual-Output Programmable Power Supplies, and Scanning Electron Microscope and Lab Equipment Chill Water System.

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 04 / 5 **P-1 Line Item Number / Title:** 845010 / Base Procured Equipment **Aggregated Items Title:** Base Procured Equipment

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Uncategorized																				
BASE PROCURED EQUIPMENT	A		-	-	-	7.500	1	7.500	28.800	1	28.800	-	-	-	-	-	-	-	-	
<i>Secondary Distribution</i>																				
AF			-	-	-		1	7.500		1	28.800		-	-		-	-	-	-	
TACTICAL DECEPTION	A		-	-	-	-	-	-	-	-	-	-	-	2.978	-	-	-	-	-	
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	-	-	-	-	-	-	2.978	-	-	-	-	2.978	
AIR EDUCATION & TRAINING CMD	A		-	-	-	-	-	-	-	-	11.826	-	-	8.985	-	-	-	-	-	
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	-	-	-	11.826	-	-	8.985	-	-	-	-	8.985	
US AIR FORCES EUROPE	A		-	-	-	-	-	-	-	-	-	-	-	12.000	-	-	-	-	-	
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	-	-	-	-	-	-	12.000	-	-	-	-	12.000	
PCCIE	A		-	-	-	-	-	3.883	-	-	4.150	-	-	-	-	-	-	-	-	
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	3.883	-	-	4.150	-	-	-	-	-	-	-	-	
PCCIE PMA	A		-	-	-	-	-	10.284	-	-	0.090	-	-	-	-	-	-	-	-	
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	10.284	-	-	0.090	-	-	-	-	-	-	-	-	
PCCIE ANG/RES	A		-	-	-	-	-	0.951	-	-	0.965	-	-	-	-	-	-	-	-	
<i>Secondary Distribution</i>																				
AFNG			-	-	-	-	-	0.847	-	-	0.860	-	-	-	-	-	-	-	-	
AFR			-	-	-	-	-	0.104	-	-	0.105	-	-	-	-	-	-	-	-	
AIR FORCE WIDE/ PCCIE	A		-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Subtotal: Uncategorized			-	-	-	-	-	22.618	-	-	45.831	-	-	23.963	-	-	-	-	23.963	
Total			-	-	-	-	-	22.618	-	-	45.831	-	-	23.963	-	-	-	-	23.963	

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

Remarks:
 1) PCCIE PMA - FY18 funding will support Program Office Management efforts including computer support, travel, A&AS and cost estimating/analysis services

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 04: Other Base Maintenance and Support Equip / BSA 5: Base Support Equipment	P-1 Line Item Number / Title: 845100 / Engineering and EOD 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: 0205671F
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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>)	-	66.287	136.135	34.124	0.000	34.124	281.486	212.062	243.761	239.697	-	1,213.552
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	66.287	136.135	34.124	0.000	34.124	281.486	212.062	243.761	239.697	-	1,213.552
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	66.287	136.135	34.124	0.000	34.124	281.486	212.062	243.761	239.697	-	1,213.552

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

Description:

FY20 Baseline Funding \$17.218M EOD (Explosive Ordnance Disposal Forces): 0204424F Program Elements Codes (PECs) associated with P-1 Line. The funding supports Explosive Ordnance Disposal (EOD) teams equipment requirements in countering explosive threats in garrison and deployed locations. The major component of this funding is a \$10.7M mid-sized robot used to interrogate and defeat Improvised Explosive Devices (IEDs) in garrison and downrange.

FY20 Baseline Funding of \$14.752M for Expedient Small Asset Protection (ESAP) shelters: PEC 0208028F associated with P-1 Line. Funding provided to procure ESAP Shelters and ESAP shelter support.

FY20 Baseline Funding of \$2.154M for Airfield Damage Repair (ADR) program. PEC 0208028F associated with P-1 line The funding supports the major components of ADR and ensure the Air Force has the capability to repair airfields in minimal timing to support sortie generations. The major repair components of Air Field Damage Repair training/Small Size, Medium Sized(R-1) Kits. Current efforts under ADR are intended to bring the repair time in to operational acceptable limits in support of COCOM post attack Air Tasking Orders.

As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for cost overrun, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.

As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 04: Other Base Maintenance and Support Equip / BSA 5: Base Support Equipment	P-1 Line Item Number / Title: 845100 / Engineering and EOD 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: 0205671F
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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 <i>(Each) / (\$ M)</i>	Quantity / Total Cost <i>(Each) / (\$ M)</i>	Quantity / Total Cost <i>(Each) / (\$ M)</i>	Quantity / Total Cost <i>(Each) / (\$ M)</i>	Quantity / Total Cost <i>(Each) / (\$ M)</i>	Quantity / Total Cost <i>(Each) / (\$ M)</i>
P-40a	Engineering and EOD Equipment				- / -	- / 66.287	- / 136.135	- / 34.124	- / 0.000	- / 34.124
P-40	Total Gross/Weapon System Cost				- / -	- / 66.287	- / 136.135	- / 34.124	- / 0.000	- / 34.124

*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. Title represents the P-40a Title when only the P-40a Summary/Total is shown.

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

Justification:

FY20 Baseline funding of \$17.218M in PEC 0204424F will procure Explosive Ordnance Disposal (EOD) support in the following quantities: \$10.735M purchases the mid-sized robotic platform used in interrogate and defeat improvised explosive devices, both garrison and in an expeditionary environment; \$715K procures demolition tools devices designed to command detonate explosives and associated EOD equipment using UHF radio signals and time delay; \$2.750M purchases total containment vessels used to transport suspect improvised explosive device (IED) packages to safe locations for disposition; \$3.018M purchases Radiological Detection System (RDS) used to detect/measure a wide array of radioactive isotopes/energies for EOD, Emergency Management, Bioenvironmental and AFRAT.

FY20 Baseline funding of \$14.752M in PEC 0208028F will procure Expeditionary Small Asset Protection (ESAP) shelters in the following quantities: 4 ESAP Type I Fighter Aircraft Shelters for \$12.0M; and \$2.752M for Shelters support. ESAP shelters are critical for protection of airfield assets (fighter aircraft and ground support equipment) that are in immediate danger of an attach. These ESAPs will be strategically postured within the PACAF theater.

FY20 Baseline ADR funding of \$2.154M in PEC 0208028F Air Field Damage repair kits. The support equipment items include ADR Tool Trailers (hand tools and small/medium equipment items required for crater repair), Small Repair Kits (hand tools and saws for expeditious and semi-permanent repairs), Inclement Weather Kits (tools and materials to place rapid setting materials in cold, hot, and wet weather), water skids (provides supplemental weather for rapid setting materials), and light carts (support night operations). The Basic/Small kit is used to provide basic repair equipment/materials in order to repair approximately 18 small (10 ft diameter) craters or three, 25 diameter craters in 6.5 hours. Additional airfield damage can be repaired based on the availability of time and materials. Basic/Small kits will also be used at training locations.

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 04 / 5 **P-1 Line Item Number / Title:** 845100 / Engineering and EOD Equipment **Aggregated Items Title:** Engineering and EOD Equipment

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Uncategorized																				
CVRJ CREW Refurbishment	A		-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
JCREW Dismounted Systems	A		-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
JCREW Mounted Systems	A		-	-	-	0.291	128	37.300	-	-	-	-	-	-	-	-	-	-	-	-
JCREW Fixed Site Systems	A		-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
JCREW Vehicle Integration Kits	A		-	-	-	0.010	313	3.127	-	-	-	-	-	-	-	-	-	-	-	-
CREW Universal Test Sets	A		-	-	-	0.047	26	1.226	-	-	-	-	-	-	-	-	-	-	-	-
FRS (EOD portable X-RAY)	A		-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Containment Vessel	A		-	-	-	0.300	5	1.500	-	-	-	0.250	11	2.750	-	-	-	0.250	11	2.750
Base Support Emergency Response Transport	A		-	-	-	-	-	-	0.300	5	1.500	-	-	-	-	-	-	-	-	-
Fuze Disassembly System, Explosive Ordnance Disposal	A		-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Light Tactical Trailers	A		-	-	-	0.035	10	0.352	0.023	24	0.540	-	-	-	-	-	-	-	-	-
EOD-M Program - Ordnance Locator	A		-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Radiological Detection Systems	A		-	-	-	-	-	-	-	-	-	0.014	215	3.018	-	-	-	0.014	215	3.018
EOD-M Diarming Toolsets	A		-	-	-	-	-	-	0.013	16	0.213	-	-	-	-	-	-	-	-	-
EOD Robotics	A		-	-	-	-	-	-	0.278	36	10.000	0.275	39	10.735	-	-	-	0.275	39	10.735
EOD-L Robotics	A		-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EOD-M Mini Remote Firing Device	A		-	-	-	0.035	142	4.970	0.035	122	4.270	0.030	24	0.715	-	-	-	0.030	24	0.715
RECOVERY REPAIR KIT (Training/Small Sized)	A		-	-	-	0.465	3	1.395	-	-	-	-	-	-	-	-	-	-	-	-
RECOVERY REPAIR KIT - R1 (Medium Sized Kit)	A		-	-	-	-	-	-	2.407	1	2.407	2.154	1	2.154	-	-	-	2.154	1	2.154
RECOVERY REPAIR KIT - R2 (Large Size Kit)	A		-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 04 / 5 **P-1 Line Item Number / Title:** 845100 / Engineering and EOD Equipment **Aggregated Items Title:** Engineering and EOD Equipment

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
RECOVERY REPAIR KIT - R3 (Very Large Size Kit)	A		-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
RADBO Equipment, Integration, & Spares Kits	A		-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Support Agadez Infrastructure - IT Service Mgmt Services	A		-	-	-	0.247	1	0.247	-	-	-	-	-	-	-	-	-	-	-	
ROWPU, 1500gph	A		-	-	-	0.290	10	2.900	-	-	-	-	-	-	-	-	-	-	-	
LAMS-V	A		-	-	-	0.248	3	0.744	-	-	36.412	-	-	-	-	-	-	-	-	
EALS Kit	A		-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ESAP Type I Shelters	A		-	-	-	-	-	0.000	3.000	5	15.000	3.000	4	12.000	-	-	0.000	3.000	4	12.000
ESAP Type II Shelters	A		-	-	-	1.950	6	11.700	1.950	5	9.750	-	-	0.000	-	-	0.000	-	-	0.000
ESAP Shelter Support	A		-	-	-	0.826	1	0.826	2.543	1	2.543	2.752	1	2.752	-	-	0.000	2.752	1	2.752
CROWS Containerized Weapons Station	A		-	-	-	-	-	-	0.825	40	33.018	-	-	-	-	-	-	-	-	
CROWS Mobilized Platform	A		-	-	-	-	-	-	0.418	49	20.482	-	-	-	-	-	-	-	-	
Subtotal: Uncategorized			-	-	-	-	-	66.287	-	-	136.135	-	-	34.124	-	-	0.000	-	-	34.124
Total			-	-	-	-	-	66.287	-	-	136.135	-	-	34.124	-	-	0.000	-	-	34.124

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

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 04: Other Base Maintenance and Support Equip / BSA 5: Base Support Equipment	P-1 Line Item Number / Title: 845420 / Mobility 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>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	-	124.233	87.735	26.439	26.535	52.974	59.689	49.292	44.502	77.350	-	495.775
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	124.233	87.735	26.439	26.535	52.974	59.689	49.292	44.502	77.350	-	495.775
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	124.233	87.735	26.439	26.535	52.974	59.689	49.292	44.502	77.350	-	495.775

(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 Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

This program funds procurement of Basic Expeditionary Airfield Resources (BEAR). It includes, but is not limited to, equipment to support the bed down of deployed forces (personnel, aircraft and support equipment) at austere and semi-austere locations. BEAR assets are a critical Agile Combat Support enabler for the Expeditionary Air Force. Prepositioned War Reserve Capabilities (PWRCs) (ashore and afloat) place military unit type equipment and supplies at or near the point of planned use to reduce reaction time and ensure timely support of a specific force during the initial phases of an operation. These assets provide combatant commanders with initial capabilities and materiel until establishment of a mature and sustained Strategic/Theater Distribution Network (TDP). (CJSCI 4310.01D)

BEAR is one of five FORCE Generation Sets (FGS) and is composed of multiple air base capability packages to include: feeding, hygiene, water production, power production, airfield lighting, shelters, aircraft arresting systems, and environmental support equipment. FGS-BEAR provides personnel, infrastructure, and flight line support at forward operating sites (Establish the Base, Operate the Base) The program provides funding to procure new and replacement equipment items, and multi-media packages required to support BEAR training facilities at Silver Flag Sites, Regional Training Sites, Technical Schools, Technical Certification Centers, Services Combat Center Training, 635MMG, and Eagle Flag. Costs include inventory reconstitution, spares and consumables, repairs, and procurement of new equipment for upgrades or full UTC's replacement. This program serves a critical role in support of the Combatant Commanders (COCOM) requirements to support 5 Major OPLANS, and ensures the objectives of the Asian Pacific Stability and European Defense Initiatives can be executed.

The AF continues to modernize major BEAR components to replace obsolete and inefficient items (e.g., Power Generation, Hygiene, Refrigeration, EALS, MAAS, Shelters, and Feeding):

Force Module Water System: Water System takes non-potable water and converts it into potable water. The system is modular and scalable in design and consists of Source Run, Water Production, Reverse Osmosis Water Purification Unit (ROWPU), Initial, Follow-on, and Industrial Operations, Flight line Extension, freeze protection, grey water recovery, pumping, piping, and storage equipment; applicable fittings; and other components such as fluid control valves.

Power System: Consists of prime and secondary power equipment which provides the capability to generate and distribute power to billeting, feeding, flight line and industrial operations at forward deployed sites. The primary power source for BEAR bed down locations is the BEAR Power Unit (BPU). The BPU is an 800 kilowatt (kW) Tier II compliant diesel generator. The power from the BPU is distributed through buried high voltage cabling and stepped down to facility power through the Secondary Distribution Center (SDC). The SDC is a 150 kilovolt-ampere (KVA) transformer capable of supporting twelve (12) billeting shelters via the Primary Distribution Panels (PDP).

Expeditionary Airfield Lighting System (EALS)(Legacy): Light Emitting Diode (LED) and incandescent runway lighting system designed to be rapidly installed at contingency airfields and at other locations that need temporary airfield lighting. The lighting kit for runways includes runway edge and threshold lights, precision approach path indicator (PAPI), and strobe approach lights, distance to go marker lamps, taxi way

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 04: Other Base Maintenance and Support Equip / BSA 5: Base Support Equipment		P-1 Line Item Number / Title: 845420 / Mobility Equipment
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A		
<p>lamps and battery-operated obstruction lights. The EALS also includes the generators, cables, control cables, transformers and regulators. The entire system is packaged on six (6) mobile trailers. System will be replaced with a Next Generation System over the FYDP.</p> <p>Mobile Aircraft Arresting System: This air transportable barrier arresting Bak-12 mounted on a mobile trailer to accommodate the recovery of fighter aircraft returning to battle damaged airfield.</p> <p>Hygiene: Hygiene includes Shower, Shave and Latrine, WH-400 water heaters for initial Hygiene fielding and Self Help Laundry system which provides personal hygiene facilities in support of BEAR bases.</p> <p>Shelters: Shelters vary in sizes and are needed for billeting, kitchen, hygiene, and aircraft and equipment maintenance. Includes lighting, electrical equipment, environmental control units, remote area lighting, Shelter Flies, Shelter Flooring/matting for various shelter sizes, Shelter liners.</p> <p>Feeding: BEAR Feeding includes kitchen and all applicable equipment. BEAR Feeding system provides the capability to prepare, and then serve, 500 meals over a two hour serving period, twice per day (24 hour period). The Feeding system is worldwide deployable and supports numerous basing options. This system supports initial mission requirements and follow-on high mobility feeding requirements for rapidly deployable mobility packages and other contingencies in all theaters of operation.</p> <p>Heating, Ventilating, and Air Conditioning (HVAC): provide thermal comfort and acceptable indoor air quality.</p> <p>Environmental Control Unit (ECU): Heat Pump to provide cooling, heating via reversing valve (heat pump) and supplemental heat via resistance heat strips.</p> <p>Training/Multi-Media Training - Provides BEAR and items for all training sites and funds for all required BEAR multi-media training requirements.</p> <p>"Fiscal Year (FY) 2018 BEAR received its first distribution of OCO funds to support the European Defense Initiative": \$73.983 million was received to start the procurement of BEAR commodities required to fill the 24 Deployable Air Base Systems (DABS) needed to "Set the Theatre</p> <p>"Fiscal Year (FY) 2018 BEAR received a funding plus-up of \$36M dollars to address equipment disconnects to support emergent warfighter readiness requirements in the Pacific Theatre.</p> <p>Fiscal Year (FY) 2018 BEAR received a Congressional Mark in the amount of \$5M dollars (Feeding Earmark) to replace aging Legacy 9-2 kitchen systems.</p> <p>Program element associated with this P-1 Line is: 0401135F.</p> <p>As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.</p>		

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 04: Other Base Maintenance and Support Equip / BSA 5: Base Support Equipment **P-1 Line Item Number / Title:** 845420 / Mobility Equipment

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

Line Item MDAP/MAIS Code: N/A

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	Mobility Equipment				- / -	- / 124.233	- / 87.735	- / 26.439	- / 26.535	- / 52.974
P-40	Total Gross/Weapon System Cost				- / -	- / 124.233	- / 87.735	- / 26.439	- / 26.535	- / 52.974

*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. Title represents the P-40a Title when only the P-40a Summary/Total is shown.

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 \$52.974M will procure equipment in support of, but not limited to, the European Contingency Air Operations Set (ECAOS), Deployable Air Base Systems (DABS), Asian Pacific Stability Initiative, and other WRM Global Theater requirements. It will also provide for Program Management Administration (PMA) and other government associated costs in support installation and unit mission requirements for Air Force personnel.

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 04 / 5 **P-1 Line Item Number / Title:** 845420 / Mobility Equipment **Aggregated Items Title:** Mobility Equipment

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
Uncategorized																				
BEAR High Power (BPU)	A		-	-	-	-	-	62.792	-	-	1.402	-	-	-	-	-	0.000	-	-	0.000
AIRFIELD LIGHTING	A		-	-	-	-	-	1.540	-	-	-	-	-	2.866	-	-	-	-	-	2.866
HYGIENE	A		-	-	-	-	-	3.320	-	-	20.148	-	-	-	-	-	11.525	-	-	11.525
WATER PRODUCTION	A		-	-	-	-	-	14.641	-	-	7.920	-	-	4.311	-	-	-	-	-	4.311
FEEDING	A		-	-	-	-	-	21.450	-	-	11.600	-	-	-	-	-	-	-	-	-
MOBILE AIRCRAFT ARRESTING SYSTEM	A		-	-	-	-	-	2.554	-	-	7.223	-	-	2.554	-	-	-	-	-	2.554
POWER PRODUCTION	A		-	-	-	-	-	10.355	-	-	20.796	-	-	8.116	-	-	-	-	-	8.116
SHELTERS	A		-	-	-	-	-	5.341	-	-	8.319	-	-	-	-	-	15.010	-	-	15.010
ENVIRONMENTAL	A		-	-	-	-	-	1.213	-	-	9.182	-	-	7.581	-	-	-	-	-	7.581
PMA - OTHER GOVERNMENT COST	A		-	-	-	-	-	0.074	-	-	0.075	-	-	0.053	-	-	-	-	-	0.053
PMA - CONTRACTOR SERVICES	A		-	-	-	-	-	0.953	-	-	1.070	-	-	0.958	-	-	-	-	-	0.958
TRANSPORTATION	A		-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Uncategorized			-	-	-	-	-	124.233	-	-	87.735	-	-	26.439	-	-	26.535	-	-	52.974
Total			-	-	-	-	-	124.233	-	-	87.735	-	-	26.439	-	-	26.535	-	-	52.974

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

Remarks:

Unit Costs for FY20 are assumed and subject to change.

PMA OTHER GOVERNMENT COSTS: This line supports the operation of the program office in its management and oversight role via travel, procurement of supplies, studies and Advisory and Administrative Services (A&AS).

PMA Other Contractor Services: This funding includes provisions for government contract oversight, technical expertise, and program office support associated with the BEAR program.

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 04: Other Base Maintenance and Support Equip / BSA 5: Base Support Equipment	P-1 Line Item Number / Title: 845550 / Fuels Support 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>	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost <i>(\$ in Millions)</i>	-	0.000	0.000	24.255	4.040	28.295	16.193	12.622	14.494	14.723	-	86.327
Less PY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) <i>(\$ in Millions)</i>	-	0.000	0.000	24.255	4.040	28.295	16.193	12.622	14.494	14.723	-	86.327
Plus CY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority <i>(\$ in Millions)</i>	-	0.000	0.000	24.255	4.040	28.295	16.193	12.622	14.494	14.723	-	86.327

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

Description:

This program funds for the procurement of Fuels Operational Readiness Capability Equipment (FORCE). It provides the capability to receive, store, and issue petroleum products and support aircraft generation where fixed systems do not exist or require augmentation. FORCE is a subset of the Pre-Positioned War Reserve Capabilities (PWRC), it is a Force Generation Set (FGS) that provides mission oriented operational capability packages/force modules aligned with the air and space expeditionary task force modules described in AFI 10-401, AF Operations Planning and Execution, and this instruction. This program serves a critical role in support of the Combatant Commanders(COCOM)requirements to support 5 Major OPLANS, and ensures the objectives of the Asian Pacific Stability and European Defense Initiatives can be executed.

Fuels Operational Readiness Capability Equipment (FORCE Starter (FS), Receipt (RC)and Sustainment (SC) is a deployable modular fuel system that can provide joint capability to fuel aircraft and support equipment at forward locations. The FORCE system can be configured to perform limited aircraft fueling missions or to sustain massive daily fueling requirements for months. FORCE is capable of receiving, transferring, and issuing fuel at a throughput rate of 900 Gallons per Minute (GPM). The individual pieces of equipment that comprise the FORCE system provide stand-alone or mix-and-match capability for almost any fuel transfer or aircraft refueling scenario. The full capability mission of the complete FORCE System, when used in conjunction with fabric fuel bladders, provides a deployable, above ground, constant pressure, flow-on demand fueling system for aircraft, i.e., a hydrant-type fueling system.

Aerial Bulk Fuel Delivery System (ABFDS), designed for aerial delivery of fuel to locations where other methods of transportation are impractical, it enables aircraft to rapidly transport fuel to locations close to or behind enemy lines. It is the key component to the AFSOC community and their ability to complete Forward Area Refueling Point missions(FARP).

3K Collapsible Fuel Tanks (CFT) are specifically designed to be loaded on military aircraft and withstand the critical demands put on them during flight operations, in conjunction with the ABFDS they provide the ability to transfer fuel from the aircraft storage bladder while aircraft engines are running.

Collapsible Fuel Tanks (CFT) or more commonly referred to as fuel bladders provide fuel storage capabilities at austere or forward operating locations where infrastructure is either inadequate or non-existent. Bladders sizes range from 10K, 50K and 210K gallons of fuel storage, these bladders are capable of holding a multitude of petroleum products to support both air and ground operations. Collapsible fuel tanks are used with Fuels Operational Readiness Capability Equipment (FORCE) to support various aircraft systems at forward operating locations.

500 Gal LOX/Lin Tanks, are deployable liquid oxygen/liquid nitrogen storage tanks that can receive, store, and issue liquid oxygen or nitrogen products to service carts or smaller tanks. Provides bulk storage capacity and is used to fill smaller cryogenic equipment (8 Cylinder trailers, 50 Gallon LOX Tank) and aircraft.

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 04: Other Base Maintenance and Support Equip / BSA 5: Base Support Equipment		P-1 Line Item Number / Title: 845550 / Fuels Support Equipment
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A		

Fuels Pumping & Distribution provides multiple capabilities to receive and deliver petroleum products to initiate and sustain ground and air operations for both expeditionary and contingency operations. Ensures the ability to service smaller aircraft such as UAV's and base support vehicles, and increases the distance that fuel loads can be safely distributed to the base up to 3 miles.

Previous Fuels requirements were levied under BPAC 845990 / Base Maintenance and Support Equipment , starting in FY20 all FORCE requirements fall under BPAC 845550.

The Program Element associated with this P-1 Line is: 28031F

As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 04: Other Base Maintenance and Support Equip / BSA 5: Base Support Equipment	P-1 Line Item Number / Title: 845550 / Fuels Support 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

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	Fuels Support Equipment				- / -	- / 0.000	- / 0.000	- / 24.255	- / 4.040	- / 28.295
P-40	Total Gross/Weapon System Cost				- / -	- / 0.000	- / 0.000	- / 24.255	- / 4.040	- / 28.295

*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. Title represents the P-40a Title when only the P-40a Summary/Total is shown.

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

Justification:
 FY20 procurement dollars in the amount of \$28.265M will procure equipment in support of, but not limited to, the European Contingency Air Operations Set (ECAOS), Deployable Air Base Systems (DABS), Asian Pacific Stability Initiative, and other WRM Global Theater requirements. It will also provide for Program Management Administration (PMA) and other government associated costs in support installation and unit mission requirements for Air Force personnel.

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 04 / 5 **P-1 Line Item Number / Title:** 845550 / Fuels Support Equipment **Aggregated Items Title:** Fuels Support Equipment

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
WRM FORCE																				
FORCE SERVICING (FS, RC,SC)	A		-	-	-	-	-	-	-	-	-	-	-	3.450	-	-	-	-	-	3.450
FUEL STORAGE(BLADDERS)	A		-	-	-	-	-	-	-	-	-	-	-	7.808	-	-	-	-	-	7.808
AERIAL BULK FUEL DELIVERY SYSTEM (ABFDS)	A		-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CRYOGENICS (LOX/ LIN TANKS)	A		-	-	-	-	-	-	-	-	-	-	-	4.140	-	-	-	-	-	4.140
FUELS PUMPING & DISTRIBUTION	A		-	-	-	-	-	-	-	-	-	-	-	8.250	4.040	1	4.040	12.290	1	12.290
PMA OTHER GOVERNMENT CHARGES (FORCE)	A		-	-	-	-	-	0.000	-	-	-	-	-	0.407	-	-	-	-	-	0.407
PMA OTHER CONTRACTOR SERVICES (FORCE)	A		-	-	-	-	-	-	-	0.000	-	-	-	0.200	-	-	-	-	-	0.200
Subtotal: WRM FORCE			-	-	-	-	-	0.000	-	-	0.000	-	-	24.255	-	-	4.040	-	-	28.295
Total			-	-	-	-	-	0.000	-	-	0.000	-	-	24.255	-	-	4.040	-	-	28.295

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

Remarks:
PMA OTHER GOVERNMENT COSTS: This line supports the operation of the program office in its management and oversight role via travel, procurement of supplies, studies and Advisory and Administrative Services (A&AS).
PMA Other Contractor Services: This funding includes provisions for government contract oversight, technical expertise, and program office support associated with the FSE/FORCE program.
Requirements are subject to change based on shifts in both Air Force priorities and operational requirements in the year of execution.

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 04: Other Base Maintenance and Support Equip / BSA 5: Base Support Equipment	P-1 Line Item Number / Title: 845990 / Base Maintenance and Support 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>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	-	74.719	52.060	38.986	20.067	59.053	69.610	50.101	50.158	68.844	-	424.545
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	74.719	52.060	38.986	20.067	59.053	69.610	50.101	50.158	68.844	-	424.545
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	74.719	52.060	38.986	20.067	59.053	69.610	50.101	50.158	68.844	-	424.545

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

Description:

This program provides a wide variety of base support items with worldwide application, to include but not limited to: Aircraft Arresting Systems; Aircraft Recovery Systems; Industrial Plant Equipment (IPE); Fuels Support Equipment; Base Generator Power Systems, Deployable Debrief Facilities (DDF); Flight Line Fire Extinguishers and Cargo Pallet and Net systems. This equipment provides prime support for all base missions and supports the Air Force Metrology and Calibration Program to ensure accuracy and uniformity in standards and equipment used to measure and test Air Force systems and equipment. Accuracy is achieved by relating all measurements to national and international standards maintained by the National Institute of Standards and Technology (NIST) and other recognized sources. That relationship produces a traceability chain through a measurement hierarchy whereby base measurement standards are calibrated against Air Force primary standards, which are in turn calibrated against the national standards. Accuracy is imperative to ensure that the weapons used by our operational forces arrive on target. Uniformity is imperative to ensure consistency of AF systems and safety of AF operators. Program ensures development/determination, procurement, and distribution of standards and related equipment to 65 Air Force Base PMELs residing in every Major Command (MAJCOM) worldwide and to the Air Force Primary Standards Laboratory (AFPSL). This program serves a critical role in support of Transport and Fighter Aircraft Operations across multiple operations worldwide, including but not limited to the European Deterrence Initiative, Pacific Theater, and other forward operating locations.

Fuels Support Equipment (FSE):

FSE and FSE related items not included in the Fuels Support Equipment War Readiness Material POM (PEC 845550) that provide operational support to Air Force installations and fuels management facilities worldwide in the form of fuel storage, fuel delivery, liquid oxygen and nitrogen storage and refueling capabilities. Items include but are not limited to the Aerial Bulk Fuel Delivery System (ABFDS) and ABFDS Bladder, Tactical Automated Servicing Station (TASS), PMU-27, Collapsible Fuel Tanks (CFT) and Cryogenics storage tanks.

Cargo Pallets and Nets:

Cargo Pallets & Nets provide an expedient means of loading and unloading cargo on transport aircraft across the DoD. Pallets & Nets also secure cargo to maintain aircraft balance which is crucial to safety of flight. 661 users across the DoD rely on Pallets & Nets to carry out their primary mission, through which capability and equipment are transported to all parts of the globe, enabling the execution of our National Defense Strategy.

Small Munitions Trailers:

The Small Munitions Trailers program provides trailers (and associated accessories) capable of carrying up to 15,000 lbs of conventional munitions and up to 5,500 lbs of nuclear munitions in direct support to aircraft operations. These trailers can carry bombs, missiles (Air-to-Air and Air-to-Ground), all calibers of ammunition, all countermeasures all decoys and practice bombs. Small Munitions Trailers directly support B-1, B-2, B-52, A-10, F-15, F-16, F-22, C-5, C-17, C-130, AC-130, KC-46, KC-10 and KC-135 rated to carry munitions as cargo. The goal of this program is to replace all legacy small munitions trailers

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 04: Other Base Maintenance and Support Equip / BSA 5: Base Support Equipment	P-1 Line Item Number / Title: 845990 / Base Maintenance and Support 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

in USAF inventory in one program effort. The average legacy trailer has exceeded twice its 20 year service life. The last procurement of these trailers was in 1992. The impact of age plus wear and tear have created serious obsolescence issues and high overhaul repair costs. Currently, the cost to complete a depot overhaul of a legacy trailer is nearly twice the estimated procurement cost of a new trailer.

Lack of funding for these equipment items limits flight operations, maintenance capabilities, testing functions, anti-terrorism/security missions, communications capabilities, and the ability of Air Force units to meet peacetime and deployment requirements.

Funding may be used to address Diminishing Manufacturing Sources (DMS) issues.

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.

Program elements associated with this P-1 Line are: 0702207F, 0202834F, 0207142F, 0208031F, 0208530F, 0402834F, 0502834F, 0502844F, 0702834F, 0802834F, 0804741F.

As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
AF	Quantity	34	3,680	0	0	0	-	-	-	-
	Total Obligation Authority	73.953	52.060	37.383	20.067	57.450	-	-	-	-
AFNG	Quantity	2	0	0	0	0	-	-	-	-
	Total Obligation Authority	0.766	0.000	1.509	0.000	1.509	-	-	-	-
AFR	Quantity	0	0	0	0	0	-	-	-	-
	Total Obligation Authority	0.000	0.000	0.094	0.000	0.094	-	-	-	-
Total: Secondary Distribution	Quantity	36	3,680	0	0	0	-	-	-	-
	Total Obligation Authority	74.719	52.060	38.986	20.067	59.053	-	-	-	-

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 04: Other Base Maintenance and Support Equip / BSA 5: Base Support Equipment **P-1 Line Item Number / Title:** 845990 / Base Maintenance and Support Equipment

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

Line Item MDAP/MAIS Code: N/A

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	Base Maintenance and Support Equipment				- / -	- / 74.719	- / 52.060	- / 38.986	- / 20.067	- / 59.053
P-40	Total Gross/Weapon System Cost				- / -	- / 74.719	- / 52.060	- / 38.986	- / 20.067	- / 59.053

*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. Title represents the P-40a Title when only the P-40a Summary/Total is shown.

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

Justification:
 This program, Category Support Equipment and Vehicles (SEV) Item SMALL MUNITIONS TRAILERS RECAP (MHU-110/141), is a new start.

 FY 2020 procurement dollars will procure support equipment items, Program Management Administration (PMA), and other government associated costs in support of base and unit mission requirements for Air Force personnel.

 FY 2020 includes \$20.067M for OCO for Direct War Costs

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force																	Date: February 2019			
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 04 / 5						P-1 Line Item Number / Title: 845990 / Base Maintenance and Support Equipment						Aggregated Items Title: Base Maintenance and Support Equipment								
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Support Equipment and Vehicles (SEV)																				
SMALL MUNITIONS TRAILERS RECAP (MHU-110/141)	A		-	-	-	-	-	-	-	-	-	-	-	11.950	-	-	-	-	-	11.950
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	-	-	-	-	-	-	11.950	-	-	-	-	-	11.950
FSE / FORCE ⁽¹⁾	A		-	-	-	-	-	23.509	1.560	21	32.767	-	-	-	-	-	-	-	-	-
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	23.509		21	32.767	-	-	-	-	-	-	-	-	-
PMA OTHER GOVERNMENT COSTS (FORCE)	A		-	-	-	-	-	0.020	-	-	-	-	-	-	-	-	-	-	-	-
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	0.020	-	-	-	-	-	-	-	-	-	-	-	-
AIRCRAFT ARRESTING SYSTEM	A		-	-	-	-	-	-	-	-	-	-	-	0.768	-	-	-	-	-	0.768
<i>Secondary Distribution</i>																				
AFNG			-	-	-	-	-	-	-	-	-	-	-	0.768	-	-	-	-	-	0.768
BASE GENERATOR POWER SYSTEMS	A		-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BASE PALLETS AND NETS SYSTEMS ⁽²⁾	A		-	-	-	-	-	4.000	0.002	3,656	8.045	-	-	21.183	-	-	20.067	-	-	41.250
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	4.000		3,656	8.045	-	-	21.183	-	-	20.067	-	-	41.250
PMA - OTHER GOVERNMENT COSTS	A		-	-	-	-	-	0.176	-	-	0.020	-	-	0.050	-	-	-	-	-	0.050
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	0.176	-	-	0.020	-	-	0.050	-	-	-	-	-	0.050
PMA CONTRACTOR SERVICES	A		-	-	-	-	-	-	-	-	-	-	-	0.200	-	-	-	-	-	0.200
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	-	-	-	-	-	-	0.200	-	-	-	-	-	0.200
ECAOS/DABS-FEV ⁽³⁾	A		-	-	-	-	-	30.032	3.100	3	9.300	-	-	-	-	-	-	-	-	-
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	30.032		3	9.300	-	-	-	-	-	-	-	-	-
Subtotal: Support Equipment and Vehicles (SEV)			-	-	-	-	-	57.737	-	-	50.132	-	-	34.151	-	-	20.067	-	-	54.218

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 04 / 5	P-1 Line Item Number / Title: 845990 / Base Maintenance and Support Equipment	Aggregated Items Title: Base Maintenance and Support Equipment
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Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Air Force Sustainment Center (AFSC) (404)																				
IPE EQUIPMENT	A		-	-	-	0.383	5	1.915	-	-	-	-	-	0.835	-	-	-	-	-	0.835
<i>Secondary Distribution</i>																				
AF			-	-	-		3	1.149	-	-	-	-	-	-	-	-	-	-	-	-
AFNG			-	-	-		2	0.766	-	-	-	-	-	0.741	-	-	-	-	-	0.741
AFR			-	-	-		-	-	-	-	-	-	-	0.094	-	-	-	-	-	0.094
Subtotal: Air Force Sustainment Center (AFSC) (404)			-	-	-	-	-	1.915	-	-	-	-	-	0.835	-	-	-	-	-	0.835
OTHER ORGANIZATIONS																				
AUTOMATED HIGH VACUUM GAUGE SYSTEM (AFMETCAL)	A		-	-	-	0.400	30	12.000	-	-	-	-	-	4.000	-	-	-	-	-	4.000
<i>Secondary Distribution</i>																				
AF			-	-	-		30	12.000	-	-	-	-	-	4.000	-	-	-	-	-	4.000
DEPLOYABLE DEBRIEF FACILITIES (DDF)	A		-	-	-		-	2.517	-	-	1.368	-	-	-	-	-	-	-	-	-
<i>Secondary Distribution</i>																				
AF			-	-	-		-	2.517	-	-	1.368	-	-	-	-	-	-	-	-	-
EXERCISE PREFAB GYM FACILITY (4)	A		-	-	-	0.550	1	0.550	-	-	-	-	-	-	-	-	-	-	-	-
<i>Secondary Distribution</i>																				
AF			-	-	-		1	0.550	-	-	-	-	-	-	-	-	-	-	-	-
EQUIPMENT FOR UNDERGRADUATE PILOT TRAINING (UPT)	A		-	-	-		-	-	-	-	0.560	-	-	-	-	-	-	-	-	-
<i>Secondary Distribution</i>																				
AF			-	-	-		-	-	-	-	0.560	-	-	-	-	-	-	-	-	-
Subtotal: OTHER ORGANIZATIONS			-	-	-	-	-	15.067	-	-	1.928	-	-	4.000	-	-	-	-	-	4.000
Total			-	-	-	-	-	74.719	-	-	52.060	-	-	38.986	-	-	20.067	-	-	59.053

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

Remarks:
PMA OTHER GOVERNMENT COSTS: This line supports the operation of the program office in its management and oversight role via travel, procurement of supplies, studies and Advisory and Administrative Services (A&AS).
PMA Other Contractor Services: This funding includes provisions for government contract oversight, technical expertise, and program office support associated with the and Pallets and Nets program.
Requirements are subject to change based on shifts in Air Force priorities in the year of execution.

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 04 / 5	P-1 Line Item Number / Title: 845990 / Base Maintenance and Support Equipment	Aggregated Items Title: Base Maintenance and Support Equipment
Footnotes: (1) FY19 funding includes \$9.300M requested for Overseas Contingency Operations to procure the European Contingency Air Operations Set (ECAOS) Deployable Air Base System (DABS) - Facilities, Equipment, and Vehicles (FEV) (2) FY18 funding includes \$30.032M requested for Overseas Contingency Operations to procure the European Contingency Air Operations Set (ECAOS) Deployable Air Base System (DABS) - Facilities, Equipment, and Vehicles (FEV); FY18 funding for COCOM requirement for USAFE (Incirlik AB) ; FY19 funding includes \$9.300M requested for Overseas Contingency Operations to procure the European Contingency Air Operations Set (ECAOS) Deployable Air Base System (DABS) - Facilities, Equipment, and Vehicles (FEV); FY20 funding includes \$20.067M requested for Overseas Contingency Operations to procure pallets and nets. (3) FY18 funding includes \$30.032M requested for Overseas Contingency Operations to procure the European Contingency Air Operations Set (ECAOS) Deployable Air Base System (DABS) - Facilities, Equipment, and Vehicles (FEV) (4) FY18 funding for COCOM requirement for USAFE (Incirlik AB) ; FY19 funding includes \$9.300M requested for Overseas Contingency Operations to procure the European Contingency Air Operations Set (ECAOS) Deployable Air Base System (DABS) - Facilities, Equipment, and Vehicles (FEV)		

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 04: Other Base Maintenance and Support Equip / BSA 6: Special Support Projects	P-1 Line Item Number / Title: 846070 / DARP RC135
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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: 0305207F
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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>)	49.260	26.685	26.262	26.716	0.000	26.716	27.204	27.685	28.178	28.685	-	240.675
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	49.260	26.685	26.262	26.716	0.000	26.716	27.204	27.685	28.178	28.685	-	240.675
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	49.260	26.685	26.262	26.716	0.000	26.716	27.204	27.685	28.178	28.685	-	240.675

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

Description:

RC-135 procurement is executed by the Big Safari RC-135 Program Manager and is supported by various contractors. The contractors provide services including Program Depot Maintenance (PDM), prime mission equipment overhaul, special repair activity, in-plant support (sustainment engineering, software engineering, and program management), configuration management, LRU repair, and field service maintenance and training for special operational missions. The RC-135 Program Manager provides the full-range of weapons system management, acquisition oversight, program security and integrated logistics for the RC-135 aircraft, power plant, sensors and associated support and equipment. Due to the rapidly changing global threat environment, the Program Manager has the authority to redirect funding as necessary to meet current stated and emerging Combatant Commander and Intelligence Community (IC) requirements.

FY18 funding totals include \$0.700M for Overseas Contingency Operations. Program element associated with this line is 0305207F.

As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 04: Other Base Maintenance and Support Equip / BSA 6: Special Support Projects	P-1 Line Item Number / Title: 846070 / DARP RC135
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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: 0305207F
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Line Item MDAP/MAIS Code: N/A

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-3a	1 / DARP Modification (Capability Improvement)		A		- / 49.260	- / 26.685	- / 26.262	- / 26.716	- / 0.000	- / 26.716
P-40	Total Gross/Weapon System Cost				- / 49.260	- / 26.685	- / 26.262	- / 26.716	- / 0.000	- / 26.716

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	1 / DARP Modification (Capability Improvement)		A		- / 27.204	- / 27.685	- / 28.178	- / 28.685	- / -	- / 240.675
P-40	Total Gross/Weapon System Cost				- / 27.204	- / 27.685	- / 28.178	- / 28.685	- / -	- / 240.675

*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 procurement funding acquires and installs various upgrade and enhancement modifications for ground support equipment associated with the RC-135 program. This ground support equipment is directly tied to fielded baselines of the RC-135 V/W RIVET JOINT, RC-135S COBRA BALL, and the RC-135U COMBAT SENT. The requirement to maintain commonality with fielded baselines necessitates the continuous modification and installation of upgrades concurrent with RC-135 aircraft entering operational status. These ground systems are critical to the post-mission processing of highly perishable intelligence information, and supporting aircrew proficiency training, virtual simulation exercises that contribute to distributed mission training initiatives, and provide support to indigenous maintenance during aircraft deployments to "bare-base locations. Additionally, all applicable ground support equipment is required to comply with NSA intelligence data recording formats and requirements due to the nature and sensitivity of the information.

Ground support equipment includes, but is not limited to: RIVET JOINT Mission Trainer (RJMT), Ground Data Processing System (GDPS), Mission Crew Training System (MCTS), Modular Processing System (MPS), and the Airborne Capability Extension System (ACES).

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Exhibit P-3a, Individual Modification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 04 / 6	P-1 Line Item Number / Title: 846070 / DARP RC135	Modification Number / Title: 1 / DARP Modification

ID Code (A=Service Ready, B=Not Service Ready) : A	MDAP/MAIS Code:
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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>)	49.260	26.685	26.262	26.716	0.000	26.716	27.204	27.685	28.178	28.685	-	240.675
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	49.260	26.685	26.262	26.716	0.000	26.716	27.204	27.685	28.178	28.685	-	240.675
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	49.260	26.685	26.262	26.716	0.000	26.716	27.204	27.685	28.178	28.685	-	240.675

(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 Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

RC-135 procurement is executed by the Big Safari RC-135 Program Manager and is supported by various contractors. The contractors provide services including Program Depot Maintenance (PDM), prime mission equipment overhaul, special repair activity, in-plant support (sustainment engineering, software engineering, and program management), configuration management, LRU repair, and field service maintenance and training for special operational missions. The RC-135 Program Manager provides the full-range of weapons system management, acquisition oversight, program security and integrated logistics for the RC-135 aircraft, power plant, sensors and associated support and equipment. Due to the rapidly changing global threat environment, the Program Manager has the authority to redirect funding as necessary to meet current stated and emerging Combatant Commander and Intelligence Community (IC) requirements.

FY20 procurement funding acquires and installs various upgrade and enhancement modifications for ground support equipment associated with the RC-135 program. This ground support equipment is directly tied to fielded baselines of the RC-135 V/W RIVET JOINT, RC-135S COBRA BALL, and the RC-135U COMBAT SENT. The requirement to maintain commonality with fielded baselines necessitates the continuous modification and installation of upgrades concurrent with RC-135 aircraft entering operational status. These ground systems are critical to the post-mission processing of highly perishable intelligence information, and supporting aircrew proficiency training, virtual simulation exercises that contribute to distributed mission training initiatives, and provide support to indigenous maintenance during aircraft deployments to "bare-base locations. Additionally, all applicable ground support equipment is required to comply with NSA intelligence data recording formats and requirements due to the nature and sensitivity of the information.

Ground support equipment includes, but is not limited to: RIVET JOINT Mission Trainer (RJMT), Ground Data Processing System (GDPS), Mission Crew Training System (MCTS), Modular Processing System (MPS), and the Airborne Capability Extension System (ACES).

Milestone/Development Status

Fully Fielded Systems

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Exhibit P-3a, Individual Modification: PB 2020 Air Force											Date: February 2019	
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 04 / 6				P-1 Line Item Number / Title: 846070 / DARP RC135				Modification Number / Title: 1 / DARP Modification				
ID Code (A=Service Ready, B=Not Service Ready) : A						MDAP/MAIS Code:						
Models of Systems Affected: RC-135			Modification Type: Capability Improvement				Related RDT&E PEs: 0305207F					
Financial Plan	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Procurement												
<i>Modification Item 1 of 1:</i> BL12 Ground Systems												
A Kits												
Recurring												
BL12 Ground Systems:INSTALL KITS Group A (Active)	2 / 34.794	1 / 18.997	1 / 19.179	1 / 19.534	- / -	1 / 19.534	1 / 19.762	1 / 20.127	1 / 20.497	1 / 20.876	- / -	9 / 173.766
<i>Subtotal: Recurring</i>	- / 34.794	- / 18.997	- / 19.179	- / 19.534	- / -	- / 19.534	- / 19.762	- / 20.127	- / 20.497	- / 20.876	- / -	- / 173.766
B Kits												
Recurring												
BL12 Ground Systems:EQUIPMENT Group B (Active)	2 / 12.322	1 / 6.616	1 / 6.011	1 / 6.110	- / -	1 / 6.110	1 / 6.370	1 / 6.486	1 / 6.609	1 / 6.737	- / -	9 / 57.261
<i>Subtotal: Recurring</i>	- / 12.322	- / 6.616	- / 6.011	- / 6.110	- / -	- / 6.110	- / 6.370	- / 6.486	- / 6.609	- / 6.737	- / -	- / 57.261
<i>Subtotal: BL12 Ground Systems</i>	- / 47.116	- / 25.613	- / 25.190	- / 25.644	- / -	- / 25.644	- / 26.132	- / 26.613	- / 27.106	- / 27.613	- / -	- / 231.027
<i>Subtotal: Procurement, All Modification Items</i>	- / 47.116	- / 25.613	- / 25.190	- / 25.644	- / -	- / 25.644	- / 26.132	- / 26.613	- / 27.106	- / 27.613	- / -	- / 231.027
Installation												
<i>Modification Item 1 of 1:</i> BL12 Ground Systems												
	2 / 2.144	1 / 1.072	1 / 1.072	1 / 1.072	- / -	1 / 1.072	1 / 1.072	1 / 1.072	1 / 1.072	1 / 1.072	- / -	9 / 9.648
<i>Subtotal: Installation</i>	2 / 2.144	1 / 1.072	1 / 1.072	1 / 1.072	- / -	1 / 1.072	1 / 1.072	1 / 1.072	1 / 1.072	1 / 1.072	- / -	9 / 9.648
Total												
Total Cost (Procurement + Support + Installation)	49.260	26.685	26.262	26.716	0.000	26.716	27.204	27.685	28.178	28.685	-	240.675

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Exhibit P-3a, Individual Modification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 04 / 6	P-1 Line Item Number / Title: 846070 / DARP RC135	Modification Number / Title: 1 / DARP Modification
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ID Code (A=Service Ready, B=Not Service Ready) : A	MDAP/MAIS Code:
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Modification Item 1 of 1: BL12 Ground Systems

Manufacturer Information

Manufacturer Name: L3 Communications	Manufacturer Location: Greenville, TX
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Administrative Leadtime (in Months): 2	Production Leadtime (in Months): 6
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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	Dec 2019	Dec 2020	Dec 2021	Dec 2022	Dec 2023
Delivery Dates	Jun 2018	Jun 2019	Jun 2020	Jun 2021	Jun 2022	Jun 2023	Jun 2024

Installation Information

Method of Implementation: Contractor Facility

Installation Cost	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	2 / 2.144	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	2 / 2.144
FY 2018	- / -	1 / 1.072	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / 1.072
FY 2019	- / -	- / -	1 / 1.072	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / 1.072
FY 2020	- / -	- / -	- / -	1 / 1.072	- / -	1 / 1.072	- / -	- / -	- / -	- / -	- / -	1 / 1.072
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	1 / 1.072	- / -	- / -	- / -	- / -	1 / 1.072
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / 1.072	- / -	- / -	- / -	1 / 1.072
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / 1.072	- / -	- / -	1 / 1.072
FY 2024	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / 1.072	- / -	1 / 1.072
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	2 / 2.144	1 / 1.072	1 / 1.072	1 / 1.072	- / -	1 / 1.072	1 / 1.072	1 / 1.072	1 / 1.072	1 / 1.072	- / -	9 / 9.648

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	-	1	-	-	-	1	-	-	-	1	-	-	-	1	-	-	-	1	-	-	-	1	-	-	-	1	-	-	0	9
Out	2	-	-	-	1	-	-	-	1	-	-	-	1	-	-	-	1	-	-	-	1	-	-	-	1	-	-	-	1	0	9

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 04: Other Base Maintenance and Support Equip / BSA 6: Special Support Projects	P-1 Line Item Number / Title: 846080 / DCGS-AF
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ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: 0305208F	Other Related Program Elements: 0305208F, 0305240F
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Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	0.000	264.434	378.437	116.055	-	116.055	123.206	155.923	158.697	161.554	-	1,358.306
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	0.000	264.434	378.437	116.055	-	116.055	123.206	155.923	158.697	161.554	-	1,358.306
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	0.000	264.434	378.437	116.055	-	116.055	123.206	155.923	158.697	161.554	-	1,358.306

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

Description:

Air Force Distributed Common Ground System (AF DCGS) is the Combat Air Force (CAF) weapon system architecture for planning and direction, collection, processing and exploitation, analysis and production, and dissemination (PCPAD) of data from Intelligence, Surveillance, and Reconnaissance (ISR) missions. Since AF DCGS is also a major component of the DoD DCGS, the system is designed to complement and interoperate with the DoD, Army, Navy and Marine Corps DCGS. The AF DCGS mission is to provide Joint Task Force (JTF) Commanders, Air Component Commanders, Unified Commands, and other directed organizations with global, time-sensitive ISR PCPAD across the spectrum of military operations. AF DCGS is a multi-INT network linked weapon system (AN/GSQ-272) capable of exploiting intelligence data from manned platforms, remotely piloted aircraft (RPA), non-traditional ISR platforms, national and commercial satellites, and other collection systems. AF DCGS is designed to support joint operational requirements by providing a common PCPAD means to provide time-sensitive intelligence to field commanders and in support of the Air Operations Center (AOC) mission requirements. Currently, the AF DCGS worldwide architecture is composed of two worldwide core sites, three regional core sites, two remote Air Force Forces (AF FOR) sites, four National Mission Partner (NMP) sites, three support sites, and multiple National Guard Bureau (NGB) sites. Currently, AF DCGS is supporting ongoing operations from forward deployed and in-garrison CONUS and OCONUS based locations. The system employs a concept of data distribution, information sharing and collaborative work centers. AF DCGS provides the national leadership and the warfighter with integrated and interoperable national and airborne reconnaissance by providing quality and fused Signals Intelligence (SIGINT), Measurement and Signature Intelligence (MASINT), and Geospatial Intelligence (GEOINT) tailored to the warfighter for all levels of conflict.

AF DCGS is transforming by integrating the necessary technologies and tools to provide increased capabilities and meet emerging and urgent operational needs. These efforts will also integrate commercial-off-the-shelf and government-off-the-shelf upgrades to provide current technologies and achieve necessary application services. The next series of upgrades will meet the operational need to integrate new and/or improved sensor capabilities, as well as enhance interoperability by migrating to an Open Architecture (OA) to improve data sharing ability per DoD direction.

AF DCGS is managed in five ACAT III efforts: GEOINT Transformation, SIGINT Transformation, Multi-INT, Network Infrastructure Transformation, and DCGS Reference Imagery Transition (DRT): (Note: GB4.1, SR 3.0 and SENSORS ACAT were closed in FY18 and Sensors funding/projects were merged into GEOINT Transformation ACAT in FY19).

1. GEOINT Transformation: The GEOINT Transformation effort rapidly integrates new capabilities, enables quick/seamless integration of new sensors, data types, sensor planning, command and control (C2) and migrates GEOINT-specific applications & capabilities into the open architecture framework.
2. SIGINT Transformation: Rapidly integrate new capabilities, leverage mission partner methods and tools, exchange data, and migrate the SIGINT-specific applications/capabilities into the open architecture framework.
3. Multi-INT: Rapidly integrate new multi-INT capabilities/enterprise applications and facilitate enterprise-wide collaboration capabilities. Addresses program office test and evaluation activities.

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 04: Other Base Maintenance and Support Equip / BSA 6: Special Support Projects	P-1 Line Item Number / Title: 846080 / DCGS-AF
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ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: 0305208F	Other Related Program Elements: 0305208F, 0305240F
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Line Item MDAP/MAIS Code: N/A

4. Network Infrastructure Transformation: The Infrastructure Transformation effort modernizes the AF DCGS infrastructure to a cyber-resilient, open, scalable, cloud-enabled hybrid Platform as a Service, improving data ingest, transfer, and storage capabilities, collaboration, and content driven discovery. Initial OA DCGS Platform as a Service, along with migration to a hub-based architecture, represents the AF DCGS program's initial efforts to eventually migrate to a hybrid cloud (mix of private on-premises and public cloud) architecture

5. *DRT: The Air Force DCGS Reference Imagery Transition (DRT) effort provides data ingest, transfer, and storage capabilities for NGA reference imagery data.

Detailed information on PE 0305240F, Support to DoD DCGS Enterprise remains classified and will be provided on a need-to-know basis.

Funding for this exhibit Line Item # 846080 is contained in PEs 0305208F and 0305240F.

Funding may be used to address Diminishing Manufacturing Sources (DMS) issues.

FY 2018 funding total includes \$13.7M for Overseas Contingency Operations. FY 2019 funding total includes \$2.0M for Overseas Contingency Operations.

Program Management Administration (PMA): FY20 funding permits the System Program Office (SPO) to support the fielding and installation of new and developing capabilities. This includes the initial bed down and operability testing, technical interchange meetings, and events incident to fielding both hardware and software products, and maintaining configuration control of fielded products.

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.

As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
AF	Quantity	0	0	0	0	0	-	-	-	-
	Total Obligation Authority	253.834	333.637	116.055	0.000	116.055	100.886	133.207	135.577	138.017
AFNG	Quantity	0	0	0	0	0	-	-	-	-
	Total Obligation Authority	10.600	44.800	0.000	0.000	0.000	0.000	0.000	0.000	0.000
AFR	Quantity	0	0	0	0	0	-	-	-	-
	Total Obligation Authority	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total:	Quantity	0	0	0	0	0	-	-	-	-
Secondary Distribution	Total Obligation Authority	264.434	378.437	116.055	0.000	116.055	100.886	133.207	135.577	138.017

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 04: Other Base Maintenance and Support Equip / BSA 6: Special Support Projects **P-1 Line Item Number / Title:** 846080 / DCGS-AF

ID Code (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** 0305208F **Other Related Program Elements:** 0305208F, 0305240F

Line Item MDAP/MAIS Code: N/A

Exhibits Schedule					Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	Distributed Common Ground/Surface Systems				- / 0.000	- / 19.633	- / 7.156	- / 0.000	- / 0.000	- / 0.000
P-3a	1 / GEOINT Transformation (GEOINT) (Reliability & Maintainability)		B		- / -	- / 26.517	- / 64.187	- / 36.853	- / 0.000	- / 36.853
P-3a	2 / Network Infrastructure Transformation (Reliability & Maintainability)		B		- / -	- / 133.284	- / 192.980	- / 29.842	- / 0.000	- / 29.842
P-3a	3 / Multi-Intelligence (Multi-INT) (Reliability & Maintainability)		B		- / -	- / 36.163	- / 46.565	- / 12.377	- / 0.000	- / 12.377
P-3a	4 / Signals Intelligence (SIGINT) (Reliability & Maintainability)		B		- / -	- / 27.544	- / 44.029	- / 15.065	- / 0.000	- / 15.065
P-40a	Support to DCGS Enterprise				- / -	- / 21.293	- / 23.520	- / 21.918	- / -	- / 21.918
P-40	Total Gross/Weapon System Cost				- / 0.000	- / 264.434	- / 378.437	- / 116.055	- / -	- / 116.055

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-40a	Distributed Common Ground/Surface Systems				- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 26.789
P-3a	1 / GEOINT Transformation (GEOINT) (Reliability & Maintainability)		B		- / 43.832	- / 58.358	- / 59.138	- / 63.237	- / -	- / 352.122
P-3a	2 / Network Infrastructure Transformation (Reliability & Maintainability)		B		- / 16.944	- / 44.934	- / 26.974	- / 43.065	- / -	- / 488.023
P-3a	3 / Multi-Intelligence (Multi-INT) (Reliability & Maintainability)		B		- / 30.958	- / 21.713	- / 22.413	- / 23.213	- / -	- / 193.402
P-3a	4 / Signals Intelligence (SIGINT) (Reliability & Maintainability)		B		- / 9.152	- / 8.202	- / 27.052	- / 8.502	- / -	- / 139.546
P-40a	Support to DCGS Enterprise				- / -	- / -	- / -	- / -	- / -	- / -
P-40	Total Gross/Weapon System Cost				- / 123.206	- / 155.923	- / 158.697	- / 161.554	- / -	- / 1,358.306

*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. Title represents the P-40a Title when only the P-40a Summary/Total is shown.

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

Justification:
Where applicable, justification for individual modifications is provided in the P-3A exhibits.

Efforts with funding starting in FY 2021 through FY 2024 are summarized on the P-40. Not all details of this funding are included in this P-40 exhibit set. A summary of the excepted details is as follows:

- (a) FY 2021 Cost Delta: 22.320 million
- (b) FY 2022 Cost Delta: 22.716 million
- (c) FY 2023 Cost Delta: 23.120 million
- (d) FY 2024 Cost Delta: 23.537 million
- (e) FY Total Cost Delta: 158.424 million

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Exhibit P-40a, Budget Item Justification For Aggregated Modification Items: PB 2020 Air Force														Date: February 2019					
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 04 / 6							P-1 Line Item Number / Title: 846080 / DCGS-AF							Aggregated Modification Items Title: Distributed Common Ground/Surface Systems					

Item Number / Title	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
DCGS13 / NASIC			-	-	0.000	-	-	1.800	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
<i>Secondary Distribution</i>																				
AF				-	-		-	1.800		-	0.000		-	0.000		-	0.000		-	0.000
DCGS5 / Sensor Integration			-	-	-	-	-	17.687	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
<i>Secondary Distribution</i>																				
AF				-	-		-	17.687		-	0.000		-	0.000		-	0.000		-	0.000
DCGS8 / DCGS Reference Imagery Transition (DRT)			-	-	-	-	-	0.146	-	-	7.156	-	-	0.000	-	-	0.000	-	-	0.000
<i>Secondary Distribution</i>																				
AF				-	-		-	0.146		-	7.156		-	0.000		-	0.000		-	0.000
Total			-	-	0.000	-	-	19.633	-	-	7.156	-	-	0.000	-	-	0.000	-	-	0.000

Item Number / Title	ID CD	MDAP/MAIS Code	FY 2021			FY 2022			FY 2023			FY 2024			To Complete			Total Cost		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
DCGS13 / NASIC			-	-	0.000	-	-	0.000	-	-	0.000	-	-	-	-	-	-	-	-	1.800
<i>Secondary Distribution</i>																				
AF				-	0.000		-	0.000		-	0.000		-	-		-	-		-	-
DCGS5 / Sensor Integration			-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	-	-	-	17.687
<i>Secondary Distribution</i>																				
AF				-	0.000		-	0.000		-	0.000		-	0.000		-	-		-	-
DCGS8 / DCGS Reference Imagery Transition (DRT)			-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	-	-	-	7.302
<i>Secondary Distribution</i>																				
AF				-	0.000		-	0.000		-	0.000		-	0.000		-	-		-	-
Total			-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	26.789

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

Modification Information:

Item Number / Title	Models of Systems Affected	Modification Type
DCGS13 / NASIC	0305208F	Reliability & Maintainability
DCGS5 / Sensor Integration	0305208F	Reliability & Maintainability

UNCLASSIFIED

Exhibit P-40a, Budget Item Justification For Aggregated Modification Items: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 04 / 6	P-1 Line Item Number / Title: 846080 / DCGS-AF	Aggregated Modification Items Title: Distributed Common Ground/Surface Systems

Item Number / Title	Models of Systems Affected	Modification Type
DCGS8 / DCGS Reference Imagery Transition (DRT)	0305208F	Reliability & Maintainability

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 04 / 6	P-1 Line Item Number / Title: 846080 / DCGS-AF	Modification Number / Title: 1 / GEOINT Transformation (GEOINT)

ID Code (A=Service Ready, B=Not Service Ready) : B	MDAP/MAIS Code:
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Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	-	26.517	64.187	36.853	0.000	36.853	43.832	58.358	59.138	63.237	-	352.122
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	-	26.517	64.187	36.853	0.000	36.853	43.832	58.358	59.138	63.237	-	352.122
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	-	26.517	64.187	36.853	0.000	36.853	43.832	58.358	59.138	63.237	-	352.122

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

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

Description:

GEOINT Transformation: The GEOINT Transformation effort rapidly integrates new capabilities, enables quick/seamless integration of new sensors, data types, sensor planning, command and control (C2) and migrates GEOINT-specific applications & capabilities into the open architecture framework. Furthermore, GEOINT Transformation provides continuous and incremental improvement to the capability for planning and direction, collection, processing and exploitation, analysis and production, and dissemination (PCPAD) of advanced imagery intelligence. GEOINT Transformation builds upon GB4.1 to integrate new sensors, provide enhanced processing techniques, and provide imagery analysts the advanced capability to exploit, analyze, produce, and disseminate imagery.

Justification:

AF DCGS's GEOINT program's main focus is the procurement and fielding of proven technologies for multiple programs including GEOINT Transformation. The GEOINT Transformation leverages an agile infrastructure to use modern information technology (IT) practices and sets the stage from which to accomplish the goals of the AF DCGS architecture roadmap in manageable increments. GEOINT Transformation builds on the GB4.1 foundation to provide enhanced front-end image processing and advanced exploitation tools, which improve the timeliness and quality of GEOINT products, making them more useful to the war-fighter while simultaneously reducing the workload on the DCGS operator.

Milestone/Development Status

AF DCGS is in the Operations and Sustainment phase of the acquisition lifecycle. The weapon system has been declared FOC, and all modifications are being implemented in accordance with AFI 63-101.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
AF	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	26.517	64.187	36.853	0.000	36.853	43.832	58.358	59.138	63.237
Total: Secondary Distribution	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	26.517	64.187	36.853	0.000	36.853	43.832	58.358	59.138	63.237

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2020 Air Force											Date: February 2019	
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 04 / 6				P-1 Line Item Number / Title: 846080 / DCGS-AF				Modification Number / Title: 1 / GEOINT Transformation (GEOINT)				
ID Code (A=Service Ready, B=Not Service Ready) : B						MDAP/MAIS Code:						
Models of Systems Affected: DCGS			Modification Type: Reliability & Maintainability				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)
Procurement												
<i>Modification Item 1 of 1:</i> GEOINT Transformation												
B Kits												
Recurring												
GEOINT Transformation:EQUIPMENT Group B (Active)	- / -	0 / 25.694	- / 62.588	- / 35.087	- / 0.000	- / 35.087	- / 41.595	- / 56.121	- / 56.901	- / 61.000	- / -	0 / 338.986
<i>Subtotal: Recurring</i>	- / -	- / 25.694	- / 62.588	- / 35.087	- / 0.000	- / 35.087	- / 41.595	- / 56.121	- / 56.901	- / 61.000	- / -	- / 338.986
<i>Subtotal: GEOINT Transformation</i>	- / -	- / 25.694	- / 62.588	- / 35.087	- / 0.000	- / 35.087	- / 41.595	- / 56.121	- / 56.901	- / 61.000	- / -	- / 338.986
<i>Subtotal: Procurement, All Modification Items</i>	- / -	- / 25.694	- / 62.588	- / 35.087	- / 0.000	- / 35.087	- / 41.595	- / 56.121	- / 56.901	- / 61.000	- / -	- / 338.986
Support (All Modification Items)												
GROUP B: TOTAL NONRECURRING	- / -	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / -	- / 0.000
PMA - Other Gov't Costs	- / -	- / 0.041	- / 0.077	- / 0.085	- / 0.000	- / 0.085	- / 0.107	- / 0.107	- / 0.107	- / 0.107	- / -	- / 0.631
PMA - Contractor Services	- / -	- / 0.782	- / 1.522	- / 1.681	- / 0.000	- / 1.681	- / 2.130	- / 2.130	- / 2.130	- / 2.130	- / -	- / 12.505
ICS-Labor	- / -	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / -	- / -	- / 0.000
<i>Subtotal: Support</i>	- / -	- / 0.823	- / 1.599	- / 1.766	- / 0.000	- / 1.766	- / 2.237	- / 2.237	- / 2.237	- / 2.237	- / -	- / 13.136
Installation												
<i>Subtotal: Installation</i>	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total												
Total Cost (Procurement + Support + Installation)	-	26.517	64.187	36.853	0.000	36.853	43.832	58.358	59.138	63.237	-	352.122

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2020 Air Force					Date: February 2019		
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 04 / 6			P-1 Line Item Number / Title: 846080 / DCGS-AF			Modification Number / Title: 1 / GEOINT Transformation (GEOINT)	
ID Code (A=Service Ready, B=Not Service Ready) : B				MDAP/MAIS Code:			
Modification Item 1 of 1: GEOINT Transformation							
Manufacturer Information							
Manufacturer Name: Various				Manufacturer Location: Robins AFB			
Administrative Leadtime (in Months): 0				Production Leadtime (in Months): 0			
Dates	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Contract Dates							
Delivery Dates							
Installation Information							
Method of Implementation (Organic): Org/Intermediate					Installation Quantity: 0		

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 04 / 6	P-1 Line Item Number / Title: 846080 / DCGS-AF	Modification Number / Title: 2 / Network Infrastructure Transformation

ID Code (A=Service Ready, B=Not Service Ready) : B	MDAP/MAIS Code:
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Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	-	133.284	192.980	29.842	0.000	29.842	16.944	44.934	26.974	43.065	-	488.023
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	-	133.284	192.980	29.842	0.000	29.842	16.944	44.934	26.974	43.065	-	488.023
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	-	133.284	192.980	29.842	0.000	29.842	16.944	44.934	26.974	43.065	-	488.023

(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 Millions)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

The Network Infrastructure Transformation effort modernizes the AF DCGS infrastructure to a cyber-resilient, open, scalable, cloud-enabled hybrid Platform as a Service, improving data ingest, transfer, and storage capabilities, collaboration, and content driven discovery. Initial OA DCGS Platform as a Service, along with migration to a hub-based architecture, represents the AF DCGS program's initial efforts to eventually migrate to a hybrid cloud (mix of private on-premises and public cloud) architecture. Furthermore, the Network Infrastructure Transformation program adds capabilities to the baseline of the FOC weapon system already fielded and does not replace it.

Justification:

AF DCGS's Network Infrastructure Transformation program's main focus is the procurement and fielding of proven open, scalable infrastructure backbone, technologies for network communications, centralized storage of analyst produced multi-INT intelligence products, communication modernization, demilitarized zone, weapon system trainer, and addresses diminishing manufacturing sources (DMS) weapons system issues. This program will continue to deliver an integrated net-centric upgrade to the network communications infrastructure; and address any other DMS issues with legacy systems/components that AF DCGS must interoperate/interface with. Additionally, upgrades will meet the operational need to store and disseminate new and/or improved sensor data, and enhance interoperability by migrating to an open architecture construct and improving data sharing ability in compliance with DoD direction.

Milestone/Development Status

AF DCGS is in the Operations and Sustainment phase of the acquisition lifecycle. The weapon system has been declared FOC, and all modifications are being implemented in accordance with AFI 63-101.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
AF	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	122.684	148.180	29.842	0.000	29.842	16.944	44.934	26.974	43.065
AFNG	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	10.600	44.800	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total:	Quantity	-	-	-	-	-	-	-	-	-
Secondary Distribution	Total Obligation Authority	133.284	192.980	29.842	0.000	29.842	16.944	44.934	26.974	43.065

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Exhibit P-3a, Individual Modification: PB 2020 Air Force										Date: February 2019			
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 04 / 6					P-1 Line Item Number / Title: 846080 / DCGS-AF					Modification Number / Title: 2 / Network Infrastructure Transformation			
ID Code (A=Service Ready, B=Not Service Ready) : B							MDAP/MAIS Code:						
Models of Systems Affected: 0305208F				Modification Type: Reliability & Maintainability				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)	
Procurement													
<i>Modification Item 1 of 1:</i> Network Infrastructure													
B Kits													
Recurring													
Network Infrastructure:EQUIPMENT Group B (Active)	- / -	0 / 119.655	- / 141.471	- / 25.665	- / -	- / 25.665	- / 13.120	- / 41.110	- / 23.150	- / 41.240	- / -	0 / 405.411	
Network Infrastructure:EQUIPMENT Group B (Guard)	- / -	0 / 10.600	- / 44.800	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / -	0 / 55.400	
<i>Subtotal: Recurring</i>	- / -	- / 130.255	- / 186.271	- / 25.665	- / 0.000	- / 25.665	- / 13.120	- / 41.110	- / 23.150	- / 41.240	- / -	- / 460.811	
<i>Subtotal: Network Infrastructure</i>	- / -	- / 130.255	- / 186.271	- / 25.665	- / 0.000	- / 25.665	- / 13.120	- / 41.110	- / 23.150	- / 41.240	- / -	- / 460.811	
<i>Subtotal: Procurement, All Modification Items</i>	- / -	- / 130.255	- / 186.271	- / 25.665	- / 0.000	- / 25.665	- / 13.120	- / 41.110	- / 23.150	- / 41.240	- / -	- / 460.811	
Support (All Modification Items)													
GROUP B: TOTAL NONRECURRING	- / -	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / -	- / 0.000	
PMA - Other Gov't Costs	- / -	- / 0.222	- / 0.241	- / 0.146	- / -	- / 0.146	- / 0.134	- / 0.134	- / 0.134	- / 0.064	- / -	- / 1.075	
PMA - Contractor Services	- / -	- / 2.807	- / 6.468	- / 4.031	- / -	- / 4.031	- / 3.690	- / 3.690	- / 3.690	- / 1.761	- / -	- / 26.137	
<i>Subtotal: Support</i>	- / -	- / 3.029	- / 6.709	- / 4.177	- / 0.000	- / 4.177	- / 3.824	- / 3.824	- / 3.824	- / 1.825	- / -	- / 27.212	
Installation													
<i>Subtotal: Installation</i>	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	
Total													
Total Cost (Procurement + Support + Installation)	-	133.284	192.980	29.842	0.000	29.842	16.944	44.934	26.974	43.065	-	488.023	

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2020 Air Force					Date: February 2019		
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 04 / 6			P-1 Line Item Number / Title: 846080 / DCGS-AF			Modification Number / Title: 2 / Network Infrastructure Transformation	
ID Code (A=Service Ready, B=Not Service Ready) : B				MDAP/MAIS Code:			
Modification Item 1 of 1: Network Infrastructure							
Manufacturer Information							
Manufacturer Name: Various				Manufacturer Location: Various			
Administrative Leadtime (in Months): 0				Production Leadtime (in Months): 0			
Dates	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Contract Dates							
Delivery Dates							
Installation Information							
Method of Implementation (Organic): Org/Intermediate					Installation Quantity: 0		

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 04 / 6	P-1 Line Item Number / Title: 846080 / DCGS-AF	Modification Number / Title: 3 / Multi-Intelligence (Multi-INT)

ID Code (A=Service Ready, B=Not Service Ready) : B	MDAP/MAIS Code:
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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>)	-	36.163	46.565	12.377	0.000	12.377	30.958	21.713	22.413	23.213	-	193.402
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	36.163	46.565	12.377	0.000	12.377	30.958	21.713	22.413	23.213	-	193.402
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	36.163	46.565	12.377	0.000	12.377	30.958	21.713	22.413	23.213	-	193.402

(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 Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

Rapidly integrate new multi-INT capabilities/enterprise applications and facilitate enterprise-wide collaboration capabilities. Addresses program office test and evaluation activities. Also includes modifications to Beyond Line of Sight/Line of Sight (BLOS/LOS) voice and data link connectivity between airborne ISR crews and AF DCGS operators.

Justification:

This effort continues to deliver new/modernized Multi-INT capabilities to the operator, and addresses any other issues that are identified with other legacy systems/components that AF DCGS must interface with.

Milestone/Development Status

AF DCGS is in the Operations and Sustainment phase of the acquisition lifecycle. The weapon system has been declared FOC, and all modifications are being implemented in accordance with AFI 63-101.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
AF	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	36.163	46.565	12.377	0.000	12.377	30.958	21.713	22.413	23.213
Total: Secondary Distribution	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	36.163	46.565	12.377	0.000	12.377	30.958	21.713	22.413	23.213

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Exhibit P-3a, Individual Modification: PB 2020 Air Force											Date: February 2019	
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 04 / 6				P-1 Line Item Number / Title: 846080 / DCGS-AF				Modification Number / Title: 3 / Multi-Intelligence (Multi-INT)				
ID Code (A=Service Ready, B=Not Service Ready) : B						MDAP/MAIS Code:						
Models of Systems Affected: 0305208F				Modification Type: Reliability & Maintainability				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)
Procurement												
<i>Modification Item 1 of 1:</i> Multi-Int Upgrades												
B Kits												
Recurring												
Multi-Int Upgrades:EQUIPMENT Group B (Active)	- / -	0 / 35.835	- / 45.410	- / 11.200	- / 0.000	- / 11.200	- / 29.545	- / 20.300	- / 21.000	- / 21.800	- / -	0 / 185.090
<i>Subtotal: Recurring</i>	- / -	- / 35.835	- / 45.410	- / 11.200	- / 0.000	- / 11.200	- / 29.545	- / 20.300	- / 21.000	- / 21.800	- / -	- / 185.090
<i>Subtotal: Multi-Int Upgrades</i>	- / -	- / 35.835	- / 45.410	- / 11.200	- / 0.000	- / 11.200	- / 29.545	- / 20.300	- / 21.000	- / 21.800	- / -	- / 185.090
<i>Subtotal: Procurement, All Modification Items</i>	- / -	- / 35.835	- / 45.410	- / 11.200	- / 0.000	- / 11.200	- / 29.545	- / 20.300	- / 21.000	- / 21.800	- / -	- / 185.090
Support (All Modification Items)												
GROUP B: TOTAL NONRECURRING	- / -	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / -	- / 0.000
PMA - Other Gov't Costs	- / -	- / 0.040	- / 0.075	- / 0.077	- / -	- / 0.077	- / 0.092	- / 0.092	- / 0.092	- / 0.092	- / -	- / 0.560
PMA - Contractor Services	- / -	- / 0.288	- / 1.080	- / 1.100	- / -	- / 1.100	- / 1.321	- / 1.321	- / 1.321	- / 1.321	- / -	- / 17.752
<i>Subtotal: Support</i>	- / -	- / 0.328	- / 1.155	- / 1.177	- / 0.000	- / 1.177	- / 1.413	- / 1.413	- / 1.413	- / 1.413	- / -	- / 8.312
Installation												
<i>Subtotal: Installation</i>	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total												
Total Cost (Procurement + Support + Installation)	-	36.163	46.565	12.377	0.000	12.377	30.958	21.713	22.413	23.213	-	193.402

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Exhibit P-3a, Individual Modification: PB 2020 Air Force						Date: February 2019	
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 04 / 6			P-1 Line Item Number / Title: 846080 / DCGS-AF			Modification Number / Title: 3 / Multi-Intelligence (Multi-INT)	
ID Code (A=Service Ready, B=Not Service Ready) : B					MDAP/MAIS Code:		
Modification Item 1 of 1: Multi-Int Upgrades							
Manufacturer Information							
Manufacturer Name: Various				Manufacturer Location: Various			
Administrative Leadtime (in Months): 0				Production Leadtime (in Months): 0			
Dates	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Contract Dates							
Delivery Dates							
Installation Information							
Method of Implementation (Organic): Org/Intermediate						Installation Quantity: 0	

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Exhibit P-3a, Individual Modification: PB 2020 Air Force		Date: February 2019
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 04 / 6	P-1 Line Item Number / Title: 846080 / DCGS-AF	Modification Number / Title: 4 / Signals Intelligence (SIGINT)

ID Code (A=Service Ready, B=Not Service Ready) : B	MDAP/MAIS Code:
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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>)	-	27.544	44.029	15.065	0.000	15.065	9.152	8.202	27.052	8.502	-	139.546
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	27.544	44.029	15.065	0.000	15.065	9.152	8.202	27.052	8.502	-	139.546
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	27.544	44.029	15.065	0.000	15.065	9.152	8.202	27.052	8.502	-	139.546

(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 Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

The Signal Intelligence (SIGINT) Transformation effort rapidly integrates new capabilities, leverage mission partner methods and tools, exchange data, and migrates the SIGINT-specific applications/capabilities to the open architecture framework. The SIGINT Segment provides command and control (C2) of ISR sensors, data processing, and data distribution to the customers in near real time from connected sensors at both core and remote sites.

Justification:

AF DCGS SIGINT Transformation's main focus is AF DCGS peering connectivity to our National Mission Partner network. In order to accomplish this, SIGINT modernization must take place within the OA DCGS environment. This includes development of windows-based SIGINT application software and decoupling of the legacy SIGINT software baseline to take advantage of open architecture infrastructure and enterprise services. Efforts also implement infrastructure changes required to ensure compatibility and access to mission partner tools.

Milestone/Development Status

AF DCGS is in the Operations and Sustainment phase of the acquisition lifecycle. The weapon system has been declared FOC, and all modifications are being implemented in accordance with AFI 63-101.

Secondary Distribution		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024
AF	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	27.544	44.029	15.065	0.000	15.065	9.152	8.202	27.052	8.502
AFNG	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
AFR	Quantity	-	-	-	-	-	-	-	-	-
	Total Obligation Authority	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total:	Quantity	-	-	-	-	-	-	-	-	-
Secondary Distribution	Total Obligation Authority	27.544	44.029	15.065	0.000	15.065	9.152	8.202	27.052	8.502

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Exhibit P-3a, Individual Modification: PB 2020 Air Force										Date: February 2019		
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 04 / 6				P-1 Line Item Number / Title: 846080 / DCGS-AF						Modification Number / Title: 4 / Signals Intelligence (SIGINT)		
ID Code (A=Service Ready, B=Not Service Ready) : B							MDAP/MAIS Code:					
Models of Systems Affected: 0305208F				Modification Type: Reliability & Maintainability				Related RDT&E PEs: 0305208F				
Financial Plan	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Procurement												
<i>Modification Item 1 of 1:</i> Signals Intelligence Transformation												
B Kits												
Recurring												
Signals Intelligence Transformation:EQUIPMENT Group B (Active)	- / -	0 / 26.957	0 / 42.963	0 / 14.300	0 / 0.000	0 / 14.300	0 / 8.740	0 / 7.790	0 / 26.640	0 / 8.090	- / -	0 / 135.480
Signals Intelligence Transformation:EQUIPMENT Group B (Guard)	- / -	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- / -	0 / 0.000
Signals Intelligence Transformation:EQUIPMENT Group B (Reserve)	- / -	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	0 / 0.000	- / -	0 / 0.000
<i>Subtotal: Recurring</i>	- / -	- / 26.957	- / 42.963	- / 14.300	- / 0.000	- / 14.300	- / 8.740	- / 7.790	- / 26.640	- / 8.090	- / -	- / 135.480
<i>Subtotal: Signals Intelligence Transformation</i>	- / -	- / 26.957	- / 42.963	- / 14.300	- / 0.000	- / 14.300	- / 8.740	- / 7.790	- / 26.640	- / 8.090	- / -	- / 135.480
<i>Subtotal: Procurement, All Modification Items</i>	- / -	- / 26.957	- / 42.963	- / 14.300	- / 0.000	- / 14.300	- / 8.740	- / 7.790	- / 26.640	- / 8.090	- / -	- / 135.480
Support (All Modification Items)												
GROUP B: TOTAL NONRECURRING	- / -	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / -	- / 0.000
PMA - Contractor Services	- / -	- / 0.472	- / 1.033	- / 0.741	- / -	- / 0.741	- / 0.399	- / 0.399	- / 0.399	- / 0.399	- / -	- / 3.842
PMA - Other Gov't Costs	- / -	- / 0.115	- / 0.033	- / 0.024	- / -	- / 0.024	- / 0.013	- / 0.013	- / 0.013	- / 0.013	- / -	- / 0.224
<i>Subtotal: Support</i>	- / -	- / 0.587	- / 1.066	- / 0.765	- / 0.000	- / 0.765	- / 0.412	- / 0.412	- / 0.412	- / 0.412	- / -	- / 4.066
Installation												
<i>Subtotal: Installation</i>	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total												
Total Cost (Procurement + Support + Installation)	-	27.544	44.029	15.065	0.000	15.065	9.152	8.202	27.052	8.502	-	139.546

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Exhibit P-3a, Individual Modification: PB 2020 Air Force					Date: February 2019		
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 04 / 6			P-1 Line Item Number / Title: 846080 / DCGS-AF		Modification Number / Title: 4 / Signals Intelligence (SIGINT)		
ID Code (A=Service Ready, B=Not Service Ready) : B				MDAP/MAIS Code:			
Modification Item 1 of 1: Signals Intelligence Transformation							
Manufacturer Information							
Manufacturer Name: various				Manufacturer Location: various			
Administrative Leadtime (in Months): 0				Production Leadtime (in Months): 0			
Dates	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Contract Dates							
Delivery Dates							
Installation Information							
Method of Implementation (Organic): Org/Intermediate					Installation Quantity: 0		

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F / 04 / 6 **P-1 Line Item Number / Title:** 846080 / DCGS-AF **Aggregated Items Title:** Support to DCGS Enterprise

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Support to DCGS Enterprise																				
Imagery Processing	A		-	-	-	-	-	3.611	-	-	3.673	-	-	3.752	-	-	-	-	-	3.752
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	3.611	-	-	3.673	-	-	3.752	-	-	-	-	-	3.752
Extended Tether Program	A		-	-	-	-	-	9.813	-	-	11.881	-	-	10.045	-	-	-	-	-	10.045
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	9.813	-	-	11.881	-	-	10.045	-	-	-	-	-	10.045
Wide Area Networks/ Networks	A		-	-	-	-	-	7.869	-	-	7.966	-	-	8.121	-	-	-	-	-	8.121
<i>Secondary Distribution</i>																				
AF			-	-	-	-	-	7.869	-	-	7.966	-	-	8.121	-	-	-	-	-	8.121
Subtotal: Support to DCGS Enterprise			-	-	-	-	-	21.293	-	-	23.520	-	-	21.918	-	-	-	-	-	21.918
Total			-	-	-	-	-	21.293	-	-	23.520	-	-	21.918	-	-	-	-	-	21.918

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

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 04: Other Base Maintenance and Support Equip / BSA 6: Special Support Projects	P-1 Line Item Number / Title: 846510 / Special Update Program
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ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	-	880.444	910.551	835.148	-	835.148	827.180	891.051	800.803	862.776	-	6,007.953
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	880.444	910.551	835.148	-	835.148	827.180	891.051	800.803	862.776	-	6,007.953
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	880.444	910.551	835.148	-	835.148	827.180	891.051	800.803	862.776	-	6,007.953

(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 Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</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.

As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.

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.

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity: 3080F: Other Procurement, Air Force / BA 05: Spares and Repair Parts / BSA 1: Spares And Repair Parts	P-1 Line Item Number / Title: 861900 / Spares and Repair Parts
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ID Code (A=Service Ready, B=Not Service Ready):	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: 519

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	-	17.381	86.365	81.340	0.000	81.340	25.757	37.673	26.331	15.528	0.000	290.375
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	17.381	86.365	81.340	0.000	81.340	25.757	37.673	26.331	15.528	0.000	290.375
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	17.381	86.365	81.340	0.000	81.340	25.757	37.673	26.331	15.528	0.000	290.375

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

Description:

This program supports Cyberspace Activities

Initial Spares consist of reparable components, assemblies, subassemblies, and consumable items required as initial stock (including readiness spares package requirements) in support of newly fielded vehicles, communications electronics and telecommunications equipment, and other base maintenance and support equipment items. Requirements are determined by applying established factors against the acquisition cost of the end items. The factors are based on historical data of similar equipment, employment/deployment concepts, production schedules, and other related information.

The following Major Defense Acquisition Program (MDAP) has funding in this line:

National Airspace System 537

As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.

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Exhibit P-40, Budget Line Item Justification: PB 2020 Air Force **Date:** February 2019

Appropriation / Budget Activity / Budget Sub Activity:
3080F: Other Procurement, Air Force / BA 05: Spares and Repair Parts / BSA 1: Spares And Repair Parts

P-1 Line Item Number / Title:
861900 / Spares and Repair Parts

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

Line Item MDAP/MAIS Code: 519

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-18	Spares and Repair Parts				- / -	- / 17.381	- / 86.365	- / 81.340	- / 0.000	- / 81.340
P-40	Total Gross/Weapon System Cost				- / -	- / 17.381	- / 86.365	- / 81.340	- / 0.000	- / 81.340

Title represents the P-18 Title for Spares.

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

Justification:

Air Traffic Control and Landing System (ATCALs): FY20 funding (1.394) is required to support the Digital Air Traffic Control Radio (DATCR) program and Deployable Radar Approach Control (D-RAPCON) program full rate production requirements. DATCR and D-RAPCON initial spares are a combination of complete assemblies, subassemblies, or in special circumstances piece-part items. Selection is based on the Interim Support Items List, historical data from similar systems or components, and/or sparing models and are sized to ensure system availability requirements are met.

Combat Training Range Equipment: FY20 funds (\$2.232M) spare parts and equipment to support fielding of Joint Threat Emitters and Advanced Radar Threat System Variant 2. Spares include replacement components, equipment and parts.

Expeditionary Airfield Basing Assets: FY20 funds (2.232) mission readiness support kits for War Reserve Material (WRM) Unit Type Codes (UTC). These support kits include necessary components to ensure proper operation of equipment within UTC package. These UTC kits packages, but are not limited to, Power Production, Feeding, Water Production, Billeting, Maintenance Facilities, and HVAC. Also, mission essential spare parts are procured utilizing this funding.

This program supports Cyberspace Activities

Information Systems Security Program (ISSP): FY20 funding (\$1.605M) is required to support Vinson/ANDVT Cryptographic Modernization (VACM) which supplies crypto devices to all Services/Agencies to meet an NSA cybersecurity mandate for warfighter air and ground radio networks

Minimum Essential Emergency Comm Network (MEECN): FY20 funding (68.795) is required to support Global ASNT Increment 1 fixed and transportable terminals to meet the high threshold Operational Availability (Ao) Key Performance Parameter (KPP) outlined in the Global ASNT Capability Development Document (CDD). These spares need to be procured at the same time as production terminals in order to support terminal fielding. Additionally, this program has overarching diminishing manufacturing sources (DMS) requirements and will use procurement funding to address these requirements.

Wide Area Surveillance (WAS): FY20 funding (\$3.007) is required to support WAS S1 sites. These spares and repair parts are unique, critical items required to be completed while the initial manufacturing line is set up for each individual fielding location.

Deployable C3: FY20 funding (\$1.985M) is required to support initial spares for the Flexible Communications Package (FCP) being incorporated into the Joint Task Force (JTF). These spares and repair parts are unique and critical items required to be available for each individual fielding location.

National Airspace System (NAS) and Weather Observation Forecast: FY20 - no funds requested.

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Exhibit P-18, Initial and Replenishment Spare and Repair Parts Justification: PB 2020 Air Force					Date: February 2019	
Appropriation / Budget Activity / Budget Sub Activity: 3080F / 05 / 1		P-1 Line Item Number / Title: 861900 / Spares and Repair Parts			Title: Spares and Repair Parts	
End Item Line Item Number / Name [MDAP/MAIS]	Prior Years (\$ M)	FY 2018 (\$ M)	FY 2019 (\$ M)	FY 2020 Base (\$ M)	FY 2020 OCO (\$ M)	FY 2020 Total (\$ M)
Initial						
BA 05 - Spares and Repair Parts						
861900 / Air Traffic Control, Approach, and Landing System (ATCALs)	-	3.457	1.074	1.394	0.000	1.394
861900 / Combat Training Range Equipment	-	8.188	6.435	2.322	0.000	2.322
861900 / Deployable C3 Systems	-	0.000	1.986	1.985	0.000	1.985
861900 / Expeditionary Airfield Basing Assets	-	1.960	2.193	2.232	0.000	2.232
861900 / Information Systems Security Program	-	2.588	0.937	1.605	0.000	1.605
861900 / Minimum Essential Emergency Communications Network (MEECN)	-	0.000	73.740	68.795	0.000	68.795
861900 / NATIONAL AIR SPACE SYSTEM (NAS) PLAN	-	0.247	0.000	0.000	0.000	0.000
861900 / Weather Observation/Forecast	-	0.941	0.000	0.000	0.000	0.000
861900 / Wide Area Surveillance Spares	-	0.000	0.000	3.007	0.000	3.007
Subtotal: Initial	-	17.381	86.365	81.340	0.000	81.340
Total Cost (Initial + Replenishment)	-	17.381	86.365	81.340	0.000	81.340

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